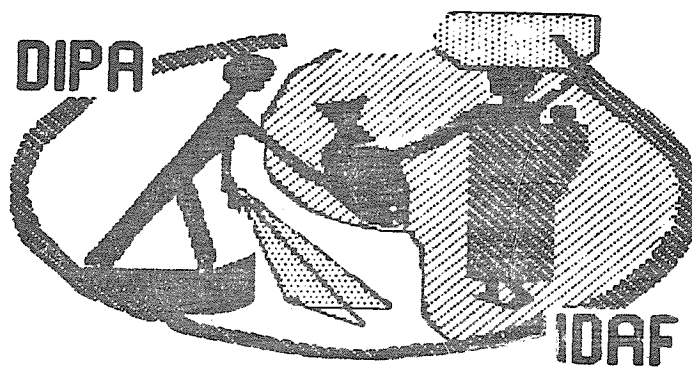


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June 1991

ARTISANAL FISHERIES IN WEST AFRICA
REPORT OF THE FIFTH IDAF LIAISON
OFFICERS MEETING



FAO / DANIDA / NORWAY

June 1991

Artisanal Fisheries in West Africa
Report of the Fifth IDAF Liaison Officers Meeting

Programme de Développement
Intégré des Pêches Artisanales
en Afrique de l'Ouest - DIPA

Programme for Integrated
Development of Artisanal
Fisheries in West Africa - IDAF

GCP/RAF/192/DEN

With financial assistance from Denmark and in collaboration with the Republic of Benin, the Fisheries Department of FAO is implementing in West Africa a programme of small scale fisheries development, commonly called the IDAF Project. This programme is based upon an integrated approach involving production, processing and marketing of fish, and related activities ; it also involves an active participation of the target fishing communities.

This report is a working paper and the conclusions and recommendations are those considered appropriate at the time of preparation. The working papers have not necessarily been cleared for publication by the government (s) concerned nor by FAO. They may be modified in the light of further knowledge gained at subsequent stages of the Project and issued later in other series.

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The first IDAF liaison officers meeting was held in Cotonou on May 11-15, 1985. The second meeting was held in Freetown on 11-14 November, 1986 and the third meeting was held in Cotonou on 2-4 December, 1987. The fourth meeting was held in Dakar on 21-23 November 1989, and this, the fifth meeting, was held in Cotonou on 16-18 April 1991.

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1. OPENING

The meeting at INFOSEC, Cotonou was convened for 0900 hours on Tuesday 16th April. The Director of Fisheries of Benin Republic invited Mr. Kogui N'Douro, Assistant Director General of the Ministry of Rural Development and Cooperative Action to address the meeting and open its proceedings. The opening ceremony was also attended by Mr. Paolo Coppini, Resident Representative of the United Nations Development Programme in Benin, and Mr. Yarou Tango Bio, Technical Adviser on livestock and fisheries (Ministry of Rural Development and Cooperative Action, Benin).

After the opening ceremony the chair was taken by Mr. Bodian of Senegal, representing Mr. A. H. Diop (Director of Fisheries in Senegal, the chairman of the fourth liaison officers meeting). Mr. Bodian proposed that the chairman for the fifth liaison officers meeting be Mr. Gilbert Mensah, Director of Fisheries in the Benin Republic, that the Vice-chairman be Mr. Jean-Paul Sarr, National Director of Fisheries in Guinea, and that the Rapporteur be Mr. A. Jallow, Senior Fisheries Officer of the Republic of The Gambia. The participants (appendix 1) at the meeting agreed to these proposals, and with the agenda (appendix 2). The programme coordinator for IDAF then gave a short address of a mainly administrative nature.

2. REPORT OF THE FOURTH LIAISON OFFICERS MEETING

The rapporteur of the fourth liaison officers meeting Mr. M. Armah gave a summary of the meeting held on 21-23 November 1989 in Senegal. The participants were Messrs Diop and Ndiaye from Senegal, Mr. D. Balde from Guinea Bissau, Ms. Rodriguez from Cape Verde, Mr. Drammeh from The Gambia, Messrs Sarr and Oularé from Guinea, Messrs Taylor and Forde from Sierra Leone, Messrs Doumbia and Bouberi from Côte d'Ivoire, Messrs Armah and Braimah from Ghana, Messrs Mensah and Affoyon from Benin, Mr. Bolondo from Congo, Messrs Tavares and Aurelio from São Tome and Príncipe, as well as Messrs Noël (Kaback project), Everett, Johnson, Haakonsen and Ms. Tempelman (IDAF project) from FAO. Observers were Messrs Samba and Cissé from Senegal, and Messrs Bacle and Pelletier from Canada.

The rapporteur read out some of the more important features of reports on artisanal developments projects, presented at the fourth liaison officers meeting and summarised the conclusions and recommendations. These were that (a) the liaison officers meeting served as a suitable forum for exchange of views on artisanal development and as a framework on which IDAF priorities may be established, (b) there was a need to give further attention to matters of credit and finance for the subsector, (c)

more attention should be given to resource management, and (d) the work of IDAF in the dissemination of information and provision of appropriate assistance was appreciated.

3. REPORT OF IDAF PROGRESS

The programme coordinator presented the paper "Progress Report on the Programme for Integrated Development of Artisanal Fisheries in West Africa" and stated the main objective of IDAF which is to help countries develop their artisanal fisheries, so as to derive from them the maximum economic and social advantages. The secondary objectives are to (i) improve effectiveness of artisanal fisheries development projects, (ii) propagate an integrated approach to the development of artisanal fisheries emphasising participation by the community in the planning of local projects, (iii) implement a model development, currently the Model Project in Benin, (iv) maintain a system of fishery development or extension units in different countries, and (v) increase technical competence through exchange of specialists among African countries.

The coordinator is supported by a fishing technologist, a socio-economist/anthropologist, a community development specialist, and a senior adviser in institutions and project planning, currently heading the newly established IDAF antenna in Conakry Guinea. There is also an associate professional officer economist in Cotonou, and an associate professional officer responsible for monitoring and evaluation at Conakry. Financial contributions to the programme from Norway ceased at the end of 1989, but DANIDA's contribution continues until 1993.

Since the fourth liaison officers meeting there had been a cessation of direct funding for the Model Project in Benin but the regional programme continued to ensure that essential activities were maintained. The Kaback and Yeji projects, respectively in Guinea and Ghana, were now terminating their first phase and it was hoped that finance could be found to finance further phases. The Lagune Aby project had been suspended due to some civil disorder. The Shenge Project in Sierra Leone awaited the arrival of a new technical adviser before implementing a further development phase. In addition, many close links had been established or maintained with small scale fishery development projects throughout the region. Accounts of progress on many of these projects, as well as on the Model Project in Benin, are given in the appendices to this report.

In 1990 IDAF organized a number of technical meetings, including a consultation on womens activities related to fisheries development, migration of fishermen in the region, replacement of the Ghana canoe found in Ghana - particularly the

large dugout canoe which requires large trees, and a meeting on financial and economic analysis of selected aspects of fisheries development.

There were numerous missions to work on specific activities relevant to artisanal development, and exchange visits for technical staff within the region were arranged. This exchange of persons was complemented by preparation, distribution and exchange of documents, reports etc, in addition to the Newsletter.

In discussions concerning the coordinator's report a question was asked about possibility of setting up an IDAF antenna for central African countries, and extending the present Guinea antenna to other countries of the subregion. It was pointed out that careful attention had to be given to availability of human and financial resources in the context of the whole IDAF region. The coordinator also reported on priority IDAF activities in Senegal, in answer to a request for information on that subject.

4. REPORTS OF ARTISANAL DEVELOPMENT

The Benin Model Project

The project has been functioning since 1984. The 1991 activities have been adjusted to take into account the reduced funding levels since cessation of the externally financed project at the end of 1989.

The fishing technology section now works with a Japanese donated vessel, to try out new gear. The unit also continues to operate two canoes, where the diesel inboard motors have been replaced by outboards. It was found that vibrations of diesel inboards led to rapid deterioration of the dugout canoes' hulls.

The statistics and biology section continues to collect catch and landings data and has prepared and published reports of landings in recent years : it is also collaborating with an ICOD-Canada project for evaluation of demersal stocks. This project has undertaken a socioeconomic survey of the marine artisanal fishery, thus updating earlier surveys.

In the field of community development the model project is working in the Mono region with activities involving market gardening, and UNICEF contributes to this work. Surveys concerning child nutrition are continuing.

At the village of Avleketete the model project aided start of a shop run by women to provide basic supplies. Throughout the five villages of the Model Project attempts are made to support activities of village development committees.

The IDAF Antenna, Conakry

The antenna was set up in October 1990 and has one FAO expert covering institutions/planning/training/evaluation, as well as three posts for associate professional officers in monitoring/evaluation, community development/womens activities, and credit; four working groups in Guinea have been established to examine improvements that can be made to safety at sea, credit, project management information systems, and community development/women. Much of the antenna's work in Sierra Leone is with the associate project at Shenge. The antenna hopes to become soon involved in Guinea Bissau.

The Lagoon Fisheries Project, Benin

The project started in 1986, and is financed by Germany (GTZ) and Benin. The reasons for the project are (i) the great employment dependent on lagoons, (ii) the more important catch (32,000 t) relative to the marine landings (8,000 t), and (iii) the predominant role of fish in animal protein supplies, particularly in the south of the country.

The project activities have included detailed socio-economic and ecological surveys of the area, to assist recommendations on resources management matters. The project has also set in motion an intensive mangrove planting activity, to rehabilitate the lagoon ecosystem. Trials also continue with fish "holes" to improve their productivity.

The Yeji Project, Lake Volta, Ghana

The project started in January 1989. It continues to be funded by UNDP with the executing agencies being FAO and the Fisheries Department of the Ministry of Agriculture. Yeji happens to be the largest inland fish market in Ghana, with 6,400 tons landed in 1990.

The project aims at improving the living condition of some 75,000 inhabitants round the Volta lake, through the construction of a Community Fisheries Centre (CFC) with facilities for fish preservation and marketing, and training of fisherfolk. The project will also provide essential services to Yeji township in the form of health clinic, day care centre, and drinking water.

A statistics and resource unit is regularly collecting data on landings and catch composition so that indications of fish stock levels and appropriate management systems can be recommended. Courses have been given to improve competence of local boatbuilders and mechanics. Full plans for the CFC have been drawn up. A small tree plantation has been established to assure future supplies of firewood.

The Koko/Ogheye fisheries centre, Nigeria

The centre is part of the integrated rural fisheries development project, funded by UNDP and executed by FAO. Objectives are to increase fish production through (i) the application of appropriate modern fishing technology (small mechanized fishing boats, gear etc), (ii) introduction of methods to minimize post-harvest losses through improved handling, storage, processing and transport, (iii) develop cooperative movements among the rural fishermen and introduce community welfare programmes, and (iv) train national counterparts and conduct vocational training for artisanal fishermen.

The Federal Department of Fisheries committed a substantial volume of funds for the project, but the actual cash was never released, so the project has not been able to supply inputs as envisaged. Nevertheless most of the objectives are being tackled, and the project team has worked to improve craft, gear, processing techniques and competence of fisherfolk.

The West North West Artisanal Fisheries and Community Development (AFCOD) Programme, Sierra Leone

The programme became operational in July, 1989, and followed the Kambia Fisheries Development Project. Both activities have been financed by the European Development Fund, and the Government of Sierra Leone.

The overall objectives of the programme are to stabilize the incomes and to improve the quality of life in the fishing villages by the following interventions (i) fish processing with emphasis on reduced fuelwood consumption and health hazard of processors, (ii) supply scheme for imported fisheries inputs, (iii) development of financial services, (iv) community development especially environmental sanitation, village planning and institution building for sustainable development after external funding, and (v) ecological education and the use of selected fishing gear, and on reforestation and fuelwood extraction in the mangrove forests.

Three prototype fishing vessels and a transport boat have been built for trials to test some simple boat building improvements. Inboard Sabb 30 hp and 10 hp diesels are also being tested.

Improved fish processing techniques and facilities for marketing are being publicised, and some have been accepted. Saving and credit cooperatives are being supported and promoted.

The programme has set aside 1.3 million ECU as a revolving/development fund, in order to upgrade saving and credit services in fishing communities. Community development activities use home visits and "teams of change" agents to improve health, sanitation, education and culture.

The Institute of Marine Biology and Oceanography of the University of Sierra Leone has been contracted to undertake statistical frame surveys and resource management studies. There is also a mangrove forest management component.

The Shenge project, Sierra Leone

An extensive report on activities is given as an appendix to the report of the fourth liaison officers meeting. At this present meeting the community development officer of the project GCP/SIL/018/DEN "Support to women's fish processing activities and community development, Shenge region" gave an account of both her project and the main project SIL/89/007 which continues the latest phase of projects financed by UNDP and executed by FAO.

The major emphasis of project SIL/89/007 is on the organisation of the fishermen and increased fish catch, whilst the DANIDA project is involved in community development. A UNCDF project has been approved to fund credit facilities, infrastructure, and improvements to the access road, schools, sanitation facilities etc.

An associate professional officer was appointed as responsible for the public health/nutrition section. For improvement of fish handling and processing some one hundred ovens have been built in the project region. Wells and latrines have been installed. Assistance has been given to the cooperative society to run a retail store in Shenge to provide the population with basic commodities.

The integrated artisanal development project at Kaback, Guinea

Kaback is an island to the south of Conakry, consisting of three fishing villages and several farming villages. There are about 8,000 persons of which about 600 fishermen land some 4-6,000 tons of fish each year.

The project is financed by UNDP, EDF and Canada, and executed by FAO. The project site was identified by IDAF staff in 1986 and approved for implementation in 1987. The UNDP financing has been extended until end 1991.

Project management has assisted villagers to direct the available funds to (i) acquire fishing equipment, (ii) pay essential staff services, (iii) provide for community requirements like wells, maintenance/repair of a local school, electrify landing points, and install a radio, (iv) provide for a savings and credit fund as an alternative to a classical banking system and traditional/informal credit system, and to assist economic diversification, and (v) establish a guarantee/insurance fund to assist members in case of accident, injury, death, etc.

The Fishery Development Unit is striving to become completely independent of the formal project, with an NGO status.

The Lagdo Project, Cameroon

The Benoue River was dammed in 1982, and the resultant Lagdo lake has yielded a rich fishery. The European Development Fund has financed studies and development initiatives for the fishery. The project components cover (i) extension and aid to fishing groups, (ii) research, and (iii) infrastructural development.

The extension component covers credit, assistance to small enterprises, and participatory identification of problems to be solved. The research component finds solutions and techniques which can be publicised by the extension component, as well as understanding the ecological aspects of the lake's productivity, and cooperating with other institutions in stock assessment and recommending management measures. Infrastructures are improved through appropriate landing points, assisting marketing, and cooperation with and assisting local government authorities.

The Owendo Project, Gabon

In 1984 the European Development Fund and Italian bilateral assistance constructed the centre at Owendo near Libreville to assist artisanal fishermen. The centre was managed by government, but this led to loss of confidence by the fishing community, so that the centre was closed at the end of 1986. In 1987 the centre was taken over by Promopêche, a private company.

Promopêche buys fish from the artisanal sector and sells it on the open market. At the same time it provides essential services to fishermen, including credit. Between 1988 and 1990 the credit accorded reached 228 million CFA, and the reimbursement failure rate remains low.

The Propêche Project in Senegal

This Canadian financed project runs for five years with financing of 17 million Canadian dollars. The first component (SERVIPECHE) provides credit to fishermen, and the second component (ATEPAS) attempts improvements to both fishing and processing techniques.

The credit component works closely with the Agricultural Credit Agency ; it has had problems obtaining reimbursements from fishermen in Saint-Louis, often those who have had to return from Mauritania.

The technical component ATEPAS assists trials and development of improved canoes, and propulsion. Hand lines and longlines have been developed to suit the fishery, and trials are continuing with echosounder, cuttlefish/squid jigs, winches etc. Attention is given to matters concerning security at sea. Studies and actions are carried out to improve landing and craft mooring points. Trials are also continuing with processing and handling possibilities, and also with encouraging conditions for better savings and loans facilities, and assisting groups to better manage their small enterprises. The IDAF programme provided a specialist to examine possibilities of the chorker smoking oven.

The Marine Integrated Artisanal Fishery Development Project in The Gambia

The first community fishery centre was commissioned in 1983 at Gunjur on the Atlantic coast, as a result of a European Development Fund project to improve wellbeing of the fishing communities. The project included a small ice plant, and a 26 km feeder road linking six coastal fishing villages, a bridge at one of the villages, a fishermen's training programme, and a revolving loan scheme. This was followed by a US \$ 3 million project, also financed by EDP, starting in 1988, over three years. Four further community fishery centres were built, water supplies, and ice supplies were improved, and a landing jetty was built at Tanji. A fuelwood plantation was also provided, and funds for credit made available. Eight UK volunteers (VSOs) assisted the project ensure full participation of villagers in local decision making

A request for a further project will be formulated shortly.

The PAMEZ Project in Senegal

The project for development of marine artisanal fisheries in the Ziguinchor region of Senegal was started in 1987 with the object of training youths in maritime fishing, assisting access to banking credit, creating employment and enterprises, testing fishing techniques, and providing increased fish supplies to the local market. The project is financed by France (Caisse Centrale de Cooperation Economique), EEC (European Development Fund), and the Senegal government.

So far some 378 youths have been trained, 122 craft financed, and 488 jobs created. The economic interest groups (GIE) have been established to encourage fisherfolk to work together. Three hundred accounts have been opened by fishermen with the National Agricultural Bank, and 450 million CFA has been invested in enterprises and units.

The Fisheries Pilot Project Tombo, Sierra Leone

The project is now in its fifth phase of 1989-1993, having been established in 1980 and received consistent aid from Germany through GTZ. After having increased both catch and population the area's catch appears to have stabilised at 8,000 tons annually, with some 2,000 permanent fishermen.

The village development association which evolved from the village development board will soon be a legally registered body. It is expected that the association will take ownership of properties accruing to the village, and take over central control functions. The fishermen's cooperative society has commenced retail sale of a limited quantity of netting to its members. The netting was purchased wholesale from the project. Less favoured fishermen were able to obtain credit from this coop, and so far reimbursements have been 100 per cent.

Trials are continuing with the 27 hp Yanmar diesel outboard. With processing it appears that the wood now supplied from an FAO-fuelwood project, a fast growing Acacia species, is proving most suitable for fish smoking, and thus there may be less pressure on natural wood stocks in future.

The Artisanal Development Project on Lake Buyo, Côte d'Ivoire

The Director of the Project noted that Lake Buyo (60,000 ha), along with Lakes Kossou (80,000 ha), Ajama (9,000 ha), and Taabo (7,000 ha) is one of many lakes resulting from Côte d'Ivoire's actions to dam rivers to provide electrical supplies for the nation.

The project was financed by the Caisse Centrale de Coopérative Economique between 1980 and 1988. The objectives have been to ensure catches of 7,000 tons annually, provide employment, equipment, necessary installations and training, and also management of the resource.

Artisanal fisheries in Angola, Guinea Bissau and Guinea

Participants from these countries presented papers on artisanal fishery activities, and in particular the emphasis which governments are giving to coordination of projects, and donor activity, and to efforts to increase efficiency and sustainability through privatisation. It is evident that governments are now adopting more realistic attitudes to development, more in tune with the needs of fisherfolk. This obviously requires a very flexible approach, and an administration which is positive to development of the private sector.

5. CONCLUSIONS AND RECOMMENDATIONS

The meeting provided a forum for exchange of information on integrated artisanal fishery projects being implemented in the region. The meeting concentrated on specific development projects, and their experiences, rather than on broader aspects of artisanal fishery development. Almost all countries in the region now had such integrated projects financed by external aid, and the large attendance at this meeting reflected the growing importance of this sort of approach to artisanal development.

Participants reviewed the work of the IDAF regional project and expressed satisfaction with its progress. Appreciation was expressed to the financing agency DANIDA for continuing its interest in the project, and for sending a representative to this meeting. The government of Benin was thanked for providing the IDAF headquarters.

There was a stimulating discussion on the use of statistics, and how far development projects should go in collecting data for national needs, and/or for evaluation of project activities. There was a suggestion that IDAF may consider holding an informal technical meeting on this subject. There was also a suggestion that more specialised technical meetings between liaison officers meetings should be organised.

As in previous liaison meetings there was much discussion on finance and credit for artisanal fishermen. Attention was drawn to the FAO/EEC meeting on credit for artisanal fisheries to be held in Abidjan in September. IDAF continued to undertake collection and analysis of credit information and much of it was available in published IDAF reports ; IDAF should identify points of confluence between informal and formal credit systems, which will be useful to credit managers.

Some participants felt that there could be more structured presentation and analysis of experiences in integrated projects, and such reports would allow more extended discussion at future liaison meetings. Presentation of reports might include a format that separated the problem and solution elements in projects. The field visits to the artisanal port, lake, and model project activities along the coast were appreciated.

Considerable discussion took place on the issue of sustainability of projects, particularly when external finance is discontinued. Attention was drawn to the critical state of many economies, and the fragility of institutions which had responsibility for development efforts. It was recommended that IDAF continue to give close attention to matters of project sustainability. The field project phases should be fitted appropriately into national development plans wherever possible, and from the earliest moment of implementation the projects should address the need for continuation and sustainability.

All participants recommended that exchange of project experiences was useful, and recommended that visits of personnel to different projects be continued. IDAF could provide information on results and analyses of projects in its newsletter. Contacts with the EEC regional programme on reduction of post harvest losses should be maintained.

There were proposals that the IDAF antenna in Cote d'Ivoire be extended to cover more countries, and that a new IDAF antenna be established to cover Central African countries.

The fisheries adviser to DANIDA made closing remarks on the usefulness of exchange of experiences on development, and the need to make this IDAF forum even more effective. Attention was drawn to the need to give thought to post 1993 financing for IDAF. The diversity of the integrated approach was noted, but obviously well accepted in the region. He would like to see more analysis of results ; for example are projects really becoming viable, or is credit really having a positive impact. The importance of migrating fishermen on development was underlined, and he felt not enough attention had been given to patterns of migration in design of a number of projects. The role of government should not be overlooked, for it is government which

sets the framework within which initiatives by individuals and groups can flourish, and which assists sustainability of projects when external financing terminates. Government should be closely involved with all integrated development projects, and strive to mitigate any conflicts which might have a negative impact on development in the national interest.

On behalf of the Minister for Rural Development and Cooperative Action, the Director of Fisheries in Benin closed the meeting at 1320 hours on Thursday 18th April.

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Mr. Kinnon Randolph, Documentaliste

Mr. Adité Victorin, Chauffeur

Mr. Nounsou Damien, Chauffeur

Agenda

Tuesday 16th April

- 0900 Opening
 Word on administrative aspects
 Agreement on Chairman and rapporteur
- 0930 Report on the Fourth IDAF liaison
 officers meeting
- 1000 Report on progress of the IDAF Project
 Followed by reports on projects for
 development of artisanal fisheries
- 1215 Lunch break
- 1500 Reports on projects
- 1730 Visit to Fort
- 1900 Reception - UN Club

Wednesday 17th April

- 0900 Reports on artisanal fishery development
 projects
- 1230 Field visit ; Lac Nokoué, Avlékété, Hio

Thursday 18th April

- 0900 Continued reports on artisanal
 development projects
 Followed by discussions
 Conclusions and recommendations

Progress report on the Programme for
Integrated Development of Artisanal
Fisheries in West Africa

A. Background

The Programme for Integrated Development of Artisanal Fisheries (commonly known as the IDAF Project) is financed by Denmark and executed by FAO. Until December 1989 Norway also financed a component of this regional project.

The project covers mainly the maritime artisanal fisheries of West Africa, which are found in coastal countries that are members of the FAO Committee for Eastern Central Atlantic Fisheries (CECAF). The CECAF Region extends from the Straits of Gibraltar to the Zaire River. Angola is also an IDAF country.

The main purpose of the project is to help the West African countries to develop and manage their artisanal fisheries, so as to draw from them the maximum economic and social advantages, thanks to an approach centred on the community and aimed at improving productivity and increasing the well-being and autonomy of the fishermen and all those who work in this sector. The secondary purposes are to :

- a - improve effectiveness of artisanal fisheries development projects
- b - propagate an integrated approach to the development of artisanal fisheries emphasising participation by the community in the planning of local projects
- c - implement a model development project
- d - attempt to set up and maintain in each country a system of fishery development units, and
- e - increase technical competence through exchange of specialists among African countries.

Headquarters is at Cotonou, where the Republic of Benin kindly provides office space and local support. The project became fully operational on signature of the project document, by all parties concerned, in December 1983.

The first IDAF liaison officers meeting was held at Cotonou in May 1986, where project progress was discussed, and future priorities were determined. The second liaison officers meeting was held in November 1986 in Freetown (IDAF/WP/15). The third liaison officers meeting was held in Cotonou in December 1987 (IDAF/WP/20), and the fourth meeting was held in Dakar in November 1989 (IDAF/WP/29).

A full report on IDAF project activities was submitted to the seventh session of the CEECAF subcommittee on development held in Douala in December 1988. Project activities were discussed and approved. The report on IDAF activities will also be submitted to the next CEECAF development subcommittee to be held in Accra.

The internationally recruited staff of IDAF consist of a coordinator, a fishing technologist, an anthropologist/socioeconomist, and community development/women's activities adviser, plus an APO economist, at headquarters in Cotonou ; with a planning/ training/extension adviser and an APO evaluator at an antenna office in Conakry, Guinea Republic. The project staff is supported by nationally recruited staff and consultants.

Staff have received considerable assistance from the various services of the FAO Department of Fisheries in Rome, FAO Country Representatives, and Departments of Fisheries in the region.

The IDAF project's work plays a key role in the follow-up to the technical discussions and recommendations of the FAO World Conference on Fisheries Management and Development which was held in Rome on 27 June - 6 July 1984. It is in fact an integral part of the second programme of action which "is the development of small-scale fisheries, based on an integrated approach, and the improvement of the socio-economic conditions of communities of artisanal fishermen and their families. It will promote the skills, capacities and potentials of fishing communities, through their active involvement and participation in the planning and implementation of management and development activities. Attention will be given not only to the technologies and skills involved in harvesting, handling, processing and distribution but also to economic and social considerations including education, health and infrastructure".

The project financing for another five years was formally approved in January 1989, by DANIDA, and it is hoped that the Norway government will also approve further assistance in 1991 and beyond.

B. Recent achievements

1. The effectiveness of artisanal development projects

As part of the IDAF work to assist development initiatives in different countries, the coordinator formulated a TCP project to assist Equatorial Guinea with artisanal fisheries development, in particular the distribution of gear to fishermen. The gear had been donated by the organisation OSRO. Subsequently a fisheries adviser was appointed for six months, and much of the gear was distributed, and the relevant technical department was strengthened. During the mission the adviser visited the island of Annobon, one of the first visits to this small island by any fisheries specialist. The IDAF fishing technologist was in Malebo in January 1991 and it is hoped that close contact with the Department of Fisheries in Equatorial Guinea can be maintained.

IDAF has been closely involved in artisanal development initiatives in Nigeria. The coordinator attended a tripartite review of the FAC/UNDP NIR/87/010 artisanal fisheries project in February 1990. The project APO anthropologist/socio-economist undertook a detailed survey of living conditions in fishing villages in maritime areas around Koko and Uta Ewa, and the project paid for the Nigeria Institute for Oceanography and Marine Research (NIOMR) to survey fishing camps and villages at the mouth of the Benue River. Both reports have been published, as IDAF/WP/31, and IDAF/WP/32. IDAF has also facilitated information exchange with regard to womens activities and community development, statistics, fishermen's migrations, and small craft improvement.

IDAF has been involved in the UNIFEM/womens development project (GAB/87/W01) on lakes near Lambarene, Gabon, since 1988, and contributed various inputs, including supervisory missions and a special marketing study. The IDAF anthropologist has recently written a final report on the project, expects to attend a tripartite review, and IDAF will followup any requisite post project activities, in cooperation with UNDP Libreville.

The UNDP/FAO ZAI/88/002 fishery project was assisted in its formulation by a mission financed by IDAF. The project attempts to set up community fishery centres in the main fishing localities, after establishing an initial centre at Kinkole near Kinshasa.

IDAF has supported a substantial number of studies in Ghana to establish the possible need to replace large canoes of traditional design with craft made from material which does not come from the large wawa of Ghana's forests. It seems that forest resources are being depleted fast. The large canoes are already unstable, and this instability increases as gunwhales are extended upwards. Nevertheless there continues to be a high demand for these long dugout canoes which are used mainly for purse seining activities. In the course of these studies an indepth analysis was undertaken of the operation of small inshore trawlers. These are of a similar length to the large dugouts, but appear to be less suitable for purse seining, unless design modifications are introduced. IDAF also undertook cost and earnings studies of the canoe operations.

In Côte d'Ivoire there has been particular attention given to the introduction of echosounders and multimono-filament nets in Sassandra, as well as cost and earnings studies both there and in San Pedro.

Unfortunately the situation in Liberia has not permitted any intervention for more than a year, which is most regrettable as IDAF had plans to initiate an integrated artisanal fisheries project in one of the coastal zones, probably at Harper.

Close contact has been maintained with non FAO fishery projects in Sierra Leone, like the GTZ Fisheries Pilot Project Tombo, and the EEC West Northwest Artisanal Fisheries project in Kambia and at Goderich. Both these projects are attempting a similar approach to fishery development, not only through technological improvements, but also through work with the fishing communities.

The UNDP/FAO artisanal project for Cape Verde has been operational for some five years, and the IDAF fishing technologist attended its tripartite review in November. It is probable that the activities will continue with funding from another source. The technologist sent a small echosounder to the islands for trials on the artisanal craft.

Close contact has also been maintained with artisanal fishery developments in Senegal, Gambia, Togo, Angola, Morocco and Mauritania.

2. The model project in Benin

The project GCP/RAF/198/DEN terminated in December 1989 and since then the regional IDAF project has financed specific activities, in the five villages.

Village development committees have been set up and appear to operate effectively in two of the five villages in the model project zone. Financial help has been given to setting up a women's group store in another village. Since the 1989 liaison officers meeting the two tracks, built with local and external resources, have been maintained.

In Cotonou the fresh fish kiosk functions, with full women's participation. Also in Cotonou the fishing technology component continues to operate from canoes, trying out new gear, and performing a training role with young fishermen, and work on two small craft donated to Benin by the Government of Japan. Inboard diesels were taken out of experimental canoes as they proved not to be reliable, (and the overall operational costs relative to outboard powered craft were not markedly favourable to fishermen).

The biologist continues data collection and analysis, and resource assessment. Some seventeen red cover reports of the model project have been published, and more are scheduled. These record the work of staff, and their experiences, and it is hoped that the documents will be of use to other field projects.

There is some concern about future government commitment to staff of the Department of Fisheries and the model project, because restructuring of technical departments is envisaged, and some early retirement of staff may be planned. It seems a priority, therefore, to concentrate on specific activities that can be accomplished by government staff for the benefit of particular communities, at reduced expenditures and in a short time.

3. An integrated approach to artisanal development

The IDAF Project was reviewed in January and February 1987, and the ongoing work programme and priorities were approved. This was followed up in early 1988 by an internal analysis carried out by staff of FAO in Rome in association with IDAF project staff both in Benin and in Sierra Leone. One of the main conclusions was that "projects should have a clear fisheries focus and should be mainly vertically integrated with horizontal or social elements only where necessary, feasible and requested".

The terminal report of GCP/RAF/198/DEN makes constructive observations and suggestions on integrated development, on the basis of experience in Benin. A report by an Andre Mayer fellow, from the University of Cape Coast in Ghana, also contributes to the discussion on the integrated approach. Since October 1990 an antenna of IDAF has been set up in Guinea at Conakry, and it is expected that more documents and papers will be prepared on the integrated approach to artisanal development there.

Through analysis of the anthropological, social and economic conditions of fishermen a better understanding of their role in the process of integrated development of fishing communities can be devised and implemented. These interventions may well be required as policy decisions, to ensure for example the improved surveillance of coastal waters so that industrial vessels do not fish inshore in zones reserved for artisanal fishermen. Another policy decision may involve the abolition of fixed prices for fish and fish products. At the level of the rural fishing community the priority interventions may include the provision of clean drinking water, better health care, educational facilities, and land communications. A key issue is the sustainability of projects after external funding is terminated. Development policies need to be made after recognizing the consequences on fishery resources, target beneficiaries, and the role of government vis-à-vis support/control/encouragement of local organizations. Certainly the overall long-term goal of IDAF is to promote socially and biologically sustainable development.

4. Fishery development units

The associated project in Shenge, to the south of Freetown, in Sierra Leone has now been active over some six years, and is set to continue for another phase with UNDP finance. For three years now the project has also benefitted from Danish trust funds, to support community development, womens activities and nutritional improvements. The counterpart staff are well trained in ongoing maintenance and support to fishing communities. Now funds have become available through the UN Capital Development Fund, and with new experts arriving soon there is a promise of a fresh take off to a high level of activity and output in the next few years. It is expected that improvements to the track, making it a reliable all-weather access, will yield several real benefits to the Shenge communities.

The finance of the International Fund for Agricultural Development towards the lagune Aby project in Côte d'Ivoire is now at an end. However there were some problems with outputs of the project, and in July 1990 the disturbances resulted in some damage to project property. It appears that there was some difference of opinion about how much emphasis should be given to stimulating purely local rather than some income community initiatives.

The IDAF antenna at Conakry in Guinea has been established to give support to artisanal developments in Sierra Leone, Guinea and Guinea Bissau. It started in October 1990 with an IFO in monitoring and evaluation and an expert in training/planning/extension. Apart from monitoring and evaluation of artisanal

developments, the antenna is to investigate arrangements for credit to communities, and aspects of security at sea in canoes and small craft. In March 1990 a round table on artisanal fisheries was organized by IDAF in Conakry.

UNDP is financing the FAO executed Kabak project to the south of Conakry, and the European Development Fund (EDF) has provided equipment. A workshop is operational, for repair of outboard motors, and netting and outboards are available for sale to fishermen. Fishermen will be assured of a constant supply of fuel. There has been considerable assistance to the Kabak project from IDAF, both in provision of consultancy man months (credit, gear, processing/marketing) and in exchange of information with staff of the model project in Benin, who have been able to visit the site in Guinea. The experiences in Kabak, which have been well analysed, are having an impact on government's approach to small-scale fisheries development throughout the country.

UNDP is also now financing a similar project on the northern coast, near Kamsar, with supplementary funding provided by UNCDF. It is expected that the community fisheries centre will be servicing requirements for many thousands of fishermen living in isolated conditions along the northern coastline.

UNDP is financing the FAO/IDAF associated project on the shores of lake Volta at Yeji. The objective is to establish a community fishery centre which, in particular, will assist the conditions of traders who buy and sell the dried fish produced from a large part of the lake. It will be of benefit also to all persons linked to fishing, and the Yeji community. IDAF played a key role in identifying and formulating this project. Now that the project has started it is hoped that sufficient funds will be available to allow construction of infrastructure ; something which has to be well planned given the fluctuating levels of the lake. The IDAF socioeconomist attended the tripartite review of the Yeji project.

5. Increasing technical competence and exchange of specialists and information

IDAF has a unique role to play in promoting artisanal fisheries throughout the region, because there is no similar body with such long term and broad experience. A key contribution of IDAF is the recording of trends and experiences, analysis of development impact, publications, distribution of documents, and organization of technical and training meetings.

The project has now produced thirty-four working papers (blue cover series) for distribution of information of a technical nature to assist government personnel and staff connected with the sector in their various activities. The project is also producing reports of model project experiences in the red cover series. An easy-to-read newsletter is circulated to those persons associated with project activities both within West Africa and outside.

Since the last liaison officers meeting a number of technical-cum-training meetings have been held on subjects of importance to artisanal fisheries, namely women's activities, quantitative aspects of development, fishermen's migrations, and canoe replacement.

The overall objectives of the round table meeting on women's activities and community development in artisanal fisheries in West Africa, Cotonou 7-9 May, were to (a) exchange experiences concerning fisherwomen activities on community development, (b) try and draw conclusions on successful and less successful ways of action in this field, and (c) attempt to determine objectives/action on which we should concentrate our interventions in the future. Twenty one participants from eight countries, as well as FAO and IDAF, discussed women's involvement in artisanal fisheries with specific reference to (i) fish production, processing and marketing, (ii) non-fisheries income generating activities, (iii) participation in planning and decision-making, (iv) community development actions in integrated artisanal projects, and (v) institutional support services to ensure post-project continuity. The synthesis of the discussions were judged to represent a general view of "field people" on the status of women activities and community development in rural fishing communities in the West African Region. Women's involvement in project activities should be strengthened with training on leadership skills and organisation and their participation should be structuralised so as to ensure their involvement in the development process of the artisanal fisheries sector after the project has come to an end. The report has been published as IDAF/WP/30.

The meeting on migration of fishermen was held at Kokrobite, near Accra, Ghana, on 6-9 November. The meeting discussed twenty papers related to migrations of fishermen along the coast. The meeting was the first of its kind in the region and was helpful to specialists in this field from both English speaking and French speaking countries who in many cases were enabled to meet together for the first time. It was appropriate that the meeting was held in Ghana which is the country from which most canoe fishermen emigrate.

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In view of the increasing need to quantify development initiatives, investments and results a ten day course was organised at Cotonou to specifically cater to the requirements of fishery officers. The course plans were drawn up by a consultant economist earlier in the year, and its title was "Quantitative analysis of selected aspects of fisheries development", which ran from 3 to 10 December. There were seventeen participants. The course covered demand and supply, risk and uncertainty, the fishery management model, investment appraisal and sensitivity analyses. All participants had access to a portable computer. There was a short evaluation at the end and it was evident that all participants highly appreciated the course. It is hoped that the analyses presented will enable fishery officers to have a better insight into key issues like fuel prices, subsidies, economic costs, etc.

The ex-CTA of the Benin model project continued to work for IDAF as a consultant, examining the possibilities for future supplies of timber from which large dugout canoes can be made, and assisting preparation of reports on canoes and possible replacements. He organised the workshop on alternatives to the large dugout canoe for use by small scale and artisanal fishing communities, held in the FAO Regional Office for Africa, Accra on 26-29 November.

The workshop was attended by representatives from Côte d'Ivoire, Senegal, Benin, Nigeria, Cameroon, Gabon and a number of participants from various organisations in Ghana. Well-known small-boat specialists also attended at FAO Regular Programme expense. The conclusions of the meeting were that finance should be found to continue these initial activities, and that a prototype should be constructed and tested. The FAO-Fishery Industries Division is to keep together this ongoing work, and IDAF will continue its support, through provision of consultancies and other inputs.

IDAF cooperates closely with regional bodies concerned with fisheries ; such as CEECAF, INFOPECHE, and the EDF initiative to reduce post harvest losses in the artisanal fisheries.

The project has received officials on study tour, from Sao Tome and Principe, Gabon, Equatorial Guinea and Zaire, as well as several consultants from international organizations and donor agencies, seeking information, advice or guidance. During frequent visits to countries of the region the IDAF experts and consultants have advised on specific aspects of artisanal development, for example in craft design, fishing technology, statistics, economic and anthropological analysis, etc.

C. Increased participation and the future

The regional programme has had a positive impact in identifying and formulating projects suitable for external financing. It is also apparent that donors appreciate the emphasis given to the wider aspects of development at a local and community level. Communities also appear to accept this approach. On the other hand however the responsibilities of Departments of Fisheries increase to such an extent that their personnel and funds are not adequate to perform the enlarged functions which such a new role requires.

So far in its work IDAF has been able to stimulate an increased awareness of artisanal fishery problems in the region, and some solutions to some of the problems. The IDAF approach however needs to be kept under continual review and modified as conditions change. It may well be necessary to re-emphasise the technical nature of our work and commitment to supporting the traditional expertise and strengths of Fishery Departments.

IDAF will continue to work closely with village level developments in Benin, and assist implementation of activities both there and in other associated projects. IDAF also continues to work closely with regional bodies and FAO regional fishery bodies such as CIFA and IDAF.

As mentioned in a similar report to the fourth IDAF liaison officers meeting in Dakar it may be noted that as IDAF funding in time is reduced it is expected there will be continued participation in promotion of artisanal development, not only by public entities, but also by the private sector, the fishermen, and their communities.

Present, Ongoing, and Future Activities in IDAF Workplan

Benin (Followup to Benin Model Project)

Trials with diesel outboard - canoe Mataheko I
 Trials with purse seine - canoe Mataheko II
 Assistance with introduction of innovative artisanal gear
 Collection and analysis of artisanal statistics
 Publication and distribution of reports (red cover)
 Assistance to shop managed by womens group, Avléhété
 Grand-Popo, assistance to integrated development in
 artisanal fishing villages

Nigeria

Womens activities, extension of chorkor oven
 Liaison with NIR/87/010, and ongoing support
 Design and start of artisanal frame survey
 Information to ECOWAS
 Follow - exchange info. with - migrating fishermen

Equatorial Guinea

Support and training courses for staff of fishery
 department

Cameroon

Continued links to EDF Lagdo Project
 info. exchange with MIDEPECAM
 Study tour to "Caisse pour le Développement de la Pêche"

Gabon

Consultancy inputs for the UNIFEM project, Lambaréné
 (GAB/87/001)
 Followup Owendo project

Congo

Info. exchange with cuvette Congo project
 Fishermens migrations

Zaire

Links to ZAI/88/002 'Assistance to Artisanal Fisheries'
 Extension of chorkor oven

Angola

Cooperation and liaison with Swedish aided artisanal fishery development activities

Togo

Demonstrations and training in use of echsounder and multimonoc nets

Ghana

Followup to dugout canoe replacement programme
 Cost and earnings studies of canoes
 Support to Yeji integrated project (GHA/88/004)
 Examination of canoe purse seining operations
 Provide information to CEECAF secretariat and FAO Regional Office

Côte d'Ivoire

Canoe cost and earnings studies at Sassandra
 Links to artisanal development projects
 Provide information to INFOPECHE and EEC/CEASM post harvest project

Liberia

If possible, assistance to artisanal fisheries

Sierra Leone

Links to Tombo, Kambia, Shenge projects
 Examination of canoe purse seining operations
 Info. exchange on boatbuilding, purse seining, community development

Guinea

Operations of IDAF antenna ref. security at sea, credit, monitoring and evaluation, and womens activities
 Support to and info exchange with Kaback and Kamsar projects
 IDAF antenna works in Guinea/Sierra Leone/Guinea Bissau

Guinea Bissau

Assistance to start artisanal statistics fisheries frame survey
 Support to UNDP/FAO project GBS/86/008 fishery planning

Gambia

Followup of EDF and Italian integrated artisanal fishery projects

Senegal

Installation of diesel motor in improved craft
Introduction of chorkor oven for smoking trials
Examination of purse seining from canoes

Cape verde

Santo Antao FAPASA project special link up
Support to continuation of UNDP/FAO CVI/86/006 technical assistance to artisanal fisheries

Region wide

Specific training courses and technical meetings, and finance for participation at such meetings.
Newsletter, working papers for region and Benin Model Project.
Specific missions for selected tasks.
Attendance/organization at technical meetings on fishing technology (Nov. '91), sustainability (Nov. '91), migrations followup (Dec. '91), credit - with FAO/EEC/CRASM (Sept. '91).
Possible activities with economic analysis, statistics management and MCS (monitoring, control, surveillance) at artisanal level.

Report on the Model Project Benin,

by

Bonaventure Houndékon

INTRODUCTION

Following an assessment of the Model Project, carried out in August 1988, the decision was made to direct project activities towards the development of fishing communities.

Therefore, as of 1988, the plan of operations was renamed "Integrated Development of Artisanal Fishery in West Africa : (DIPA) aid to fishing communities in Benin Phase II".

This same plan provides that as of end 1989, technical and operational aid would be given to the Fishing Development Units by the Regional Programme for Integrated Development of Artisanal Fishery.

This report on the Model Project for 1990 therefore reviews the activities carried out and supported by the regional Programme. The actions undertaken are at all times based on the new approach concept, that is :

- Active participation of the villages
- Promotion of productive activities
- Dynamic mobilization of resources in order to finance micro-projects
- Promotion of secondary activities.

The tasks thus undertaken concern the following fields : fishery technology, statistics and biology, consolidation of experience acquired "in the field".

1. FISHING TECHNOLOGY1.1. Trial sea-bed trawling

A programme of artisanal trawler fishing in shallow water was carried out. Today, the trawl-net fishery in Benin is exploited by 8 trawlers ranging from 16 to 36 metres and by three shrimping boats. No artisanal craft carries out the same kind of fishing.

The continental shelf offers areas favourable to trawling, in depths ranging from 10 m to 20 m, between 4 and 10 miles on average from the coast. These areas can be exploited by small artisanal craft using the trawl-net.

As no study had even been carried out, the DIPA Programme assisted the Model Project in outfitting a trawler unit so as to

- Identify and perfect a trawl net (net, panels, cables...) according to motor power
- Prove the profitability of the operation.

The action took place in August 1990, with construction of the trawl-net and accessories, as well as sea-trials.

Outlining the activities

This phase consisted in gathering together the material required to construct the trawl and its accessories, followed by the choice of the trawl plan and its rigging so as to adapt it to the material available and especially to the sea-bed on which it was to operate. The type chosen was a vertical wide-opening (50/75) net and a back-rope of 18,70 m.

Making the trawl and its accessories

This operation lasted 4 days with the active participation of technicians and fishermen.

Sea-trials

These were carried out on board the SAKANA (Fishery Department) over 8 trips equivalent to 33 hours of effective trawling. Trawling with this type of boat presented no difficulty. The catches were composed as follows : Lutjanidae, Polynemidae, Scianidae, Clupidae for a production of 475 kg.

1.2. Exploiting the SAKANA

Within the framework of Benino-Japanese Cooperation, Japan donated a large amount of fishing material and equipment, including a polyvalent boat, 12 metres long with a 50 hp motor named the SAKANA on the 4th of April 1990.

Destined for coastal fishing, the SAKANA was entrusted to the Model Project. It is equipped with a magnetic compass, an HF/SSE radio-telephone, an echo-sounder, good visibility window-panes, 2 hydraulic winches, and guidance pulleys for the seine winches.

Several fishing techniques were used with this boat ; gillnet and handlines, purse seine and sea-bed trawling.

All these types of nets were made up with material obtained from the Japanese donation.

For 1990, the SAKANA operations provide the following results :

| | | |
|------------------|---|----------------|
| Number of trips | : | 22 |
| Catch | : | 9.394 kg |
| Gross sale | : | 4.163.190 FCFA |
| Costs | : | 1.419.900 FCFA |
| Net income | : | 2.743.290 FCFA |
| Fleet share 60 % | : | 1.641.981 FCFA |

The low number of trips is explained by the necessity to repair the torn nets before the next trip.

1.3. Exploiting Diesel canoes

At the end of the Benin Model project, a large amount of fishing material, spare parts and six small craft were transferred to the Fishery department.

Several difficulties hindered the normal procedure in these operations, the most serious being the deterioration of the boat hulls owing to their age (5 years) and intensive exploitation. In 1990, the average number of trips worked by each canoe was 10.

Owing to the advanced age of the canoes, two of them had their diesel engines transferred and replaced by petrol engines, to be used in operating a purse seine .

2. STATISTICS AND BIOLOGY

Several activities were carried out during 1990.

2.1. Collection of information

Concerning the size of sardinelles and anchovy.

This activity was undertaken in a punctual fashion owing to the short fishing season for these species. It was carried out within the framework of the assessment and defining of small

pelagic stocks to be found in western Gulf of Guinea (Ivory Coast, Ghana, Togo, Benin) and was contributed by Benin. This action received financial support from the IDAF Programme.

Generally, considering the mesh format used by artisanal fishermen along these beaches, the sizes observed varied between 20-23 cm for the sardinella caught with purse seine and gillnets, and between 7-9 cm for sardinella and anchovy caught by beach seine.

Compared to catches made in Ghana and Ivory Coast using the same type of net, it would appear that coastal hydrological conditions in Benin do not correspond to those found in the areas of distribution of adults of those same species. At the last meeting of the work group held on the subject of the stocks of these species, in Abidjan in December 1990, it was therefore recommended that research on environmental data (temperature, salinity etc...) in relation to fishing and climate, be intensified

2.2. Participation in Project CERST/CNO/CIEO

The Benin Centre for Scientific and Technical Research (CERST) at the National University, along with its National Oceanographic Committee (CNO) and in collaboration with the Canadian International Centre of Ocean Development (ICOD) (CIEO), set up a project known as "Assessment of Demersal Stocks".

The Model project's participation in this research programme may be observed in the planning of the project, assessing catch landing, contributing to framework survey and prospection fishing cruises at sea.

a. Support in planning project CERST/CNO-CIEO

This support consisted in the analysis of information concerning the collection of statistics in Benin and the present situation of fishery resources. The main objective was to provide the CERST team with Model Project experience on this subject ; field agents as well as catch estimation files cards were allocated to this research. The planning concluded, the Model project was placed in charge of attending catch-landing.

b. Attending catch-landing

The programme consisted in :

- Collecting statistical and socio-economic information on maritime fishery in Benin
- Biometrical and biological study of commercial species.

In all, six types of cards were elaborated so as to orientate the gathering of information and required parameters with regards to stock assessment. These cards cover the following areas of research :

- Statistics on industrial sea-fishing
- Socio-economic surveys on the fisheries involved
- Taking measurements of commercial species (bars, capitaines, dorades, Dentex, Cynoglossus...)
- Biological study (reproduction, feeding and growth) of the above mentioned species
- Retrospective studies of the trawler fleet

It should be recalled that the cards were conceived in such a way as to allow the collection of a maximum of information , however, they must be filled in objectively with basic information that the fishermen can effectively and easily provide.

So as to standardize the system of collection, two documents were defined and placed at the agent(s) disposal ; one concerned the use of study files and the other the strategy of taking samples in artisanal and industrial fishing.

The information gathered was compiled and is presently being analysed.

c. Contribution to the frame survey

The objective of these surveys (carried out in July 1990) is to actualize the information required in the assessment and definition of demersal stocks. The following results may be noted :

| | | |
|---------------------------------|---|-------|
| Number of craft | : | 557 |
| % of motorization | : | 35 % |
| Number of artisan sea fishermen | : | 3.275 |
| Number of gillnets | : | 3.660 |
| Number of sardinella nets | : | 184 |
| Number of drift nets | : | 310 |
| Number of shark nets | : | 26 |

Number of purse seines : 88

Number of purse seines : 46

In comparison to the framesurvey carried out in 1986, one may observe :

In the Ouémé District the number of fishermen has increased, the number of craft has remained stable, and that of nets has greatly decreased.

In the Atlantique District, the same situation may be observed with a noticeable decrease in the number of craft, gillnet and shark nets.

In the Mono District however, one may note a slight increase in the number of fishermen and craft, the types of nets used, especially the use of gillnet has clearly increased.

Emigration of Beninese fishermen towards the Cameroun, Congo and Gabon has increased over the last few years ; otherwise the number of fishermen should have progressed in all the districts. The artisan sea-fisherman population includes a large proportion of immigrant ghanaians and a few togolese. These fishermen summarise their difficulties as follows :

- Obtaining fishing material
- Difficult access to fishing grounds because of crossing the surf
- Destruction of their nets by trawlers
- Disregard of mesh-size regulations
- Coastal erosion
- Exodus brought about by the diminishing fish resources along the continental shelf.

d. Prospection campaigns at sea

The campaigns took place on board the "Dauphin", donated by Japan to the Fishery Department and primarily destined for experimental trawling.

The cruise carried out during the short hot hydrological season, reveals sea-bed temperatures around the different stations prospected varying between 24°C and 26°C, with salinity between 34 and 35,6 ‰.

The average catch yield is 50,60 kg/h.

These cruises continue.

3. CONSOLIDATING ACHIEVEMENTS IN THE FIELD

Over the last six years, the Project has assisted certain community activities which should be continued.

3.1. Market gardening

The women in the Mono area cultivate onions and medicinal plants. In 1990, onions occupied 12 ha., medicinal plants 6,25 ha. and other vegetables 3. ha. The Fishery Development Unit provided the supply of onion seeds from North Benin.

In spite of the wells sunk by the Model project for watering, the women had certain difficulties owing to the lowered water-level. Transformation of these allotments into irrigated agricultural developments may be done only on condition that plots of at least 1.5 ha be cultivated.

UNICEF has assisted two groups of farmers with gardening material worth 600.000 FCFA. This organization also encourages functional alphabetization of group members by training teachers in adult education.

3.2. Following the nutritional condition of children in Zogbedji and Ayiguinnou

With the help of social workers in the area, the Model Project organized discussions on nutrition and weighed the children.

This was followed by a study which revealed that the children in both localities were slightly undernourished. However, kwashiorkor (protein deficiency) is practically inexistant, compared to farming areas where deficiency in protein, vitamins (group B) and mineral salts (iron) is to be added to a low-calorie diet. We also noticed that the state of malnutrition is more pronounced in Zogbedji than in Ayiguinnou and that the percentage of undernourished girls in both localities is higher than that of the boys.

The nutritional condition of the children is not a direct result of supply or consumption of food but is influenced by other factors such as public hygiene, environment, access to medical services, etc. In the light of these conditions, the project has tried to intervene when and where possible.

3.3. Low interest rate loan to start a shop selling articles of primary necessity in Avlérété

A group of 10 (9 women and 1 man) solicited technical and financial assistance from the Model Project in the installation of a shop selling articles of basic primary necessity.

The project defined the micro-project with the group, introducing them to a new approach to credit to be experimented in the milieu, that is :

- The total amount borrowed by the group is to be reshared among them as personal loans of equal amounts. Each member signs for his loan and reimburses by instalments
- Establishment of mutual guarantors within the group

Some lessons may be learnt after at least a year of operation.

3.4. Community infrastructures

The Project's activities are largely orientated towards social needs.

- a. During 1990, the project has given support to European Development Fund (EDF) financing of a three-classroom module, an office, toilets, office and classroom equipment worth 7,5 million FCFA, for the primary school in Ayiguinnou. The village contribution amounts to 300.000 FCFA as well as supplying sand and workmen. The work is to start in the second quarter of 1991.
- b. Upon request from the Village Development Committee contacts have been made with UNICEF and the Ministry of Public Health, to build latrines in the Mono area. The micro-project has been defined and submitted to the "Latrine Construction" project as financed by GTZ and the World Bank.
- c. Rural tracks are continually being developed on the initiative of the Village Development Committees and lagoon transport assumed by the same VDCs.

3.5. Village Development Committees

These are especially dynamic in 3 out of 5 villages where their role is best appreciated by the villagers. They receive continued assistance so as to make them more responsible and efficient.

CONCLUSION

The Project carries out experiments so as to raise the technical level of artisan fishermen. These experiments continue in the adaptation of the trawl to be operated by canoes, the exploitation of canoes with diesel motors, undertaken after conclusive trials in the use of the sounder and compass on board traditional craft.

The project's contribution with regard to knowledge in the domain of catches is important to national decision-makers. The participation in this research by national partners (CERST) is a positive element which should be emphasized.

But the initiation of new activities, as well as the consolidation of experience were only possible with the assistance of the regional IDAF Programme.

FICHE SIGNALÉTIQUE DU PROJET

" ENCOURAGEMENT DE LA PÊCHE LAGUNAIRE ", BENIN

INTRODUCTION

Le Projet "Encouragement de la pêche lagunaire (PPL)" financé conjointement par la République du Bénin et la République Fédérale d'Allemagne a démarré depuis Avril 1986. Il est placé sous la tutelle de la Direction des Pêches qui elle même dépend du Ministère du développement Rural et de l'Action Coopérative.

1. Historique

En 1978, le Bénin et la RFA ont signé une convention de financement ayant pour objet un fonds destiné à diverses études portant sur le développement rural.

A la suite de la signature de cette convention des missions de consultation conduites par des experts de la RFA ont été dépêchées au Bénin pour évaluer l'état de la pêche lacustre et lagunaire et faire des propositions quant aux possibilités d'une amélioration éventuelle de la situation observée.

Ce sont les recommandations issues de ces différentes missions qui ont abouti à la formulation du Projet "Encouragement de la pêche lagunaire (PPL) qui a démarré en 1986 après la signature par le Bénin et la RFA, la même année d'un arrangement relatif au dit projet.

2. Justification objectifs du projet

Les différentes missions de consultation ont pu constater que :

1. La pêche lagunaire et lacustre occupe une population non négligeable de pêcheurs
2. De par sa production, la pêche lagunaire et lacustre est de loin plus importante que la pêche maritime (production pêche lagunaire = 32.000 T ; production pêche maritime = 8.000 T)

3. Pour les 2/3 de la population béninoise concentrée au sud du pays, la pêche lagunaire est la principale source d'approvisionnement en protéines animales
4. Le déficit en protéines animales confirmé par l'importation de poisson congelé.

Ce déficit est dû à la croissance continue de la demande, et surtout à la baisse de la production halieutique lagunaire consécutive à l'action d'un ensemble de facteurs défavorables : perturbations écologiques, non respect de la réglementation de la pêche, etc...

5. Le sous-équipement de la Direction des Pêches.

Face à un tel constat des corrections s'imposaient avec urgence ; c'est pourquoi, le projet "Encouragement de la Pêche Lagunaire" s'est vu assigner les objectifs suivants :

- Freiner la baisse des prises par unité d'effort par la mise en oeuvre de mesures de réhabilitation du milieu et gestion rationnelle des ressources halieutiques lagunaires
- Apporter un appui matériel et technique à la Direction des Pêches.

Pour réaliser ces objectifs, deux séminaires de planification par objectif ont été organisés, l'un en Octobre 1988 et l'autre en Octobre 1990. L'objectif de ces séminaires est de définir, au regard de l'objectif poursuivi les activités qui peuvent y concourir, de planifier ces activités dans le temps, de dégager les personnes à qui l'exécution des différentes activités incombent, et enfin, en fixer les moyens et évaluer les coûts des dites activités.

3. Les activités du Projet Pêche Lagunaire

La zone d'action du projet couvre les 3 Départements méridionaux du Bénin (Ouémé, Atlantique, Mono). Depuis son démarrage, le Projet pêche lagunaire a axé ses activités sur deux grands thèmes :

- a. La socio-économie : il s'agit d'approfondir la connaissance du milieu pêcheur afin d'en identifier les principaux problèmes et d'élaborer une stratégie adéquate de mise en oeuvre du projet.

Ce volet comprend :

- Les enquêtes socio-économiques dans une vingtaine de villages de pêcheurs répartis dans toute la zone du projet
- Le suivi des prix des produits halieutiques dans la zone du projet
- La collecte des données statistiques relatives à la production et à l'effort de pêche.

b. L'écologie de la pêche lagunaire qui comporte :

- L'inventaire des espèces de poissons et crustacés de nos lacs et lagunes
- L'étude de certains aspects de la biologie des principales espèces de poissons lagunaires
- Le suivi des paramètres physico-chimiques (Salinité, pH, température...)
- Le suivi de la capture des principaux engins de pêche
- La réhabilitation de l'écosystème lagunaire par la mise en oeuvre d'un programme de plantation de palétuviers sur les berges des lagunes ; signalons au passage que la mangrove, végétation spéciale formée en majorité de palétuviers est reconnue comme lieu de prédilection pour la ponte de la plupart des espèces de poissons lagunaires.
- Les essais d'amélioration de la productivité et de la gestion des trous à poissons.

Au dernier séminaire de planification par objectif tenu en Octobre 1990, un 3^e volet a été inséré dans les activités du projet : l'autogestion des ressources halieutiques lagunaires ; il s'agit d'amener les pêcheurs à gérer eux-mêmes les ressources halieutiques lagunaires.

4. Résultats obtenus

Les actions engagées se poursuivent sans difficultés majeures et se soldent par des résultats encourageants dans les domaines ci-après :

a. La socio-économie

- Rédaction d'un rapport de synthèse des enquêtes socio-économiques
- Parution régulière (depuis 1987) de l'annuaire des statistiques de pêche continentale comportant la ventilation de la production halieutique lagunaire et lacustre par plans d'eau, sous-prefectures, Départements, l'évolution des prix des principales espèces de poissons et crustacés, le nombre de pêcheurs et le nombre de pirogues par plans d'eau etc ...

La principale conclusion que l'on peut tirer des statistiques recueillies jusqu'ici c'est qu'il semble que les ressources halieutiques soient pleinement exploitées et que la production oscille autour de 30.000 tonnes, pendant que l'effort de pêche tend à augmenter, ce qui constitue un risque sérieux pour la ressource.

b. Ecologie de la pêche lagunaire

- La plantation de plus de 500.000 plantules de palétuviers sur les berges de lagune de Porto-Novo, au lac Nokoué, de la lacune côtière, et du lac Ahémé. Cette plantation vise la reconstitution de la mangrove, riveraine de ces plans d'eau, et en bonne partie, détruite. Le taux de survie des palétuviers plantés varie entre 10 % et 35 % ; ce taux qui pourrait paraître bas est surtout influencé par les crues dévastatrices, mais aussi par les feux de brousses et divers autres prédateurs (Homme, crabes) ; malgré cela la plantation de palétuviers rencontre chez le groupe cible un vif intérêt, et un grand enthousiasme. Par ailleurs des dispositions sont prises pour accroître le taux de survie des plantules :
- Mise en place d'une pépinière : les plantules provenant de cette pépinière seront destinées aux zones où les crues sont généralement importantes (zones critiques) : on attend que ces plantules aient une hauteur suffisante avant leur transplantation.
- Mise en place de parc feux pour protéger les plantations contre les feux de brousse
- La constitution d'une banque de données relatives à l'évolution des paramètres physico-chimiques de nos principaux plans d'eau

- La rédaction de rapports provisoires sur le fonctionnement de certains engins controversés et quelques aspects de la biologie des principales espèces de poissons
- La mise en évidence de possibilités réelles d'amélioration de la productivité et de la gestion des trous à poissons.

5. Perspectives d'avenir

L'objectif final du projet Pêche Lagunaire est de créer des conditions de réhabilitation des plans d'eau du Sud Bénin. Dans ce cadre diverses actions sont mises en oeuvre soit pour diminuer la pression sur la ressource (amélioration de la productivité et vulgarisation des trous à poissons), soit pour développer et protéger les ressources disponibles (reconstitution des frayères, autogestion) ; mais il faut souligner que ces actions ne pourront avoir des impacts perceptibles et durables que si elles sont poursuivies sur une assez longue période (15 ans qu minimum), ceci à cause de la lenteur des réponses des écosystèmes aux efforts de réhabilitation et d'aménagement, or ce sont des actions relativement onéreuse. Il faudra donc penser à négocier avec la RFA pour qu'elle accepte de soutenir le projet pendant une période assez longue.

**IDAF/Gant:
IDAF'S NEW
SUB-REGIONAL OFFICE
(Sierra Leone, Guinea,
Guinea Bissau)**

by Dr. Jan P. Johnson
Senior Advisor, IDAF/Gant

The results of IDAF-associated integrated projects in Sierra Leone (Shenge) and in Guinea (Kaback), as well as IDAF consultancies and meetings appear to have given favorable impressions, and resulted in a request, especially from Guinea, to have closer IDAF support available for all its artisanal field projects.

Responding to governmental requests from within the sub-region, FAO and DANIDA agreed to establish a full-time IDAF antenna in Coriakry, to better serve Sierra Leone, Guinea, and Guinea Bissau.

The new antenna is an expression of the main IDAF Regional Programme development objective:

to help the countries involved develop and manage their artisanal fisheries for maximum economic and social advantage, emphasizing approaches centered on the fishing community, and intended to improve the productivity, well-being, and autonomy of the fishermen, of the women and men processing and selling the fish, and of all those who work in this sector.

**SPECIALIZED CONSULTING
SERVICES FOR SPECIAL CLIENTS:**

IDAF/Gant is a bit experimental in that it is an attempt to use very modest inputs in a catalytic fashion to:

1. Help establish effective communications networks among national fisheries departments and among the field projects themselves so that they can

share successful methods and avoid unnecessary duplication of mistakes.

This includes exchange visits, meetings, and workshops, and especially working with field project staff to help them identify, write up, and publish particularly good results or methods.

2. Make available on request complementary technical assistance to field projects in important disciplines where they may not normally have their own technical staff:

- Safety at sea
- Credit
- Community Development/ Women
- Monitoring/evaluation/adjustment (internal within projects).

3. Assist national fisheries departments develop effective methods, skills, and experience within their own structure (including the establishment of Fisheries Development Units) for supporting participatory, integrated, and sustainable artisanal fisheries projects.

4. On their request, and with government approval, assist governments, donors, and other organizations with the identification and planning of new projects or extensions of existing ones.

A fundamental idea in the approach of IDAF/Gant is that we should try to behave as a specialized consulting firm whose services are free but limited. With the supply of information, methods, and technical services requested by our clientele - government fisheries departments, artisanal fisheries field projects, and donors - we can help them get the most out of their own resources.

Although IDAF's ultimate clientele remains the fisheries communities themselves, both the tactics of our approach at the modest resources at our disposal mean that the communities will be affected mostly indirectly through IDAF/Gant work with project teams (action-research and action-training), governments, and donors.

ORGANIZATION OF IDAF/Gant

IDAF/Gant became official in October, 1990.

Operating out of offices in Conakry provided by the Guinean fisheries department, the antenna has:

- one full-time FAO expert (Dr. Jan Johnson, Senior Advisor);

and three FAO Associate Professional Officers:

- Mr. Siegfried Mayer: monitoring/ evaluation;
- Ms. Holvoet: Community Development/Women (under recruitment);
- APO on Credit: we're looking for a candidate.

We also have on a provisional basis one publications assistant (Mme. S. Diallo) and one secretary (Mme. M. Sylla), and are negotiating for volunteers to help with video documentation.

It is expected that Beninois fisheries officers from IDAF's Benin model project will be seconded to IDAF/Gant in the very near future to provide expertise on Village Development Committees, Operation of Fisheries Development Units, and organization of government structures to encourage a participatory approach.

WORKPLANS IN THE THREE COUNTRIES

Although IDAF/Gant operates in all three countries, logistical constraints and the differing needs result in a somewhat different approach with each country.

GUINEA

In Guinea, the work programme is organized around working groups staffed by part-time participants from government agencies, field project teams, and fishing community organizations. The four working groups in Guinea are:

- Safety at sea
- Credit
- Project Management Information Systems
- Community Development/Women.

The proposed programme for each of the working groups includes certain similar elements:

- visits by working group members to each artisanal fisheries project in Guinea, to identify and observe those things dealing with the subject (safety, credit, etc) which each project feels it has done particularly well.
- preparation, with field project staff, of publications and video documenting methods and approaches which have worked well.
- helping arrange exchange visits between concerned staff from different projects.
- presentation from time to time of half-day seminars in the fisheries department on progress of the working group.
- organization, after about a years experience, of a technical round table on the subject matter for all projects, agencies, and organizations concerned.

SAFETY AT SEA

The first working group to become fully operational is that on Safety at Sea. The coordinator of this working group is Capt. Boubacar Diallo of the Guinean Navy, with Dr. Johnson as technical advisor, meetings and logistics organized by Mr. Joachim Touré, Guinean fisheries officer presently seconded full-time to IDAF/Gant. Other participants are from the fisheries department, the merchant marine and port authorities, technical staff from interested field projects, and the union of artisanal fisheries cooperatives.

Members of this working group have carried out pilot surveys in several landing zones on accidents which have occurred in the last three years, and are now preparing to extend the investigation to all the landing sites in Guinea.

Representatives of artisanal fishing boat owners expressed their strong desire to have access to insurance against loss of the boats and equipment. This led the group, and especially the boat owners, to start seriously considering and talking with groups of fishermen boatowners about the "mutual insurance clubs" proposed in IDAF Newsletter No. 10 by Atri-Mama and Johnson.

It also led to discussions with the leading local commercial insurance company, ably carried out by Mr.

Patrick Bouneau, member of the sub-group. The UGAR insurance company has now made specific offers of coverage for the boat owners: they like the coverage but are trying to bargain on the rates.

It is also proving to be a valuable forum for the different agencies and projects involved to inform each other about their past work and future plans, and to agree informally on a certain level of coordination in their activities.

It is expected that this working group will, within a year, be in a position to organize a technical round table for Guinea to examine the results of field trials of different approaches for improving artisanal safety at sea, and make suggestions regarding a national programme for artisanal marine safety.

IDAF/Gant worked with the advisors of the Secretary of State for Fisheries in the preparation of a request to Canada for assistance with improving artisanal marine safety.

CREDIT

Lacking an APO to give technical support, the full working group has not yet been fully organized.

However, with the able assistance of Guinean fisheries officer Mr. S. Diabye (provisionally seconded full-time to IDAF/Gant) the existing members of the group (J. Johnson, M. Mayer) are:

- preparing case studies of two successful field project credit systems (Kaback, funded by UNDP/EEC/Canada, and Bongolon, funded by Canada);
- helping a Japanese-funded motorization project in Conakry computerize and then examine the results of its own credit system.
- assisted by Mme. Diallo (publications assistant), they are training the staff of several field projects in the use of computers for keeping credit systems up to date - and for spare parts inventories.

MANAGEMENT INFORMATION SYSTEMS (Self-monitoring, analysis, and adjustment)

A full working group has not yet been formed. However Mr. Mayer and Guinean fisheries officer Mr. Tidjane Baldé (presently seconded full-time to

IDAF/Gant) have been working on the organization of base line studies for the FAO/UNCDF project just starting in Kamsar. Mr. Mayer has also helped several projects establish or improve their computerized project information systems.

COMMUNITY DEVELOPMENT/WOMEN

A working group is not yet been organized, pending the arrival of the APO concerned.

Mr. T. Baldé, however, responding to the requests of several field projects and their associated community organizations, has been putting together a programme which will help representatives of fishermen's and fisherwomen's groups to visit corresponding community groups in other project areas and learn from their experiences.

SIERRA LEONE

Much of IDAF/Gant's work in Sierra Leone will be with FAO's IDAF-associated project in Shenge. We have found that it takes us only 8 hours by road to arrive in Freetown from Conakry, and an additional 6 hours to Shenge. Thus, except for local fuel shortages obliging us to carry 300 litres of diesel fuel to cover the round trip and travel within the country, periodic visits by land for a week or two of work are turning out to be rather practical.

Future activities programmed in association with the Shenge project include:

- a follow-up to an earlier IDAF workshop in Shenge on the planning of micro-projects;
- assistance of an FAO/IDAF artisanal boat-building consultant to work with a local team of traditional boat builders to make small but important improvements in the techniques of constructing traditional fishing and transport canoes which should give significant improvements in safety and boat longevity (this particular consultant will also do similar work with the FAO Kaback project and others in Guinea)
- documentation of Shenge's Internal Management Information System, in the form of both a written manual and with video, for potential use by other projects in the region. Mr. Mayer has just spent nearly a month in Shenge working on this.

- written and video documentation of the striking success (and analysis of the methods) of the Shenge group of projects in achieving a truly integrated approach (fish production, health, schools, agricultural extension, water supplies, road improvement).

A number of projects in Guinea are interested to send people to Sierra Leone to study the integrated approach in Shenge, motorization in the EEC and GTZ projects, etc. The Sierra Leone projects in turn are interested in seeing first hand the successful credit systems in the Kaback and Bongaion projects in Guinea. IDAF/Gant is helping to arrange the mutual exchanges.

IDAF/Gant is arranging to collect annotated bibliographies on the documents produced by each project, and assure its distribution to other projects in the sub-region.

The EEC project (AFCOD) has sent us several papers on credit systems and financing of artisanal fishing boats, with a view to co-publication with IDAF/Gant.

GUINEA BISSAU

We expect to start examining possible elements of IDAF/Gant's programme with the participants from Guinea Bissau at the present Cotonou Liaison Officer's meeting.

We plan to visit Bissau in May to follow up on these contacts and work out the contours of our programme for Guinea Bissau jointly with the national fisheries department.

FUTURE ROLE OF IDAF/Gant

Projects, government agencies, and fisheries groups within the sub-region show a real interest in learning what the others are doing, and learning how to do it.

Our role is to help provide a well-organised exchange of hard-won information and tested methods between truly interested people trying to solve very similar problems.

We feel we are well on the way to establishing a professional competence valued by our clientele: the fisheries departments, field projects, fishermen's/women's organisations, and development agencies working in Sierra Leone, Guinea, and Guinean Bissau.

PRESENTATION OF THE PROJECT FOR INTEGRATED
DEVELOPMENT OF THE ARTISANAL FISHERY AT KABACK

GUI/87/025 - GUINEA

by

Fodé Aly Camara
National Project Director

I. KABACK - GEOGRAPHICAL POSITION

Situated southwest of the capital Conakry, Kaback is an island of about 250 square km, made up of 3 fishing villages and several other villages involved in agriculture. The island has an estimated population of 8,000 ; this number includes 600 fishermen landing between 4,000 and 6,000 tons of fish annually.

On Kaback island in 1987, one could observe the main problems common to all fishermen along the Guinean coast, that is as follows :

- lack of fishing material and equipment,
- lack of spare-parts and qualified mechanics to repair the existing outboard motors,
- lack of mechanical workshops
- irregular motor-fuel deliveries
- irregular upkeep of tracks
- insufficient primary health-care
- presence of brackish water unfit for human consumption,
- lack of tools and farming apparatus.

II. THE PROJECT'S ORIGIN

With regards to all the above-mentioned problems, the Guinean government asked IDAF to assist them in planning and undertaking this project to test and implement the integrated approach in the country. Recent progress has been :

1. In 1990

a. Organization of a self-assessment of the project by the Fishery Development Unit (UDP) with the participation of an assistant from the Planning Ministry and the cooperation of a consultant from FAO/UNDP in elaboration of a work programme on :

- reinforcing credit systems
- formation of the UDP and village structures
- observation of the fishermen and smoker-women while at work
- improvement of the accounting system by decentralizing the sales services and mechanical workshop.

b. Organization of a second outside assessment of the project by another UNDP/FAO and Guinean government mission.

Objective : determine to what extent the project's targets had been met by :

- studying in particular the possibility of reproducing and coordinating the programme drawn up for Kaback in other fishing communities in Guinea (in Kamsar, for example) using the new approach ;
- studying, on the one hand, the special effort made by the project to improve the role of women in fishing and on the other, maintaining the project's activities particularly in the setting of its possible extension, owing to the visible dynamic and participative approach as had been hoped for in outlining the project.

Result : elaboration of an assessment report with recommendations.

2. Use of funds in the first stage

a. Equipment fund

Objective : allow the purchase of new equipment and material for the fishing communities

Results : purchase of 15 Yamaha motors for the fishermen (vertical integration)

- purchase of some Yamaha spareparts not initially found in the store
- purchase of processing material (basins to carry fish products, knives for gutting before processing, etc..)

b. Operational fund - working capital

Objective : its purpose is to guarantee the UDP progressive operational autonomy so as to ensure its continuity after the project phase.

Results : payment of some salaries to :

- UDP members
- trained workers
- temporary workers
- project watchmen and
- maintenance and fuel for rolling-stock, generators, office material, etc...)

c. Community development fund

Objective : to finance activities favourable to integrated development in each village covered by the project

Results : - sinking of wells
 - repairs carried out on local schools
 - electrification of jetty
 - installation of a radio system for communication

d. Village cashbox - credit account

Objective : - to set up a financial body in the midst of the fishing community to act as an alternative to traditional credit and banking systems
 - constitution of an independent fund to assist productive activities in the fishing sector initially and later in other economic sectors.
 - savings mobilization

Result : loans granted to farmers
 working capital granted to the women

e. Guarantee fund : obtained from payment of membership cards. This fund is deposited on the village credit account with a monthly 3 % interest rate.

Objectives : to cover accidents, deaths and infirmity ;
 loss of material.

Results : 3 cases of death received assistance from this fund.

It is managed by the UDP responsible in charge of loans or the supervision of the National Director, the CTP and UDP coordinator.

1. : In the light of the project's results, the mission decided to extend the first stage a further year (1991) so as to consolidate achievements.

2.2. In 1991 (to 31st March)

Extension phase : project

Country : Republic of Guinea
 Project number : GUI/87/025
 Project title : Pilot Project for Integrated Development of Artisanal Fishery
 Starting : 1st January 1991

- experimentation with a kind of store through the reimbursement "in kind" of loans granted to farmers
- purchase and experiments with two rice-husking machines on the sites
- start the creation of a dispensary and a village pharmacy at Matakang.

Perspectives for the future

- to continue to assist the UDP so as to allow it to become an independent body, with the status of an association or non-governmental organization
- to promote the approach based on economic profitability of those activities undertaken by UDP. In this way, the services supplied by the latter could be invoiced at their true rate. Only those activities of a social nature, considered as priority, will be subsidized by the project
- promote financial autonomy of village structures (CVD) and UDP by applying the principles of functioning of the working capital already set up and which should be the financial source for actions of self development
- technically assist productive groups
- increase the amounts of credit granted, in particular to those who have not so far taken full advantage of the resources received by the project.
- increase the amounts granted to the women to allow them to continue to be financially independent and improve trading conditions.
- increase the number of persons working in the UDP so as to train a greater number of agents with experience in the domain of integrated development and in a position to repeat this approach in other fishing communities
- progressively transfer the maintenance and repair of motors to village mechanics and reconvert the workshop into a polyvalent centre for popularization and production belonging to the village structures
- transfer the responsibility for the sale of equipment to village stores run and managed by the latter structures
- trial application of the village credit fund : identification, planning and execution of other mini-projects of community interest

CONCLUSION

Six months before the end of the extension phase, a mission of formulation should determine the objectives of the second phase and the means to achieve them. To this end, we would request IDAF to finance, in addition, exchange visits to compare experiences and facilitate the transfer of competence between countries of the sub-region.

PROGRESS REPORT OF PROJECT GHA/88/004 - INTEGRATED DEVELOPMENT
OF ARTISANAL FISHERIES IN YEJI.

1. INTRODUCTION

The project GHA/88/004 "Integrated Development of Artisanal Fisheries in Yeji" is the first inland fisheries project designed by IDAF. The project started on the 5th January, 1989 with the arrival of the C.F.A. in Yeji for the first phase of 2 years. It was expected to have ended on the 31st December, 1990. To complete its programme the project was extended for the 1st phase to end officially on 30th June, 1991. So the project is presently in the 4th month of the extended six months period.

The project is located in Yeji and its purpose to serve all the villages using Yeji as their market outlet. Yeji happens to be the largest inland fish market in Ghana. A review by Agyemin-Boateng - 1989 showed that 190 villages sell their fish in Yeji and there are 15,581 fishermen, 4,266 canoes, 90 transport boats and 6,569 fish processors.

The project is being funded by UNDP with the executing agencies being FAO and Fisheries Department of the Ministry of Agriculture, Ghana.

Ghana Government commitment so far stands at €190,000,000 whilst UNDP has contributed 945.380 US\$.

1.1 Aim and Objectives

The project aims at improving the living condition of over 75,000 inhabitants connected to the Volta Lake, through the construction of a Community Fisheries Centre (CFC) with facilities for fish preservation and marketing including the provision of training of 15,000 fisherfolk, over 6,500 of whom are women. The project will also provide essential services to Yeji township in the form of health clinic, day care centre and potable water.

A marketing information system and a management plan to be developed for implementation in a second phase project which would enhance the operation of the CFC as a self sustaining venture.

Finally to incorporate women and private entrepreneurs composed of boat builders, outboard engine mechanics, transport operators and fishing gear dealers.

1.2 Immediate aims

At the first Tripartite Review meeting held in the 1st quarter of 1990 it was unanimously resolved that the project be executed in two phases and that in earnest, for the first phase which is preparatory, the project activities be replanned to concentrate on those objectives which would be realistically attainable by the project and were therefore re-defined in a major Project Revision (E) which became operational in the second quarter as follows:-

- (a) The completion by the end of December, 1990 of all the necessary plans and logistical arrangements for the construction in 1991 of a Community Fisheries Centre in Yeji, with the basic facilities and services to meet the needs of 75,000 inhabitants of the Yeji-sector of the lake which includes some 15,000 fisherfolk and some 6,500 female fish-processors/traders.
- (b) A general management plan prepared by December, 1990 for the eventual operation of the CFC on a self-sustaining basis including the periodic assessment of the impact on the beneficiary communities.
- (c) A fisheries monitoring system established for stratum VII of the Volta Lake by December 1990.
- (d) Additional women and youth integrated by end of 1992 into fisheries and related income generating activities through either direct or indirect training programmes.
- (e) A project document for the second phase (1991 onwards) agreed and approved by all concerned before end of December, 1990.

Inputs such as, availability of the required International staff etc. were belatedly effected so that at the end of 1990 when the activities should have been concluded, it was regrettably not the case.

However, due to the importance attached to the remaining unexecuted project activities, it was not surprising that one of the major recommendations of the Mid-Term Evaluation Mission in the 4th quarter was an extension of the first phase. Consequently, UNDP effected the extension, up to 30th June 1991 to enable the project execute its remaining activities to give a befitting foundation for the second phase activities.

2. PROGRESS IN PROJECT IMPLEMENTATION

2.1 Community Fisheries Centre

In the 1st Quarter of 1990 the areas designed for the construction of the CFC and project bungalows were surveyed and boundary pillars erected. Two site board plans were produced which were later endorsed at a meeting. It was then made legal after receiving the seal of the Secretary of Lands and Mineral Resources.

The project submitted a provisional layout in the 4th quarter of 1989 for comments to FAO Headquarters. But to clarify some unknown factors the need to engage a consultant Architect arose. At the end of 3rd Quarter a consultant Architect arrived. He finally produced a new draft master plan of CFC and proposed that the CFC be constructed in four phases in order of priority and corresponding cost.

| | | |
|-----------------------------------|---|--------------------|
| (a) Land preparation | - | \$ 285,200 |
| (b) Market | - | \$ 776,000 |
| (c) Offices, Workshops & Services | - | \$ 340,000 |
| (d) Social | - | \$ 340,000 |
| | | <u>\$1,741,200</u> |

At a later meeting it was decided that UNDP funds the land preparation whilst bilateral donors are being sought for to fund the other components. Action is however under way to invite tenders from three architectural firms (two local and one foreign) for the preparation of working drawings, costs etc. of the CFC.

2.2 Socio-economics

The socio-economics marketing mission of a Consultant socio-economics marketing and Assistant Fisheries Officer, counterpart have conducted a lot of studies both in the villages and the Yeji Township.

The project mission visited all the villages which use Yeji as their marketing outlet. They were found to be isolated and really disadvantaged. It was seen that none of the villages had a health centre. When some one is seriously ill they have to hire a speed boat to sent the patient to Yeji. Also they were prone to snake bites. Because of this drug peddlers have taken advantage of the situation, prescribing drugs to the villagers which goes to deepen the plight of the fisherfolks. Some of the villages had no school and those who had, have serious staffing problem with almost three teachers handling classes 1 - 6 and in some cases two teachers. Because of this a child of five years could be seen with other fishermen on the lake. Child employment or labour is therefore common on the lake.

The source of water to the fisherfolks is the lake. They do not see the health hazard in fetching water from where others are bathing as well as washing their cloths. Toilet facility is also non-existent.

As slack fishing the fisherfolk practice drawdown farming as a part-time job. Some of the crops grown are cassava, potatoes and vegetables like pepper, tomatoes, okro and legumes. Although their diet consist mainly of carbohydrates, its effect is masked by the quantity of fish they eat at a meal.

Fishing is mainly done by the men. Although a woman may go with the daughter or son to retrieve or lay a net where the husband has travelled. Normally the fishermen live in groups and work together as a 'company', so the fish caught is brought to the women who process and sent it to the market.

Marketing in such a case is done by the company mother (who happens to be the wife of the company herd who in most cases owns the boat or nets) in the company of a male member to verify how much the fish was sold. So in the village there is nothing like fresh fish because upon landing every bit of fish goes to the processor.

As side all this the fisherfolks also have problems with high prices of inputs i.e. nets, boats/canoes, chicken wire, outboard motor etc. Increases in the price of inputs are found not to commensurate with the price offered for fish. They complain about those using unorthodox methods of fishing like the winch operators and dragnets which spoil their gill nets.

The main source of capital of the fisherfolk is from the middle women who charge high interest rates and have binding conditions which make the fisherfolk permanently dependent on the creditor. Because the fisherfolks have no other alternative they always contract these loans to establish them in fishing, fish processing and marketing or other related activities. There were a lot of instances where disputes have erupted between the creditor and the debtor.

Fuel wood was found to be a problem. In some villages fuel wood would have to be fetched from the other bank. This made fuelwood very costly.

The fisherfolks were sensitised on the activities of the project and the help and services that it hopes to render to the fishing communities.

Finally the project came to realize that if it wants to help fisherfolks who use Yeji as their marketing outlet then it's talking of 342 villages extending 60-70 km North and South as at March 1991.

This figure differs from a previous one given by Agyenim Boateng (1989). The latex could not visit every part of the lake due to problems with logistics.

After, the project concentrated on Yeji township collecting information data in all the 19 units. This is helping the project to identify training needs and the more disadvantage in the units. The project met all the associations in the town and held discussion on the smooth running of the planned Community Fisheries Complex when constructed. The women in Yeji township are mostly traders whilst the men are farmers. The youth follow their elders in the same pattern. The women are also involved in activities like pottery and sheanut oil making.

2.3 Fisheries monitoring system

Fisheries monitoring happens to be one of the important aspects, since the project is based on the fishery resource. This fact was stressed and it was a major recommendation by the Evaluation Mission in the second phase programme.

The project new methodology of fisheries monitoring was put in place by a consultant biostatistician who arrived in the second quarter of 1990. Data on landed processed fish (smoked or salted dried) are collected at the lake shore on Mondays and analyzed. Appendix (2) shows the annual fish landings (P.W.E) at Yeji market for 1990. With the arrival of two EPSON Lap top computers, the data analysis is being computerized. Along side this the biostatistician is organising computer training for the members of staff.

2.4 Fish preservation, marketing and distribution

The main forms of fish preservation by the fisherfolks is smoking and salt drying. To help the fisherfolks conserve fuelwood and also have a better quality product the project has introduced the Chorkor Smoker. In Jaklai, after a demonstration on the use of the chorkor smoker, the whole community has accepted the smoker and are using them in their individual homes.

The project in addition to the smoker is introducing a model smoking house with a fish gutting and smoking area and a store for storing the fish. The first of such facility is sited in Jaklai. The project hopes to built more in a number of villages with as much local material as possible for its extension and demonstration programmes.

Marketing of fish is mainly done by the women. Appendix 3 explains what happens on market days. The project takes records of fish landed, the number of trucks that come to the market, fish prices and other information to help in the planning process of the project.

The Yeji market is patronized by traders from all over the country. Most of the traders pass through Kumasi before their final destination. The fish goes as far north as Bawku, South to Elmina, East to Sogakope, and West to Takoradi and Dormaa. Appendix 4 shows distribution of fish from Yeji.

2.5 Services to fishing communities

The project has started a limited number of services to the fishing communities. It came to the notice of the project that the oil used by the fishermen to mix petrol for their outboard engines was not of the right type. The project consulted all the oil companies in the country on the possibility of supplying two stroke out-board engine oil. All the companies had labelled this item as a slow moving item as such it was not imported in large quantities. After explaining the change in situation to the management of the companies it is hope that 2-stroke engine oil would be imported in large quantities to meet demand on the lake.

The use of the oil has reached areas which do not sent their fish to the Yeji Market. All fishermen using outboard motor in the project area have heard of the oil.

After training the outboard motor mechanics, the project organised visits to these villages where brokendown machines were serviced and repaired. The fisherfolks expressed interest in such an operation and wished it would be a permanent future programme of the project although the project now operates an outboard motor repairs workshop in Yeji where they could bring their faulty motors for repairs on any day of the week. The project also makes available spare parts to the fisherfolks through this workshop.

2.6 Training and development of technical skills

The project has made a headway in training/programmes that would finally go to benefit the fisherfolk. Training was made possible by the arrival of various consultants.

2.6.1 Training of boatbuilders

The training programme was conducted by a consultant Naval Architect for 14 master boatbuilders. They constructed a Yeji style vessel, the design was however modified to up grade, the building standard and provide an example of a strengthened vessel on the lake. This 12.6m utility vessel was commissioned by the Brong Ahafo Regional Secretary and Named, "Nana Yaw Kagbrese V".

The boatbuilders in December constructed a smaller boat named "Queen Anne" on their own which the project is using for lighter duties and experimental fishing.

At the end of the programme fisheries project carpenter and 14 master boatbuilders were trained.

2.6.2 Training of outboard motor mechanics

This training programme was held during the 3rd quarter for 9 master mechanics and one fisheries artisan by the Consultant Outboard Motor Engineer.

After the training the team organised repair works on breakdown machines in a number of villages. On these visits they introduced the 2-stroke outboard motor oil to the fisherfolks.

2.6.3 Fish processing activities

The fish processing consultant in collaboration with the UNV fish processing expert organised a series of demonstrations on fish processing for more than 15 women in Fanti town and Jaklai, using the chorkor oven. The programme convinced the processors who hitherto entertained fears that it was not possible to use the smoker in smoking freshwater fish which happens to be very oily.

The project has completed the construction in Jaklai of a model village processing facility for demonstration and extension purposes.

2.6.4 Training of project fishermen

The four project fishermen went through a series of gear constructions for demonstration in the villages dependent on Yeji. The gear constructed so far included:

- (1) Drive in gear
- (2) Combined trap and surrounding gear
- (3) Pots
- (4) Entangling gear (trammel)
- (5) Combination gear (trammel and bottom set gill net)
- (6) Improved - Gill net (bottom set)
- (7) Framed Gill Net - Bottom net.

2.7 Collaboration with other organisations

The project held discussions with the Secretariat of the Association of Non-Governmental Organisations in Ghana (GANVOD) to explore how a collaboration could be forged on some sections in the project. Those on their register involved in Agricultural Development could be found in Appendix 6.

One of such collaboration programmes with Agro-forestry Unit, Ministry of Agriculture resulted in a tree planting programme in one of the villages called Accra Town.

2.8 Conclusion

The extension of the first phase by six months has brought a prompt relief to the project since the complete execution of the first phase activities would immensely provide a firm base for the second phase to overcome such problems that beliquered the project in the initial stages.

Now it is quite clear that the project would be dealing with more villages than expected and this would mean more financial support to the project.

Also the Recommendation of the Mid-Term evaluation Mission for the inclusion of a Stock Assessment Programme in the Second Phase Document is welcome news since the resource upon which the CFC is to be based would be adequately estimated to pay way for an EFFECTIVE management scheme to be developed both for the fish stocks and the CFC itself which are congruent.

Generally, it is only fair to say that the state of affairs is more THAN SATISFACTORY.

REPORT OF THE PROJECT

1. Work Plan 1989 - 1990 Aug. 89
2. Chronological Data on Site selection, CFC by CTA Sept. 89
3. Initial difficulties encountered in the preparation and implementation of project GHA/88/004. For IDAF Liaison Officers meeting, Dakar in November 89 by CTA Sept. 89
4. Observations on fishing gear in the Yeji Area Volta Lake. Prepared for Round Table Discussions of Gear, Craft and Ancillary Fishing Equipment, Cotonou in September 89, by L.I. Braimah, Co-Manager. Sept. 89
5. Policy Paper 1/89. Subside: Similarities between Volta Lake Research (and Development) Project and IDAF YEJI, by CTA. Oct. 89
6. Work Plan Revision N°1.
7. Report on Socio-economic condition in the fishing communities in the Yeji area of the Volta Lake. By C.E. Agyenim-Boateng FAO Consultant Sociologist Dec. 89
8. Review of the Kpandu Torkor Fisheries Complex. Experience by C.E. Agyenim-Boateng, Consultant Sociologist Dec. 89
9. Preliminary data on trading and fresh fish landing activities in Yeji by S. Yamamoto, UNW Fish Processing Expert. Jun. 90
10. Report on Workshop Exchange of Experiences on Volta Lake Research especially in fisheries and related fields between researchers of the former Volta Lake Research and Development Project (VLNDP) and staff members at GHA/88/004 in Accra. Sept. 90
11. Traditional and modern fisheries management systems in the Sahelian part of Ghana Prepared by L.I. Braimah for the 4th session of CIFA sub-committee for the protection and development of fisheries in the Sahel. Conakry Guinea May 90
12. Report on Pilot Survey for Processed fish landings at Yeji-Volta Lake by G. Van Der Straten D'eyne FAO Consultant Biostatistician. Jul. 90

13. Report on the construction of a 12.26m utility boat for project use by A.D.R. Coakley, FAO Consultant Naval Architect Boatbuilder. Jul. 90
14. Work Plan Aug. - Dec. 90 Aug. 90
15. Report on preparation for construction of a Community Fisheries Centre in Yeji, by V. Giacconini FAO Consultant, Architect Civil Engineer. Sept. 90
16. Status of the current trade in fish products (Fresh, Smoked, Salted Dried) pass through Yeji, based on the work of Ms. Salome Ansong, FAO National Consultant Fish Processing Technologist. Oct. 90

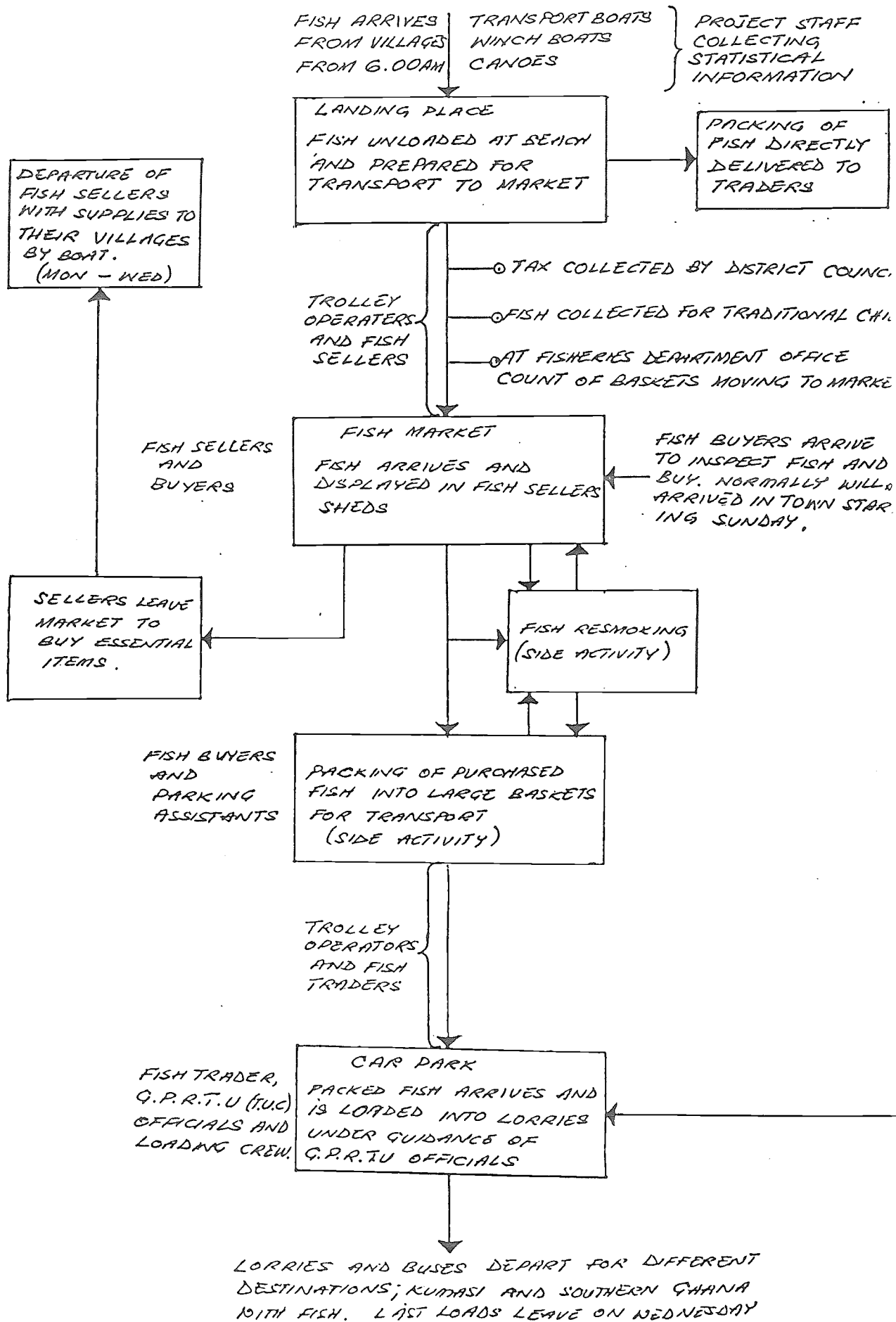
ANNUAL FISH PRODUCTION IN YEJI (JAN-DEC. 1990)
IN FRESH WEIGHT EQUIVALENT (F.W.E)

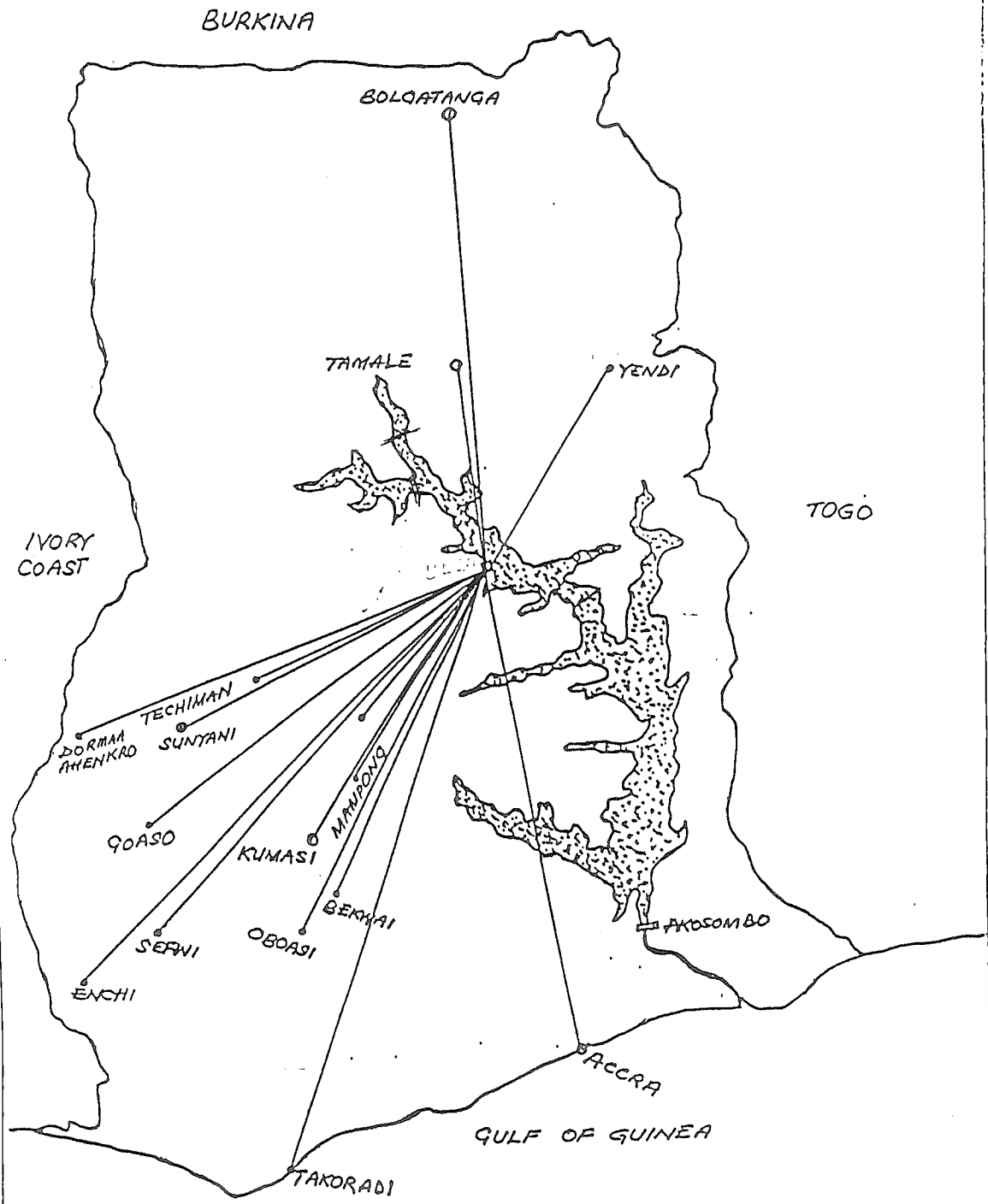
| S P E C I E S | 1ST QUARTER | 2ND QUARTER | 3RD QUARTER | 4TH QUARTER | TOTAL | % COMPOSITION |
|---------------|-------------|----------------|----------------|-------------|-------------|---------------|
| ALESTES | 4014.3 | 5089.7 | 17755.4 | 10110 | 36969.4 | 0.6 |
| BAGRUS | 30266.9 | 49382.9 | 44017.8 | 41,557 | 165224.6 | 2.6 |
| CHRYSICHTHYS | 87394.1 | 151546.9 | 342148.6 | 420938 | 1002027.6 | 15.5 |
| CITHARINUS | 52364.1 | 101560.7 | 104649.2 | 37563 | 296137 | 4.6 |
| CLARIAS | 35470.7 | 37182.4 | 48197.4 | 45111 | 165961.5 | 2.6 |
| GYNOTHRISSA | 2431.2 | 10206.0 | 114024.8 | 75008 | 201670 | 3.1 |
| DISTICHODUS | 4140.8 | 8296.4 | 5048.8 | 3580 | 21066 | 0.3 |
| GYMNARCHUS | 13248.2 | 19606.5 | 13395.5 | 20341 | 66591.2 | 1.0 |
| HETEROTIS | 24074.2 | 8970.6 | 42972.6 | 41387 | 117401.4 | 1.8 |
| HYDROCYON | 3222.4 | 3246.8 | 17981.4 | 11355 | 35805.6 | 0.6 |
| LABEO | 122570.3 | 211343.3 | 310725.7 | 238505 | 883144.3 | 13.7 |
| LATES | 491.0 | 397.5 | 14629.8 | 31821 | 47339.3 | 0.7 |
| MORMYRIDAE | 17112.2 | 18274.9 | 28523.8 | 60486 | 124396.9 | 1.9 |
| SCHILBEDAE | 7356.8 | 7681.0 | 20201.3 | 16075 | 51314.1 | 0.8 |
| SYNODONTIS | 181548.7 | 292155.5 | 371996.8 | 453744 | 1299445 | 20.0 |
| TILAPIA | 125310.7 | 154081.9 | 599564.5 | 1029635 | 1908592.1 | 30.0 |
| TOTAL | 711017.3 | 1,217,069.0 | 2,095,833.1 | 2,537,016.0 | 6,423,889.0 | |
| GRAND TOTAL | 711017.0Kgs | 1,079,023.0Kgs | 2,095,833.1Kgs | 2,537,216.0 | | |
| METRIC TONS | 711.0MT | 1079MT | 2095.8MT | 2537.2MT | | |

ANNUAL PRODUCTION

6,423.1 MT

APPENDIX: } ACTIVITY CHART OF MAIN OPERATIONS ON A FISH MARKET DAY AT YEJI...





DISTRIBUTION CENTRES
FOR YEJI MARKET

... of ...
...
... VOLTA LAKE.

LIST OF NON GOVERNMENTAL ORGANISATION

1. Noboa Foundation,
Box 150, Achimota
Located at Pokuase, Nsawan Road
2. Partners in Development
Box 9939, Accra.
Can be contacted through Mr. Atta - Ministry of
Industries, Science and Technology, Accra.
3. Young Farmers Research and Development Society
Box 419, Madina.
4. Committee of Churches Participation in
Development (CCPD)
Box 8301, Accra North.
Located at Dzorwulu.
5. Recerca Corporation, Accra Office
near Sanaa Lodge, Tesano.
6. Technoserve,
Box 135, Accra.
Located - Labone near Nafti
7. National Catholic Secretariat - off
Tetteh Quarshie Roundabout.
8. Amasachina Self Help Association,
P.O.Box 793, Tamale.
9. National Council on Women and Development
Accra.
10. 31st December Women's Movement
Accra.

PROJECT POSITION PAPER

SUPPORT TO WOMEN'S FISH PROCESSING ACTIVITIES AND COMMUNITY DEVELOPMENT
SHENGE, REGION

Project symbol: GCP/SIL/018/DEN

Govt. Implementing: Fisheries Department of the Ministry of Agriculture, Natural
Agency Resources and Forestry/Sierra Leone

Executing Agency: Fisheries Division/FAO

Starting date: March 1989

Govt. Inputs: In kind

Financing: Denmark U\$ 331,694

Staff: Two Ex-Patriates 1 Community Development Officer and 1 APO
Health/Nutrition
Govt. staff 2
Local staff 10
Administrative staff is shared with the project SIL/89/007

Objective:
Immediate

Establishment of an effective system whereby the Fisheries Division, operating in conjunction with other agencies, can continue to improve the income generating capacity, health and hygiene levels amongst women and their families in the Shenge Region.

Long term

Improvement in the socio-economic well being of the women and their families in the fishing communities in the Shenge Region by means of improvement on fish smoking, product improvement, alternative food production, cottage industries as well as education in health, hygiene and nutritional aspects.

PROJECT HISTORY

The project was designed as a support to the activities of the project SIL/82/015, now SIL/89/007. The major emphasis of project SIL/89/007 is placed on the organisation of the fishermen and improving of fish capture, whilst the DANIDA project is involved in community development of the project area. The project document was written in 1987 and approved 1988. It became operational with the arrival of the CDO in March 1989. The APO Health/Nutrition arrived in September 1989.

PROJECT AREA

The project encompasses the same as project SIL/89/007, 13 fishing villages and around 9,000 inhabitants.

PROJECT DESCRIPTION

During the initial phase of project SIL/89/007 (1986) a base line survey was done to identify the specific needs of gender concerns. The major problems identified were:

- * lack of basic commodities
- * water supply
- * immunization
- * health and nutrition
- * improvement of fish handling and salt making
- * credit facilities

In order to provide an improvement of the stated problems the project staff was subdivided into four divisions to ensure maximum effectiveness.

The following four divisions were created:

- fish processing
- income generation
- agriculture
- public health

ACTIVITIES DEVELOPED

The stated problems were taken in account and the following activities were undertaken to improve the situation.

Lack of basic commodities

The Cooperative Society (established by project SIL/89/007) is running a retail store in Shenge quite successfully, providing the population with basic commodities such as rice, sugar, flour, onions etc. Currently, they are in the process of establishing smaller stores in the project villages.

Water supply

The FAO project attracted funds from UNCDF to build 19 wells and 300 latrines in the project area. Up to date 17 wells have been constructed and the remaining 2 wells have nearly been completed, also 150 latrines have been built. An extension of this project was approved to construct an additional 80 wells in the Chiefdom, to be executed by ILO. The involvement of the DANIDA project was to inform, motivate and ensure the participation of the population as well as the monitoring of the activities.

Immunization

The project requested an UNV doctor who is with the assistance of a Community Health Officer and a nurse-assistant running a small health clinic in Shenge.

Twice a week an outreach clinic is held in one of the project villages. Emphasis is placed on mother and child care and curative treatment. During the project phase immunization has risen from below 30 % to 98 % (as was observed during a survey executed by nutritional students).

Health and Nutrition

An APO was appointed to head the public health/nutrition division. Six public health educators were trained and based in the villages. By means of role plays performed by the population the public was informed on topics such as oral rehydration, diarrhea, infant feeding etc.

A nutritional survey was carried out by two Dutch nutritional students to establish the nutritional condition, feeding habits, immunization rate of children under two years. With their results a long term programme will be drafted to inform the mothers concerning the optimal methods for infant feeding and care.

Improvement of fish handling and processing

With the financial assistance of UNCDF (US\$ 26,000 for three years) the project embarked on a programme to improve the traditional smoking ovens (open fire) by enclosing the fire pit, building a partition (to re-dry the fish and to smoke smaller portions) and improving the ventilation in the smoking houses. The support given to the fish processors is in kind (chicken wire and cement). The programme is highly valued by the fish processors and around 100 ovens have been built according to the specifications of the project.

Vegetable production

A seed multiplication area was designed to provide sufficient vegetable seeds to back yard farmers. Two inland swamps for rice cultivation and drying and storage facilities were built with financial assistance from the US Ambassador Fund.

Improvement of methods of salt making

A consultant was recruited to look into the possibilities of improving the salt production.

Credit facilities

The cooperative issued some small loans to petty traders, fish processors and back yard farmers. Under the UNCDF package US\$ 400,000, partly in kind, partly in cash money, to give credit to the members of the Cooperative. The implementation of this credit package is awaiting the arrival of the credit expert, currently under recruitment.

Alternative income generating activities

Currently, we are in the process of the establishment of a small enterprise for tie-dye and batik. The enterprise will offer local school leavers an opportunity to work. Two consultants gave training to interested people and the first products have been produced and are being marketed in Shenge and Freetown.

PROBLEMS ENCOUNTERED

* Institutional set up. The project is operating under the aegis of the Director of Fisheries. Within this division there is not much expertise available concerning W.I.D. issues. Also the counterpart of the CDO is recruited from the Ministry of Social Welfare, which does not have any established communication line with the Fisheries Division.

* Lack of staff. The CDO assigned to GCP/SIL/018/DEN has also had to assume the responsibilities of the umbrella project SIL/89/007 since November 1989 till date. The project SIL/89/007 was in its transitional phase of SIL/82/015 to

SIL/89/007 which meant that there was no project document, no budget, no recruitment of staff. Also from the Government's side we did not receive all staff as had been mentioned in the project document. It is quite difficult to find sufficient educated staff in such an isolated place as Shenge.

* Sustainability. In order to ensure the sustainability of the activities initiated by the project a Committee was supposed to have been set-up. Unfortunately, due to the lack of time and the present condition of the State this Committee is only in its initiation state and not functioning as such. Also the current economic situation with low salaries paid to Government workers and shortage of essential commodities many activities will be difficult to maintain without the inputs of external donors.

RECOMMENDATIONS

1. To extend the project as long as the duration is for project SIL/89/007 in order to ensure the community development sectors continued effectiveness.
2. To get a higher commitment from the various Government institutions to ensure a smooth operation of the project.

THE SHENGE PROJECT (JANUARY 1990 - APRIL 1991)1.1 BACKGROUND

The successor project of Sil/82/015 (February 84 - December 89) - (Sil/89/007) did not take off as scheduled due to the delay in the signing of its project document. This led to piecemeal extensions of project Sil/82/015 with inadequate financial and human resources to cope with work at hand for the achievement of desired goals. Other problems connected with the delay in the signing of the Project document for Sil/89/007 to start the second phase are:-

- The National Staff were frustrated since it was not quite clear as to whether or not the project document would be signed. This gave rise to a feeling of insecurity for their employment with the project and thus lowered their morale which imperilled production output.
- The expected Technical personnel were not recruited Viz. - CTA, Credit Expert, UNV Master-fisherman, UNV Co-operative Officer (arrived in March 1991). The non recruitment of the CTA caused administrative problems while the absence of the Credit Expert delayed the offering of the Co-operative Credit package. Since the end of the contract of the CTA/Master-fisherman for the First phase project in December 1989, the Community Development Officer in-charge of DANIDA funded project - "Support to Women's Fish processing Activities and Community Development, GCP/Sil/018/DEN", was officially charged with the responsibility of acting as CTA.

2. STAFF

At the transition struggling period for the second phase project, the following expatriate staff were in post:-

- Community Development Officer (GCP/Sil/018/DEN-Ag. CTA)
- Associate professional Officer (GCP/Sil/018/DEN-Nutritionist)
- UNV Co-operative Officer
- PCV Agriculture
- VSO Fish Processing.

National Staff include five FAO General Service Staff while Government Staff include a Co-Manager, a Master-fisherman, a Master boatbuilder, a Community Development Counterpart, a Co-operative Officer, an Agricultural Instructor and Fisheries Extension workers of the Fisheries Department. National professional Assistants include a Sociologist, a Chief mechanic. Additional General Service staff were

also recruited locally.

3. RESULTS OF ACTIVITIES

Notwithstanding the struggles and problems connected in the transitional period, the project was kept viable and operational until the project document was finally signed in March this year. A UNCDF funded project (Sil/85/co3) which involve several institutions including the Ministries of Finance, Works, Health, Education, Social Welfare and Agriculture, Natural Resources and Forestry was also operational.

3.1 WORKING CAPITAL FUND

Six purchase orders for netting materials, engines and spare parts were made from the UNCDF approved budget (US\$ 379,900) for a total value of US\$ 135,508.70.

In July 1990 a Consignment of bales of fishing nets and outboard engines arrived in Shenge. In view of a strong demand for this gear, especially the nets, it was proposed to start selling the items on cash basis until final policy concerning the sale can be made by the Credit Expert who is yet to be recruited. The project however experienced several problems with the shipments such as shortlandings and complete loss of some items. Actions to retrieve these items are still being pursued with the supplier, UNDP and the shpper.

Up to date a total of Le6,017,898 worth of fishing gear has been sold, and the project is yet to device ways of converting the Leones into hard currency for the reimportation of fishing equipments.

3.2 Construction of Multi-purpose Building and Jetty (Shenge) Clinic and School (Plantain Island).

A multi-purpose building was proposed to provide facilities for storage and sale of fishing equipments and for the repair of engines and vehicles. Initially it was also proposed that such building will offer facilities also for boat repairs but final recommendations called for a Co-operative building comprising offices and store for fishing equipments while a mechanic workshop should be kept as seperate. The site for these construction has been cleared while stumping and gathering of locally available materials such as sand and stones are in progress.

Arrangements are right underway for the construction of the Jetty following contact made with a local construction firm and the presentation of all drawings.

Construction of a Community Health Post, primary school and staff quarters are in progress in Plantain Island which has the highest population among the project fishing villages.

3.3 FISHING

The project continued to promote the diversification of fishing

methods to exploit a wider variety of resources. Apart from bottom drifting nets made of monofilament netting, polyamide surface drifting nets, trials have been made with shark fishing nets.

Demonstration programme with a Yanmar Diesel outboard engine continued under different arrangement of renting the engine directly to the fishermen for a minimal fee.

The project technically designed and constructed a Navigational Light System using kerosine lamp to lead fishermen to land safely at night. Fishermen in the villages are now receiving logistic support for the construction of this Navigation light system.

Concrete flush tanks for running outboard engines in fresh water after use are being constructed in villages having project based repair workshops for outboard engine.

Attempt has been made by the project to Map out rocky areas which impedes fishing during fishing operations.

3.4 MANAGEMENT INFORMATION UNIT

For effective measurement of project impact at Village level, framework survey is conducted every year which provide objectively verifiable indicators. This activity and host of others are undertaken by a Management Information Unit, headed by a Sociologist.

Numerical Trends of Selected Parameters. 1985 - 1990

| Project Area (Shenge Region) | Number | % Increase | % Decrease |
|---|--------|------------|------------|
| Total Population | 8005 | 15 | -- |
| Fishermen (Full time and Part time) | 1746 | 59 | -- |
| Fish processors (Full time and part time) | 1418 | -- | -- |
| Total Fishing Nets | 504 | 37 | -- |
| Drift Nets | 243 | 49 | -- |
| Set Nets/Shark Net | 125 | 101 | -- |
| Ring Nets | 20 | -- | 33 |
| Cast Nets | 46 | -- | 11 |
| Beach Seine Net | 22 | 37 | -- |
| Molit Draw Chain Nets | 44 | 2 | -- |
| Others | 4 | -- | -- |
| Hook and line (Hand line) | 98 | 81 | -- |
| Long lines | 32 | -- | 13 |
| Total Fishing Boats | 413 | 24 | -- |
| Std 1-3 Dugout | 176 | 13 | -- |
| Std 3-5 Dugout | 75 | 47 | -- |
| Std 3-5 Plank | 142 | 63 | -- |
| Ghana Boats | 20 | -- | 50 |
| Outboard Engines | 54 | 31 | -- |
| Banda Houses (Processing) | 499 | 16 | -- |
| Transport Boat (Pampas) | 12 | 140 | -- |
| Articles (Fullah) Shops | 40 | 11 | -- |
| Sleeping Houses | 917 | 13 | -- |
| Transistor Radios | 352 | 144 | -- |

3.5 Co-operatives:

The Shenge Central Co-operative Society remains to be one of the technical units of the Project. It is both the beneficiary and the Executor of the UNCDF Credit Package. Over the years, it had worked very hard to become a strong and reliable Institution to sustain most of the activities of the project after the pulling out of foreign inputs by 1994.

Currently, majority of its members (fishermen and fish processors) are substantially benefitting from their Membership and the organisation is firmly established. An updated profile of the Shenge Central Co-operation is given below:-

(a) Membership - 690 (46% women, 54% men) in 10 primary Village Co-operative Societies.

(b) Staff

1. One UNV Co-operative Officer
2. One Government Co-operative Officer
3. One Co-operative Manager
4. One Assistant Co-operative Manager
5. One Sales Assistant

(c) Financial Status

The financial status of the Shenge Central Co-operative Society indicate an upward trend over the years. A comparative breakdown of financial activities is given below:-

3.5A Net Surplus derived over 2 Financial Years

| | | | |
|---------|---|--------------|------------------------------------|
| 1988/89 | - | Le175,060.15 | (99% increase over Previous Year) |
| 1989/90 | - | Le402,156.17 | (151% increase over Previous Year) |

3.6B Growth of Share Capital over 2 Financial Years

| | | | |
|---------|---|--------------|-----------------------------------|
| 1988/89 | - | Le253,798.00 | (59% increase over Previous Year) |
| 1989/90 | - | Le486,529.00 | (38% increase over Previous Year) |

3.6C Growth of Working Capital over 2 Financial Years

| | | | |
|---------|---|----------------|------------------------------------|
| 1988/89 | - | Le650,493.27 | (70% increase over Previous Years) |
| 1989/90 | - | Le1,067,336.66 | (64% increase over Previous years) |

4. Conclusion.

The Shenge project (Phase II, Sil/89/007) is scheduled to end in 1994 for the total cost of

| | |
|--------|-------------------------------|
| UNDP = | US\$ 1,535,490 |
| Govt = | Le10,147,308 (1US\$=Le220.00) |

In terms of actual physical results, it is expected that at the end of this Second phase project, there will be

- a small but fully-functional Fisheries Development unit at Shenge (Department of Fisheries, MANR & F) monitoring development and able to give continued support and advice to the communities
- a self financing and independently operating co-operative organisation society and retail store;
- a self financing Guest House providing facilities to the general public
- an institutionalized credit system operating for the benefit of the fishing communities
- a workshop catering for the needs of the continuing Fisheries Department unit;
- a central general repair workshop providing services to the general public, as well as village-based workshops specialized in the repair and maintenance of outboard engines;
- community development activities incorporated into the ongoing programme of their respective Ministries, especially those concerned with health and education;
- most private individuals involved in various income generating activities, especially fishing and associated services as well as other non-fishery-related activities with steady employment and productivity.

T. D. K. Taylor

FISHERIES PILOT PROJECT TOMBO
REPUBLIC OF SIERRA LEONE.

BY S.E. DURING.

1. GENERAL INFORMATION

The Fisheries Pilot Project Tombo is an integrated small scale Artisanal Fisheries Development Programme. It is jointly financed by the Governments of the Republic of Sierra Leone and the Federal Republic of Germany.

2. IMPLEMENTATION PERIOD: September 1980 - August 1993.

3. PROJECT PHASES:

- Phase 1 September 1980 - August 1983
- Phase 2 September 1983 - August 1985
- Phase 3 September 1985 - August 1987
- Phase 4 September 1987 - August 1989
- Phase 5 September 1989 - August 1993

4. FUNDING:

| | <u>Sierra Leone</u> | <u>Fed. Rep. of</u> |
|--------------------------|----------------------|----------------------|
| | <u>(Million Le.)</u> | <u>Germany</u> |
| | | <u>(Million DM.)</u> |
| - Sept. 1980 - June 1987 | 2.0 | 12.0 |
| - July 1987 - June 1988 | 1.0 | 1.8 |
| - July 1988 - June 1989 | 1.3 | 1.8 |
| - July 1989 - June 1990 | 1.7 | 1.8 |
| - July 1990 - June 1991 | 2.2 | 1.4 |
| - July 1991 - June 1992 | 2.9 | 1.4 |
| <u>TOTALS</u> | <u>11.1</u> | <u>20.2</u> |

5. PROJECT DESCRIPTION

The Fisheries Pilot Project Tombo is a fisheries sector integrated development project, involving technical, social economic and community elements. The Project consists of three main elements which are interlinked:

The commercial element is involved in the importation and retail of fishery equipments to the small-scale fishermen on commercial basis.

| | | |
|--|------------------------------|-----------|
| - Average Annual Production since 1988 | | 8000 m.t. |
| - Species Composition | <u>Ethmalosa fimbriata</u> | 48.5% |
| | <u>Sardinella maderensis</u> | 46.8% |
| | By Catches | 4.7% |

7. PROJECT PLANNING

A Project Goal Oriented Planning workshop was convened in April 1980 in order to reassess the Project Activities of the fourth phase which ended in August 1989 and to determine the Project direction during the current fifth phase.

Two Sub-Projects were conceived to make room for better project execution. The following Project Results were determined as targets to be achieved against the end of this phase in August 1993.

\$ SUB-PROJECT: Community Development.

- Result 1. Developed Skills Enhances Available, Manpower To Fulfil Its Task In Identified Fields.
- Result 2. Defined Structural Setup Of Village Organisation Accepted By Villagers And Sustained.
- Result 3. Financial Resources For Local Administration And Development Are Under The Control Of Established Village Organisation.
- Result 4. Village Organisations Assisted In The Implementation Of Felt Need Projects.

£ SUB-PROJECT: Fishing Industry In Tombo.

- Result 1. Adequate Training Provided To All Groups Identified.
- Result 2. Necessary Technical Materials And Services Provided.
- Result 3. Retail Store Efficiently Run By Business Organisation With Profit.
- Result 4. Representatives Of Target Group Are Able To Influence Policy Making And Take Over Control Functions.
- Result 5. Project Management Improved.

HIGHLIGHT OF MAJOR DEVELOPMENTS WITHIN THE PROJECT DURING THE REPORTING PERIOD.

- * The Engineering Section has been handed over to the Local Counterpart section Head - Mr. T.E.A. Konteh, an employee of the Fisheries Department of the Government of Sierra Leone. This is in accordance with Activity 5.37 of Result 5. of Sub-Project (Fishing Industry In Tombo).
- * The Fish Processing Section is headed by Mr. A.H. Robbie, while Mr. S.E. During the substantive holder acts in the capacity of Co- Project Manager, during the period of leave of absence of Mr. A.C.V. Forde. All three Officers are on secondment from the Fisheries Department.
- * The Village Development Association, which evolved from the Village Development Board, which had been administering Village developmental activities, will soon be a legally registered body. This association when registered, will take ownership of control functions, rights and all properties accruing to the village community.
- * The Fishermen's Cooperative Society has commenced the retail of a limited quantity of netting materials, to its members. The fishing materials were purchased wholesale from the Project, with funds accumulated under a now defunct self imposed 10% surcharge on netting purchase under the "Peathea Fund".
Less favoured fishermen were able to obtain credits in the form of netting materials from this co-op activity. The indications are that a 100% recovery rate of the credits was achieved.
- * A prepared report on the suitability of fast growing Acacia tree species for fish smoking was recently tabled, by the Fish Processing Section of the Project. This test was carried out for the FAO- Fuel Wood Project SIL/88/008. The obtained results were very positive. The use of these fast growing cultivars as fuel wood in the local fish processing industry will contribute towards minimising the pressure on the native tree species in Sierra Leone.
- * The Project Accounts has been fully computerised. A parallel manual account will be maintained for a period exceeding one financial year for comparative assessment purposes.
- * A total of 8 Project Personnel have or will benefit from training in Micro Computer applications. The training Programme will include Software packages of Dbase 1V, Lotus 1-2-3, and Word Perfect Version 5.0.

- * The recently introduced 27 horse power Yanmar Diesel outboard motor will be subject to a monitored trial under normal Tombo commercial operating conditions, by members of the Tombo Boatowners Co-Operative Society. If after the initial trial test period (of not less than 24 months) of commercial operations, the results prove positive to the boatowners, then this engine will most likely prove a very popular alternative for the previously introduced diesel inboard engines with the local Artisanal fishermen.
- * A group of 4 Tombo Fish Processors have been nominated to participate in a forthcoming study tour on Artisanal Fish Processing in Chorkor, Ghana. This study tour will be sponsored under the EEC - West African Regional Programme of Post Harvest Utilisation of Artisanal Fish Production.

8. CONCLUSION

The Project is scheduled to terminate at the end of the current phase. The Department of Fisheries has however applied for a further extension of the Project phase, but with greater emphasis on post harvest losses studies and control. This is in line with the above mentioned Regional Programme, as Tombo is considered a very unique and important village relative to its fish smoking activities.

**WEST NORTH WEST ARTISANAL FISHERIES AND
COMMUNITY DEVELOPMENT PROGRAMME
AN INTEGRATED PROGRAMME FOR
ARTISANAL FISHERIES DEVELOPMENT
BY MOHAMED F. SHERIFF**

1.0 INTRODUCTION

The WNW-AFCOD Programme became operational in July 1989. It was preceded by the Kambia Fisheries Development Project (KFDP). The KFDP was initially established in 1983 to increase fishing effort in the artisanal fishery by introducing new boat types, but it soon changed its primary objectives to that of improving the fuel efficiency of existing crafts. The project was sited on Yeliboya Island, a thriving fishing centre dominated by Ghana boats varying between 13-20m long. Seven technical reports were produced within its 5 years of operation on various aspects of its pilot work.

The pertinent project results of KFDP served as a basis for preparation and implementation of the present development programme which is operational in 4 pilot villages of Yeliboya, Konakridee, Mahera (proposed headquarters) and Goderich. The overall objectives of the Development Programme for the artisanal fisheries sub-sector in the WNW Region are to stabilize the incomes and to improve the quality of life in the fishing villages by intervening in the following activities.

- fish processing with particular emphasis on reducing fuelwood consumption and health hazard of processors
- supply scheme for imported fisheries inputs
- development of financial services
- community development especially environmental sanitation, village planning and institution building for sustainable development after external funding
- ecological education on the use of selected fishing gear, and on reafforestation and fuelwood extraction in the mangrove forests

To achieve these specific objectives, various activities have already been undertaken by project staff comprising of Technical advisory personnel, Sierra Leoneans and VSOs.

2.0 MODERNISATION OF THE FISHING FLEET

2.1 Boat building

A policy paper has been prepared on the modernisation and rationalization of boat building, with special reference to timber engineering, as a result 3 fishing vessels are now being constructed together with a commuter boat using the wood/epoxy laminating technique. These cold moulded novel boats shall demonstrate suitability of diesel inboard propulsion, longer life span and lower operational cost as compared to existing local fishing vessels. They will be fitted with simple labour saving devices, eg., net rollers and navigational instruments. They will cost slightly more than the local ones but certainly will last longer and thus bring down operational costs to minimum.

2.2 Diesel Inboard Motorization

Our emphasis is on diesel inboard propulsion because of its fuel saving which will reduce substantially the fleet's foreign exchange spending. Diesel inboard engines also tend to have longer durability and comparative lower extra costs. Taking only fuel into consideration, substantial savings can be realised: For example, our novel boat fitted with a 30hp SABB diesel inboard engine initially costs 3 times as much as a traditional canoe with 40hp Mariner petrol outboard engine. This large difference is, however, expected to be recovered through fuel saving in only 600 hours of operation. Every further 600 hours of operation the savings accruing to the owner would be of the order of USD 8862 or Le 1,772,400 (USD=Le200).

On Yeliboya Island, the Ghana canoes have 237 fishing days a year on average and operate approximately 4 hours per day. 600 hours therefore represents 150 fishing days or approximately 2/3 year.

For the Standard 5-10 canoes the initial cost of cold-moulded laminated hull with a 10hp SABB DIB is approximately twice that of 25hp Mariner POB. This difference is recovered in approximately 400 hrs of operation, and every 400 hrs after that would realise a saving of USD 3825 or Le777,000 (1 USD=Le200). Again, in Yeliboya the STD 5-10 canoes have 228 fishing days a year on average and approximately 3 1/2 hours per day. 400 hours therefore represent 114 fishing days which is approximately 1/2 year.

3.0 MODERNIZATION OF FISH PROCESSING & MARKETING

3.1 Fish Processing

Heat drying, locally called "Smoking" is the common fish preservation method used in our Programme. 800 smoking ovens are presently operated in the 4 pilot villages of the programme with a smoking surface of 9,600M² mostly of traditional type with several deficiencies. A Fante oven, an hybrid of the traditional and chorkor ovens, is being introduced by the Programme and preliminary tests are showing considerable cut down on fuel wood use (50% over the traditional). Five Fante ovens are now installed in the 4 pilot villages for training and demonstration purpose. The cost of one improved fante is Le41,800, USD 209 (1 USD = Le200). The chorkor oven is also being promoted. Altona ovens found in two of the programme localities are being rehabilitated for community use especially during bumper catch periods. These ovens are to be administered by the cooperatives as economic enterprises.

3.3 Fish Marketing

Fish is presently dumped on sand for marketing and in the absence of ice a big part of the daily catch is bought by fish processors for smoking. We are undertaking a wholesale marketing facility in order to raise the hygienic standards and increase the fresh fish supply to the capital. The wholesale fish market will be administered by a corporate body now being formed by the community under our guidance. This is intended for Goderich being very close to the capital.

4.0 DEVELOPMENT OF CREDIT FACILITIES

4.1 Co-operativism

Twenty-one co-operatives function in our programme area. 8 of these are in the 4 pilot villages with 1,125 members and receive extension services from our programme. These cooperatives are savings and credit co-operatives with little capital. The co-operatives provide consumption credit rather than capital loans. The federation of fisheries co-operatives is being promoted. It will assume responsibility for central procurement of fuel and administration of fisheries credit and input.

4.2 Development/Revolving Fund

The artisanal fishermen in our region like many others on the rest of the coast in Sierra Leone need additional capital. The input prices are incessantly increasing due partly to the continuous deterioration of the value of our national currency relative to the hard currencies. As cost increases cannot easily be passed on to the consumers, the situation generates a strong credit demand. As the rigid conditions of access to bank loans limit their use by artisanal fisherfolks, the usual credit source is informal, that is middlemen with high interest rates. Our programme has set aside 1.3m ECU as a revolving/development fund in order to upgrade saving and credit services in our fishing communities.

5.0 COMMUNITY DEVELOPMENT

Community development is planned and implemented in combination with fisheries development in our programme. Community development is perceived here as an attempt to improve the quality of village life, particularly of health and sanitation, education and culture. The applied methodology relies besides home visits, on the action of teams of change agents who are selected by the communities in consultation with the Programme staff.

6.0 RESOURCES MANAGEMENT

6.1 Fish Resource Studies

Available statistical data covering 1971-1982 show a declining trend in the national artisanal fisheries landings as opposed to the industrial fleet. Total landings remain steady at 120,000-160,000 tonnes/year. The quantity of demersal catch decreased disproportionately compared to the volume of pelagic fish. Resource management is deemed necessary especially for the

protection of the interests of the artisanal sector. As biological studies are beyond the scope of our programme, the institute of Marine Biology and Oceanography of the University of Sierra Leone is contracted to undertake them. Two frame surveys have been realised (one in the rains and one in the dries). A draft report is being studied.

6.2 Mangrove Forest Management

The programme views the mangrove resource as an ecological unit whose imbalances can cause serious devastating effects. They serve the purposes of a nursery ground for the marine fish species, as fuel wood for domestic and fish smoking and building purposes in our fishing communities. A management scheme executed by a VSO Forester and Sierra Leonean counterpart is underway invariably on Yeliboya Island and its immediate environs.

7.0 MONITORING AND EVALUATION AS MANAGEMENT INFORMATION SYSTEM

Fisheries administration is based on constant monitoring of stocks and fleet activities in order that stocks are exploited rationally and economically. Various surveys of (I) fleet variation, expenditure and income of fishing vessels (II) survey of fish taken out of the 3 major landing sites (III) survey of evolution of prices of inputs as well as fish and (IV) annual village inventory for progress monitoring all of which are documented in our Monitoring and Evaluation service regulation. Socio-economic data collected and processed by M&E services are being fed back to the target population in order to create public awareness of development potentials and obstacles.

8.0 SUMMARY

Our achievements after two years of programme implementation are not many but certainly the basis for good and concrete results have been set. Our first year of activity was an orientation phase in which our workforce was formed and it familiarised itself with the specific tasks.

Plans were prepared for adequate infrastructure, boat building and boat propulsion system as well as fishing gears. Strategies have been elaborated for strengthening the fisheries co-operatives, for upgrading rural finance, improvement of the quality of life in our fishing villages and preservation of the material regenerative of the exploited fish stocks and strands of Mangrove forest.

FAO/UNDP INTEGRATED RURAL FISHERIES

DEVELOPMENT PROJECT, NIGERIA -

NIR/87/010

A. DEVELOPMENT OBJECTIVES

The development objective of the project is to examine the supply and use of fishery resources in an effort to achieve self-reliance in the food sector.

B. IMMEDIATE OBJECTIVES1. Organizational

Realization of Government's plans to develop the two Rural Fisheries Development Centres established at Uta Ewa (Akwa Ibom State) and Koko (Bendel State) under the artisanal and Inshore Fisheries Development Project (NIR/77/001) into model Integrated Rural Fisheries Development complexes - with all necessary fishery infrastructure and modern amenities for the community.

2. Technological

An estimated 10-20 percent increased per capita income of the rural artisanal fishermen through application of appropriate modern fishing technology including small mechanized fishing boats, fishing gear and methods and through minimised post-harvest loss of fish by improved handling, storage, processing and transport, thereby increasing the total fish supply.

3. Fishermen Organization

Viable and active cooperative movement among the rural fishermen with community welfare programme.

4. Human Resources

Enhanced capability of the national fishery professional technologists and extension workers, through counterpart training.

C. DURATION

The Project commenced with the arrival of CTA in August 1988 and supposed to end by 31st July 1991.

THE PROJECT CENTRES

The project has the administrative centre in Lagos and three areas where field activities are carried out.

- i. Koko/Ogheye centre - Bendel State
- ii. Uta Ewa centre - Akwa Ibom State
- iii. Igbohoda - Boat Building - Ondo States

AGENCIES

Govt. Implementing Agencies - Federal and State Departments of Fisheries

Executing Agency - FAO
Donor Agency - UNDP

Federal Government Proposed Inputs

The Federal Government of Nigeria is expected to provide infrastructure towards the establishment of two model integrated rural fisheries development centres at Koko/ogheye and Uta Ewa, as well as community based services. The inputs to be provided are :

- Portable water (Functional wells/bore holes)
- Electricity
- Ice and cold storage plants
- Boat yard
- Service and repair workshops
- Landing jetties
- Fish evacuating crafts
- Net lofts
- School and health centre

- Gear, outboard motors, spares, banana boats, semidecked wooden trawlers and other fishing accessories

UNDP INPUTS

The UNDP/FAO contribution was geared toward provision of technical experts, equipment for training, and fellowships.

The project has at the moment 5 FAO experts supported by national counter parts. The FAO experts are.

- i. CTA
- ii. Fishing Technologist
- iii. Master Fisherman
- iv. Boat builder
- v. Community welfare/Socio-economist.

PROJECT ACTIVITIES

A. Fishing Technology

- Under the direction of the Fishing technologist (Uta Ewa) and Master-Fisherman (Koko/ogheye) training programmes for fishermen and extension officers have been carried out on fishing gear construction, net mending and fishing methods.

- Fabrication of Trammed Nets

The trammel net is a new fishing gear introduced to the fishermen. The net consists of three walls of netting the outer wells on the bigger mesh size (230 m than the loosely hung inner netting with smaller mesh size (46 mm). (Appendix 1).

- Fabrication of Drift Nets

Locally constructed drift nets such as Ususu, croaker and short nets were modified to improve performance. For instar the local fishermen did not make provision for lead line in their fabrication of "Ususu" net and the project has improved this net by introducing lead line. Fishermen are being trained in their construction and the importance of standardization, (hanging ratio, lead/float relationship) is being stressed.

- Fishing Trips

Introduction of new gears and crafts are undertaken through fishing trips done jointly by project staff and fishermen drawn from target cooperatives? So far trials of the improved gear have given encouraging results.

Handling and Maintenance of outboard Engines. FAO Marine Engineer trained 30 young fishermen in practical outboard engine maintenance, illustrated also with audio-visual aids such as slides and video tapes. Participants were also trained in the use of simple hand tools and basic use of electrical and gas welding.

- 2 workshops have been established at the two centres
Boat Building
- The project has produced 3 fibre glass banana boats and 2 of them are being tested at the two project centres
- Two multipurpose wooden boats constructed in a previous project by FAO are now being tested in Koko/ogheye Centre
- Construction of 2 wooden fishing boat and one fish carrier boat are is now in progress

FORMATION AND STRENGTHENING OF COOPERATIVES

- Activities relating to cooperatives formation and reorganisation of existing primary societies were carried out through extensive field visits, focus group discussions and workshops. A total of 10 fishermen and 9 fisherwomen cooperative societies are being targetted.
- Two training workshops on i) registration requirements and procedures and (ii) book keeping, cooperative law, rules, regulations and management practices.

SOCIO-ECONOMICS AND COMMUNITY WELFARE

- Socio-economic and village surveys carried out in the two project areas, in collaboration with IDAF
- In collaboration with Primary Health Care Units of the Ministry of health, regular immunization programmes are carried out in target villages under the two centres
- Project has provided P.V.C. tanks (of 500-700 gallons capacity) to Ogheye and 2 wells constructed at 2 villages at Uta Ewa Centre. Two pipe-born water outlets established for use of Uta Ewa community
- A multipurpose community house construct for use as guest house, clinic and meeting place

- A project proposal submitted to UNFPA Lagos, to assist in provision of health equipment, mobile clinic, water, toilets as well as training for health personnel in addition the proposed project seek support for women's income generating activities and self improvement.

TRAINING OF EXTENSION STAFF

- Short local training courses (2-300 for extension officer and project counterpart in
 - i. Fishing methods and gear technology
 - ii. Boat building
 - iii. Outboard engine maintenance
 - iv. Extension methods
- Fellowships have been given for training in foreign institutions (Asia and Africa) in the following areas fish processing (3 persons), fishery extension (5 persons) cooperative (3 persons) boat building (1 person)

FISH PROCESSING

Improved smoking kilns (chorkor type) are recently being introduced on trial basis. Consultancy has been carried out on identification of appropriate fish handling and processing for artisanal fishing communities in the project areas. This aspect was delayed due to non-fielding of the FAO experts in fish processing.

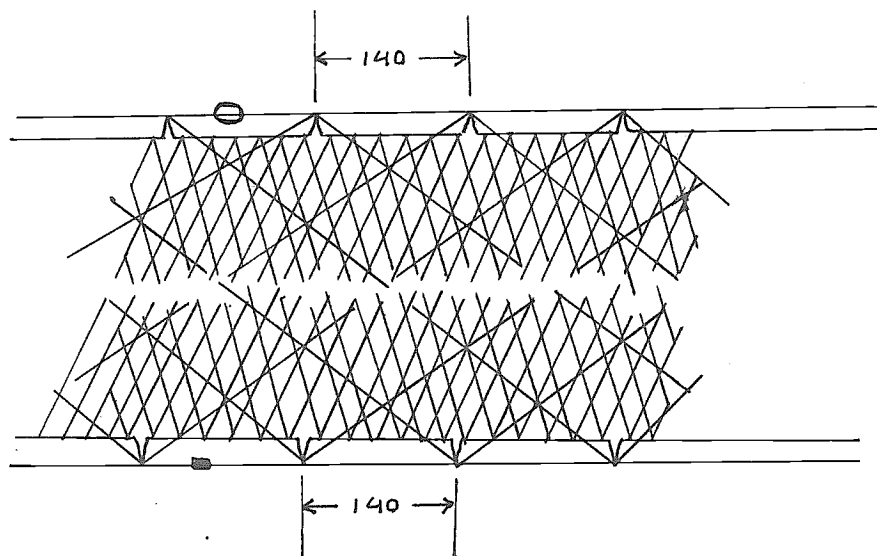
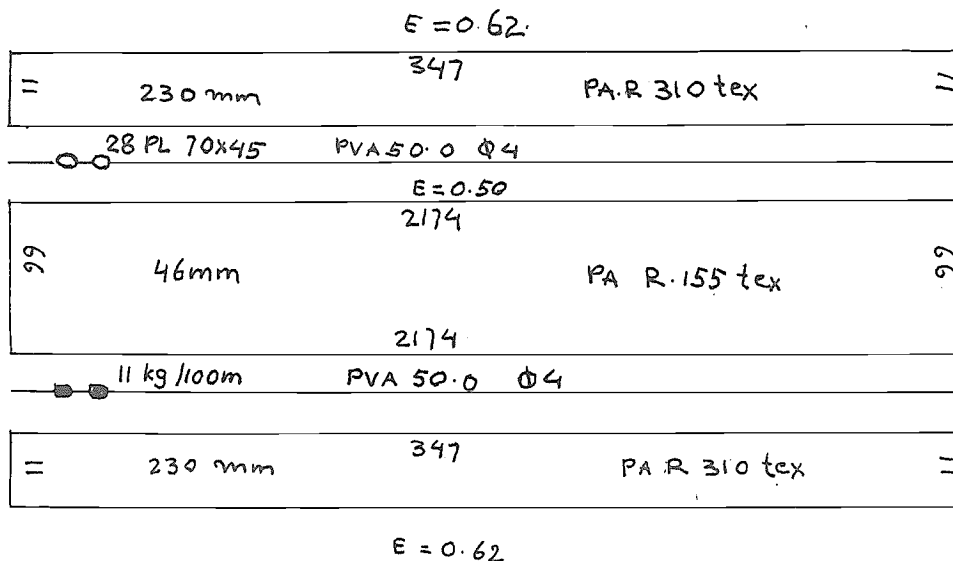
CONSTRAINTS

The project commenced unfortunately when there was global economic recession and the Nigeria Federal Military Government introduced some economic measures that gave rise to the acute shortage of funds for the project. hence the expected government's outputs have not been as expected.

CONCLUSIONS

The problems affecting small-scale fisheries have become increasingly a subject of critical discussions among national and international development agencies. Unfortunately both International development agencies and national authorities, very often development projects which are supposed to be executed in a relatively short time (2-5yrs). Considering the number of set out objectives for this development project much more time should be allocated for its implementation to ensure self-sustenance.

Diagram of Trammel Net constructed by Trainee.



REPORT ON INTEGRATED RURAL FISHERIES
DEVELOPMENT PROJECT OF KOKO/OGHEYE
CENTRE, BENDEL STATE, NIGERIA

BY

C.C. MONIKE - CENTRE MANAGER
FEDERAL DEPARTMENT OF FISHERIES
BENDEL STATE FIELD OFFICE

INTRODUCTION

Fishing is the mainstay, if not, the only occupation of the rural populace living along the coastal areas of Nigeria. This calibre of people, belong to the artisanal sector of the fishing industry in Nigeria.

The total fish production in Nigeria, in the year 1989 was 355, 936 metric tonnes. Over 80 % of this domestic production is accounted for by (small scale) or artisanal sector, providing means of livelihood for hundreds of thousands of fishermen.

Regretably, this sector remains the most impoverished, with the fishing populace living mostly at subsistence level. The recognition of the poor standard of living of the rural fishermen attracted the Federal and state governments of Nigeria to look into the development of the "Goose that is laying the golden eggs".

This led to the developmental era of the artisanal fisheries sector which focussed on upgrading and modernizing the small-scale fisheries with projects such as National Accelerated Fisheries Development project, and Inshore Fisheries Development project (NIR/77/001) instituted in 1980 with technical assistance through UNDP/FAO, emphasized on appropriate modern fishing technologies, modern fish handling, processing and marketing techniques with infrastructural facilities like fishing jetties, workshops, boatyards, cold stores and ice plants.

This project (I.F.D.), even though, it was well articulated and executed could not succeed at addressing the basic social and welfare needs of the rural fishing populace. This missing link, gave birth to the present operational project -Integrated Rural Fisheries Development Project-.

THE PROJECT : INTEGRATED RURAL FISHERIES DEVELOPMENT

The project document (NIR/87/010) was signed by the Federal Government of Nigeria (implementing agency), United Nations Development Programme (Donor) and Food and Agriculture Organization as the executing agency, in August 1988 approving the project for a period of three years.

The project commenced with the arrival of the Chief Technical Adviser (FAO) in October, 1989. The rural fishing centre Koko/Ogheye is one of the two centres for the project. Koko is a coastal vilalge housing the offices and expert residential quarters, while Ogheye is the activity fishing settlement situated at the sea mouth of Benin River. This project centre was established to achieve a model fishery integrated rural development environment for other fishing communities to copy though a concerted modernization process.

The I.F.R.D project is essential, strategically upgrading the inshore fisheries development project by taking into cognizance the socio-economic requirements of the fishing community.

Objectives

This project is meant specifically to provide necessary technical assistance to Federal Department of Fisheries for improving the techno-socio-economic condition of the rural coastal fishermen through an integrated approach. The immediate objectives of the project include :

- a. Increase in fish production through the application of appropriate modern fishing technology like small mechanized fishing boats, (wooden and fibre-glass), fishing gear and methods.
- b. Introduction of methods of minimizing post-harvest losses, through improved handling, storage, processing and transport.
- c. Develop co-opeartive movements among the rural fishermen and introduce community welfare programmes.
- d. Train national counterparts and conduct vocational training for artisanal fishermen.

FEDERAL GOVERNMENT PROPOSED INPUTS

a. The development of the model integrated rural fisheries development centre at Koko/Ogheye will be equipped with facilities such as :

- portable water (functionnal well/borehole)
- electricity
- ice and cold storage plants
- boat yards
- Service and repair workshops for outboard engines and crafts
- landing jetties
- fish evacuating crafts
- fish evacuating crafts
- nets cofts
- school and healt centre
- gears, outboard motors/spares, banana boats, semi decked wooden trawlers, fishing nets and accessoires

b. Provision of relevant staff

c. Provision of office and residential accomodation for FAO personel.

UNDP/FAO PROPOSED INPUTS

a. The UNDP/FAO contribution was geared toward provision of technical experts and fellowship.

b. Provision of equipments like boat building materials, fishing nets, outboard motor and inboard engines.

ACHIEVEMENTS

This project commenced unfortunately when there was global economic recessions and the Nigerian federal military government introduced some economic measures that gave rise to acute shortage of funds for the Project. This limiting factor notwithstanding, the agencies concerned made remarkable successes in areas of the project that are not capital intensive.

1. Training

a. Fishing technology

the FAO master fisherman in conjunction with the national counterparts are carrying vocational training programmes for about eighty (80) artisanal fishermen, in different areas of fishing technology.

a.i. Fabrication of trammel net

The trammel net which is a new fishing gear to the target group was introduced.

The national counterparts and artisanal fishermen constructed the trammel net with the adequate supervision of the FAO expert.

The net consists of three walls of netting, the outer walls with bigger mesh sizes (230 mm), than the loosely hung inner netting with smaller mesh size (46 mm).

Diagram of trammel net is shown in appendix I.

a.i.i. Fabrication of drift net (Ususu, croaker/shar nets)

The "Ususu" and shark nets are locally developed common fishing gear, for the artisanal fishermen in this locality.

The local artisanal fishermen did not make provision for lead line in their fabrication of "Ususu" net. The project, during training, upgraded this type of net by introducing lead line. The aim was to compare the fishing efficiency of the new innovation with their traditional type. The expert during training, exposed to the artisanal fishermen the importance of standardization, like hanging ratio and lead/float relationship in net construction as against their method of indiscriminate lead and float mounting.

a.i.i.i. Fishing trips with new fishing gears and crafts (G.R.P. banana boat and wooden gill netter)

Introduction of the new gears and crafts (from project boatyard) to the artisanal fishermen was done by jointly carrying out fishing trips with the fishermen. These trials were enormously successful.

1. handling and maintenance of outboard engines

The marine engineer (FAO expert) trained about 30 participants from the target group in practical outboard engine maintenance illustrated also with audio-visual aids such as slides and video tapes. Other areas of training included use of simple hand tools and basic use of electrical and gas welding.

2. Formation of cooperative movement

The FAO socio-economist organized the target group into units of registered, functional co-operative societies.

3. Welfare scheme

The project has provided some PVC tanks (of 500-750 gallons capacity) to the target group. This will facilitate harvesting good quantity of rain water during the rains which incidentally could last for 9 months (March to November) of the year.

In full collaboration with the Bendel state primary health care, regular immunisation programme is being carried out in this centre.

4. Provision of chorkor smoker

The FAO consultant fish technology with the national fish processing counterpart introduced chorkor smoker to the target group.

CONCLUSION

The problems affecting small-scale fisheries have become increasingly a subject of critical discussions and deliberations among national and international development agencies. Unfortunately both international development agencies and national authorities, very frequently prefer to support development projects which can be planned and executed in relatively short period (2 - 5 years).

Considering the number of set out objectives for this developmental project, much more time should be allocated for its implementation to ensure self-sustenance.

STATEMENT ON FISHING ACTIVITIESIN LAGDO (CAMEROON)

Submitted by the Fishery Division of the
North-East Benoue Programme

Considering the information to be found on the EDF Project for Fishery Development on Lagdo dam, Cameroon (see Report on 3rd Meeting of IDAF Liaison Officers held in Cotonou in March 1988), the fishery situation in Lagdo to the 1st of January 1990 may be resumed as follows :

1. Lagdo lake presents great fishing potential, owing to very suitable ecological conditions, shown by continual increase in captures from 1982 to 1988.
2. The number of fishermen is continually increasing and should be kept under close supervision.
3. The fishermen are adequately equipped in nets, but inadequately in canoes and motors, in spite of those improvements made by the fishery project.
4. Biological research has been reduced over the last few months to a Catch Assessment Survey and to taking a census of fishermen.
5. The trade in fish (mainly smoked/dried - 80 %), is undertaken without the project intervening and shows a great interdependence between dealers and fishermen.
6. Health is a major problem for these fishermen.
7. The instability of campsites remains an important problem which must be solved in order to improve efficacy.
8. The counterparts to the technical assistants are in place, and other national staff have good experience.

Thus the general objectives for the fishery in Lagdo are determined by the EDF Convention for 1990/1993 :

- a. Improvement of conditions concerning capture, transformation and fish commercialization on a balanced ecological and economic basis.
- b. continued applied fishery research.

1.0. Approach adopted to meet these objectives

The approach adopted to meet these objectives has entailed :

- extension and assistance given to groups
- fisheries research
- infrastructure

1.1. Extension and assistance to groups

- inventory of the problems of fishing camps (through participatory diagnosis)
- animation and training of fishermen in the field of actions to be undertaken with their collaboration
- stimulation and creation of small private concerns around the lake (repair and maintenance workshops for outboard motors, canoe-construction and smoking ovens)
- loans available from working capital fund for purchase of outboard motors
- encouraging concerns involved in fish processing and trading.

1.2. Fishery research

- intensification of research to support the extension programme
- research on the impact of livestock in the lake's flood/draw-down area and the inter-relation of agriculture, livestock and fishing
- consultation and cooperation with those organizations active in the field of fishery research, in Cameroon

1.3. Infrastructures

- improvement and construction of landing stages at Boulel, Alfa and Lagdo after consulting the groups and organizations concerned
- promoting trade of fresh fish through easy access to the markets
- Cooperation with the administrative authorities, governmental and traditional, to aid improvement to infrastructures.

2.0. Other actions

To carry out these project activities, the following must be provided :

- means for effective management and operation
- personnel training
- cooperation with other organizations involved in fisheries in Cameroon.

2.1. Management and operation

- preventing waste
- creating a fund for loans on working capital
- payment of necessary allowance to project staff

2.2. Training

To improve experience of project staff, the following may be applied :

- training abroad
- training in Cameroon
- on-the-spot training provided by the project's experts.

2.3. Cooperation with the Maga Fishery Centre (Northern Cameroon)

A protocol agreement of cooperation has been drawn up between the Benoue Valley Planning Authority (MEAVSB) (Fishery Division Lagdo) and the MINERPIA (Ministry of Livestock and Fisheries).

The lack of operating funds, owing to the economic crisis in the country, causes some concern as to the non-utilization of existing material to be found in the stores at Maga, a centre with :

- a construction workshop for canoes and fish smoking-racks
- a repair workshop for outboard motors
- a laboratory for limnological and ichthyobiological research

- a training-hall
- a fish farm
- a sales service for outboard motors and spare-parts
- a cold store and ice-making department. The Maga Centre has the following activities :

- . assistance given to technicians in the construction of canoes and outboard motors repairs
- . practical training in biological research
- . supplying outboard motors on the loan programme.

3.0. Creation of a fish farming sub-project within the MEAVSB Fishery Division

The closing of Lagdo dam in 1982 changed the ecosystem in the area, upsetting traditional fishing practices in the Bénoué and surrounding marshes. In any case, a lack of fish in the Lagdo reservoir was foreseeable before the end of the century, so the Director of Planning for Upper Bénoué Valley recommended that studies be carried out as to the possible creation of a fish farming project.

This project, financed by the Netherlands, came into being in 1987 below the Lagdo dam within the irrigated area. It is known as the Lagdo Fry Centre (Centre d'Aleviage de Lagdo, and has two main objectives :

- a. production of fry so as to repopulate the marshes, irrigation canals and rice-paddies
- b. biological fight against those molluscs carrying bilharzia using snail-eating fish.

The activities undertaken in the first three years were centred on :

1. building the Centre
2. research on :
 - a. natural reproduction and reproduction by injection of hormones
 - b. feed mix and use of local agricultural by products.
- experiments in rice-paddy pisciculture
- experiments of breeding in floating cages.
3. Biological assessment/identification of five bilharzia-bearing molluscs and snail eating fish.

A two-man mission of assessment recently took place in Lagdo, as to the pertinence of extending the project.

PROJET OWENDO, GABON

Introduction

Au Gabon, la pêche artisanale est très active et de ce fait, ses débarquements sont plus importantes que ceux de la pêche industrielle.

Malgré ce dynamisme apparent, ce secteur des pêches artisanales a connu une évolution lente, presque nulle.

La raison essentielle est que jusqu'en 1983, la pêche artisanale a toujours été abandonnée à elle-même, notamment au niveau de son financement.

En 1984, avec un financement FED et l'aide bilatérale italienne, on réalisait à Owendo un centre de regroupement des Activités des Pêcheurs Artisans avec pour objectif essentiel la prestation des services aux artisans pêcheurs (vente de glace, de carburant, de moteurs (hors-bord, des filets de pêche...).

La politique mise alors en place pour intéresser les pêcheurs n'a eu pour effet que de les désintéresser ; de telle sorte que ce centre allait définitivement cesser ses activités à la fin de 1986.

En 1987, la Société Promo-Pêche qui est une PME (Petite et Moyenne Entreprise) gabonaise comprit vite que le principal goulot d'étranglement au développement de la pêche artisanale ; était avant tout la difficulté d'accès au crédit par les pêcheurs ; la Banque Nationale de Crédit Rural qui finançait jusqu'alors les activités agricoles appliquant des taux élevés (14 %), auxquels s'ajoutent des conditions décourageantes.

1. APPERCU GENERAL1.1. Les pêcheurs

La différence entre le Gabon et les autres Etats côtiers du DIPA est que ces pays ont des ressortissants véritablement pêcheurs ; alors que pour le Gabon, on note une grande prédominance étrangère (Nigériens, Béninois, Sénégalais, Equato-guinéens, SAO-Toméens...) ; d'où la difficulté de financer les activités de la pêche artisanale par les pouvoirs publics et l'intervention conséquente des privés.

1.2. Statut de Promo-Pêche

Comme PME gabonaise, la société Promo-pêche bénéficie de certaines mesures d'encouragement qui sont :

- Gratuité des actes d'enregistrement
- Détaxe du matériel de pêche à un taux réduit.

1.3. Objectif recherché

L'objectif recherché par les promoteurs de Promo-Pêche est que d'ici trois ans le centre devienne une coopérative à laquelle tous les pêcheurs pourront être associés et elle étudie et affine actuellement tous les aspects du système de crédit mis en place depuis 1987.

2. SYSTEME DE CREDIT ET CONDITIONS D'ACCES

2.1. Financement propre à Promo-Pêche (1988-1990)

Sont bénéficiaires de cette ligne de crédit tous les pêcheurs de toutes les nationalités confondues qui veulent se soumettre aux textes régissant la pêche et la Marine Marchande au Gabon et travaillant en association avec Promo-Pêche pendant toute la durée du crédit. Une fois ce crédit terminé, le pêcheur est libre de tout engagement vis-à-vis de cette société.

dans tous les cas, le crédit aux pêcheurs est constitué ici de moteurs hors-bord, de filets de pêche et de cordage (pas de pirogue).

2.2. Financement par le Fonds d'Aide et garantie (FAGA)

Seuls les Gabonais sont bénéficiaires de cette ligne de crédit.

le Fonds d'Aide et de Garantie accordait jusque là des crédits directement aux pêcheurs, d'où les difficultés de recouvrement, de suivi sur l'utilisation des fonds ainsi accordés, cet organisme n'ayant pas d'agent sur le terrain.

C'est donc en tenant compte de l'expérience de promo-Pêche que cette ligne de crédit lui a été confiée par le FAGA. Elle n'est remboursable que par Promo-Pêche et, de ce fait, le FAGA n'a qu'un seul interlocuteur et il tient à ce que tous les fonds alloués soient investis dans la pêche, moyennant justifications.

dans les deux cas, il n'y a pas d'apport personnel et le matériel ainsi fourni aux pêcheurs artisanaux n'est point majoré.

3. FINANCEMENT TOTAL REALISE PAR PROMO-PECHE (1988 - 1990) :
225.000.000 FCFA

3.1. Première année

72.000.000 FCFA donc 6.000.000 d'impayés.

3.2 Deuxième année (1989-1990) : 150.000.000 FCFA sans impayés.

4. FINANCEMENT FAGA (1991) :

16.000.000 FCFA.

5. COMMERCIALISATION :

La Société Promo-Pêche, en raison de très nombreux problèmes rencontrés par les pêcheurs artisanaux dans l'écoulement de leur production, assure l'achat et la distribution des captures qui y sont déversées.

LE PROJET DE DEVELOPPEMENT DE LA PECHE
ARTISANALE SUR LE LAC DE BARRAGE DE
BUYO EN COTE D'IVOIRE

INTRODUCTION

La Côte d'Ivoire ne contient pas de lacs naturels importants. Avant l'avènement des lacs artificiels (lacs de barrage), la pêche se pratiquait uniquement sur les fleuves et les rivières.

Les nombreux besoins en irrigation de divers superficies agricoles industrielles et la nécessité de plus en plus croissante d'électrification de toutes les contrées du pays ont provoqué en moins de 10 ans (à partir de 1969) une véritable prolifération des lacs artificiels dont les principaux sont :

| | |
|---------------------|-----------|
| - KOSSOU en moyenne | 80.000 ha |
| - BUYO en moyenne | 60.000 ha |
| - AYAME en moyenne | 9.000 ha |
| - TAABO en moyenne | 7.000 ha |

Ces lacs ont été créés pour la production d'énergie électrique.

De petits lacs ont ensuite vu le jour dans le cadre des Amagements agricoles ou pour la production d'eau domestique.

Pour une meilleure valorisation de ces plans d'eau, il y eut des actions d'accompagnement dont la plus importante est le développement de la pêche artisanale.

Tous ces lacs produisent au total environ 26.000 t par an alors que les besoins du pays sont de 250.000 t/an pour une production globale de 120.000 t/an (pêches industrielle et artisanale).

La place du poisson est primordiale dans l'alimentation de l'Ivoirien (24,1 kg)/ an poisson contre :

- 20,7 kg pour lait et dérivés
- 2,6 kg pour volailles
- 1,2 kg pour viande ovine
- 6,9 kg pour gibier etc...

Pour une plus grande contribution dans la production de protéine (poisson) l'Etat a opté pour des actions d'envergure sur les grands lacs. Ainsi des structures spécialisées se chargent du développement de la pêche industrielle gérée, elle par des professionnels privés et la pêche continentale reste encore entièrement sous le contrôle de l'Etat.

Nous nous intéressons ici au cas du projet de développement de la pêche sur le lac de Buyo au sud ouest du pays.

LE PROJET PECHE BUYO

1. GENERALITES

1.1. Localisation

Le lac de Buyo est une retenue d'eau à partir d'un barrage Hydro - électrique, à cheval sur quatre grandes circonscriptions administratives situées pour les 3/4 au sud-ouest du pays et pour le reste, à l'Ouest. Le siège du projet organe de gestion du lac en matière de pêche, se trouve à Buyo.

1.2. Mission générale

La mission essentielle est le développement de la pêche artisanale sur le lac aux fins suivantes :

- Contribuer à l'auto suffisance en protéine de poisson par une production annuelle d'au moins 7.000 t par an en période de croisière.
- Promouvoir la création d'emplois nouveaux par l'installation de pêcheurs nationaux.

Les objectifs à atteindre sont principalement les suivants :

- La formation et l'aide à l'équipement des pêcheurs
- L'encadrement et le suivi des pêcheurs formés
- La création des campements de pêcheurs et l'installation de ceux-ci à proximité de leur lieu de travail.
- La lutte contre les pêcheurs clandestins provoquant la surexploitation des ressources halieutiques.

1.3. Financement

De 1980 à 1988, le Projet a été cofinancé par la Caisse Centrale de Coopération Economique et le Budget Spécial d'Investissement et d'Equipement de la Côte d'Ivoire pour un montant global de 1,143 milliards CFA.

Ces fonds ont servi à l'achat des équipements de départ, à l'installation de structures de gestion et au financement des études d'aménagement et à leur réalisation.

Depuis fin 1988, le Projet est uniquement financé par la Côte d'Ivoire pour un montant très modeste de 32 millions CFA par an pour les mêmes opérations.

2. ACTIVITES DU PROJET

2.1. Formation

Les objectifs de formation au départ étaient de 2.000 pêcheurs pour la période d'existence du cofinancement. Jusqu'ici 1.000 ont été effectivement formés.

La contre performance se situe au niveau surtout des paramètres suivants :

- . Difficile problème de reconversion des mentalités. Les populations cibles n'étant initialement que des agriculteurs pures.
- . L'arrivée souvent tardive des matériels d'encadrement due à l'éternel problème de lourdeur administrative.
- . Les désistements en cours de formation pour raison de coutume ou d'inadaptation. etc... .

2.2. Production

Depuis 1986, la production oscille entre 7.500 t et 10.000t/an.

Néanmoins, il est à retenir que dans un souci d'exploitation rationnelle, certains engins ont été rigoureusement réglementés (sennes par exemple).

Les Tilapia sont les espèces les plus pêchées loin devant les Labéo, Hétérotis, Alestès, Chrysichtys et...

2.3. Encadrement des pêcheurs

L'encadrement concerne autant Les pêcheurs formés équipés et installés grâce au projet, que les professionnels venus des Pays voisins. Il porte sur les éléments suivants :

- Organisation des pêcheurs
- Utilisation des engins appropriés et réglementaires aux périodes propices
- L'habitude de soumettre la production à la pesée
- Le paiement régulier des taxes de pêche
- L'incitation à l'amélioration de l'environnement social par la construction des cases, latrines, puits, fumoirs, l'entretien des campements etc.

2.4. Lutte contre la surexploitation et la pêche illicite

Cette lutte se fait chaque année sans relâche et permet de maintenir la stabilité de la production par des actions ponctuelles des agents de la Police Pêche.

Des saisies d'engins prohibés ainsi que de tous les poissons de petites tailles sont effectuées dans le but de décourager toute récidive.

2.5. Action d'accompagnement

Des études sont effectuées dès que la nécessité se fait sentir et concerne les pêches de contrôle en vue de procéder au besoin à :

- La localisation des espèces intéressantes
- Un empoisonnement en cas de réduction confirmé du stock. etc...

1. PERSPECTIVES

Globalement, le projet a atteint son objectif et l'on peut énoncer les points saillants qui sont :

- La formation et le maintien au métier de la pêche de plus de la moitié des candidats initialement recrutés.
- La création des vocations en construisant des campements tout en les étendant progressivement pour arriver à plus ou moins long terme à l'événement des villages de pêcheurs.
- L'effort d'auto-équipement actuellement fait par les pêcheurs formés.
- Le suivi régulièrement assuré même après la période de cofinancement du projet.

Tout cela nous amène à espérer que dans un avenir proche, une structure semblable à celle qui a initié ce projet, voit le jour afin que des actions à grande échelle se réalisent pour le grand bonheur de ces nombreux sans emplois que la conjoncture économique difficile a générés.

La formation devrait donc se poursuivre à grande envergure pour qu'au fur et à mesure le riverain se sente concerné et intéressé par la pêche, source de revenus supplémentaires non négligeables. Menée à bien, cette activité procure à son homme un revenu substantiel. En Côte d'Ivoire, le pêcheur moyen gagne par mois la non négligeante somme de soixante dix mille (70.000 CFA) comme revenu net.

CONCLUSION

Dans nos pays où la pêche sur les lacs artificiels ne sont pas des activités innées, l'on est obligé d'intéresser les paysans tout en les faisant participer de façon conséquente. L'introduction des projets de développement intégrés en est un exemple. Dans le cas du Buyc, si le quota de pêcheurs formés prévus est atteint, avec un suivi régulier et consciencieux, les pêcheurs pourront à la longue se prendre entièrement en compte et servir pourquoï pas, de modèles dans la sous-région.

Le Directeur du Projet

Meazieu Lambert

LE PROJET PRO-PECHE
PRESENTATION - ACTIVITES - REALISATION

P R O - P E C H E

PROGRAMME D'ASSISTANCE A LA PECHE ARTISANALE

COOPERATION SENEGAL-CANADA

MINISTERE DES RESSOURCES ANIMALES

AGENCE CANADIENNE DE DEVELOPPEMENT
INTERNATIONAL

DUREE : 5 ANS

BUDGET : 17 000 000 \$ CAN

2 COMPOSANTES

SERVI-PECHE

ATEPAS

SERVICES FINANCIERS ET DE GESTION

AMELIORATIONS DES TECHNIQUES

VEUT REpondre AUX BESOINS :

. CREDIT AUX OPERATEURS
ECONOMIQUES DE LA PECHE ARTI-
SANALE DE LA REGION DE DAKAR
ET DE LA GRANDE COTE EN PARTE-
NARIAT AVEC LA CNCAS

DES PECHEURS

: Techniques de pêche
: Engins - équipement
: Embarcations
: Conservation-qualité
: Rentabilité
: Sécurité
: Organisation communautaire
: Infrastructures

. MICRO-REALISATIONS DANS LES
COLLECTIVITES ET AVEC LES GROU-
PES DONT LES ACTIVITES ECONO-
MIQUES SONT AXEES DANS
LE SECTEUR DE LA PECHE

DES TRANSFOR-
MATRICES

: Diminution des pertes
: Améliorations des
techniques existantes
: Introduction de
nouvelles méthodes
: Rentabilité
: Equipement
: Assainissement

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2. Rappel des objectifs principaux :

Le projet Pro-Pêche par ses 2 composants ATEPAS et SERVI PECHE, tente de participer à l'amélioration des conditions de vie et de travail des communautés de pêche artisanale.

Chaque composante dans le cadre des secteurs qui lui sont assignés et selon des objectifs spécifiques à chacun, veut répondre de manière adéquate aux besoins des producteurs.

3. Evaluation des activités et principales réalisations au 31-03-91

3.1. Composante ATEPAS : elle compte 4 secteurs d'activités principaux, divisés autant que possible en programmes.

SECTEUR 1 - LA PRODUCTION

Ce secteur regroupe 13 activités dont 10 en cours d'exécution, réparties en 4 programmes.

Le programme "Embarcations" compte actuellement 4 activités et est présentement orienté sur l'amélioration de la pirogue traditionnelle. Les pirogues SOSACHIM/PAMEZ en fibre de verre étant toujours chez le constructeur pour d'éventuelles modifications le spécialiste en construction arrivé en Novembre a axé ses activités sur les acquis antérieurs du projet et sur des tournées de prise de contact avec la profession. Celles-ci consistent en un inventaire des chantiers, des charpentiers locaux, de leur matériel, de leur organisation en vue de dresser le profil du constructeur, d'effectuer des mensurations sur les pirogues de 12 et 15 mètres dont les plans ont été confectionnés et soumis à 3 charpentiers sélectionnés : les pirogues améliorées sortiront en Juin.

Le programme "Propulsion" est au stade de recherche de moteurs hors bord et in bord adéquats (diesel surtout), pour des essais avec les embarcations sélectionnées (contacts avec FAO).

Le programme "Engins - Equipements de pêche" compte 2 activités menées parallèlement par le technicien en pêche et son associé recruté à la mi-Novembre. Les lignes et palangres confectionnées par le projet et les équipes de pêcheurs sont testées lors de sorties à Hann, Yoff et Joal avec les agents de plage : les améliorations possibles sont identifiées ainsi que les équipements (sondeur, piano à palangre, treuils) et engins de pêche nouveaux (palangre à poulpe, palangrotte verticale...). Les tests ont démarré en Février 1991. L'étude confiée au CRODT sur l'inventaire et la rentabilité des techniques de pêche arrive à terme.

Le programme "Autres activités liées à la production" compte 2 activités en cours. Si des recherches sont en cours pour cerner les potentialités et les possibles utilisations du requin profond sur la Côte Nord, un consultant a été identifié pour la préparation d'un dossier d'appel d'offres pour la recherche de nouveaux fonds de pêche sur la côte nord, surtout pour la pêche à la ligne et à la palangre.

SECTEUR 2 - SERVICES AUX PÊCHEURS

Ce secteur compte 9 activités, dont 8 sont en cours de réalisation. Le recrutement du responsable en organisation communautaire en Octobre a permis d'intensifier nos activités sur les dossiers les plus prioritaires réclamés par les pêcheurs surtout.

Trois des activités programmées dans ce secteur nécessitent une recherche d'informations et des contacts sont pris pour les soumettre en sous traitance à des organismes compétents.

Les éléments de sécurité à bord des embarcations sont menés conjointement par le technicien en pêche (pour le matériel de sécurité : gilet...) et par le spécialiste en construction (pour les éléments intrinsèques de l'embarcation : réserve de flottabilité).

Pour les autres activités, les études sont en cours avec le recrutement d'agents de plage à Kayar, Saint-Louis et Yoff.

L'étude sur les facilités de débarquements et de mouillage a été réduite au volet lié à l'aménagement d'une aire de débarquement à Yoff, avec la possibilité d'utiliser les blocs de pierre en place et le sable du tombolo. Les coûts élevés freinent le développement de cette activité.

Pour les aires de débarquements, nous avons déjà identifié un site à Kayar et 3 à Saint-Louis. Nous avons amorcé une collaboration avec le FAPEC en vue d'une participation d'ATEPAS à l'aménagement des sites de Rufisque et Joal sur la petite côte.

Pour les entrepôts/ateliers mécaniques les pêcheurs et mécaniciens de Kayar manifestent beaucoup d'intérêt et 5 sites ont déjà été identifiés et la préparation des micro-réalisations se poursuit.

Pour les centres communautaires, le dossier est très avancé à Kayar où le site a été identifié par les pêcheurs qui ont accepté le plan, le devis de construction et défini les formes de participation et de gestion. A Saint-Louis, l'étude est en cours alors qu'à Yoff, le dossier en élaboration privilégie les abris ou "pintches" réclamés par les pêcheurs.

Des contacts réguliers sont maintenus avec SERVI-PÊCHE qui assure le financement de ces différentes micro-réalisations.

SECTEUR 3 - TRANSFORMATION ET APPUI AUX TRANSFORMATRICES

Ce secteur compte 10 activités regroupées en 4 programmes assez homogènes. Les interventions du projet dans ce secteur sont surtout orientées dans les 2 centres d'expérimentation intégré de Joal et de Thiaroye.

Le programme "gestion - Encadrement des groupements" comporte 3 activités dont l'objectif est d'amener les transformatrices à une meilleure gestion de l'outil de production et des infrastructures disponibles. L'analyse en cours de leurs besoins a permis de les orienter vers la promotion de petits GIE, l'organisation des systèmes d'épargne, les procédures d'emprunt à la CNCAS pour des crédits fonds de roulement (déjà en place à Thiaroye et Joal). Elle a permis également d'amorcer une formation (difficile) à l'entretien du matériel en place.

Le programme "Amélioration des conditions de travail compte 4 activités dont 2 font référence à la qualité des produits et des sites, les 2 autres à l'aménagement des sites et infrastructures. Pour la qualité du produit, l'I.T.A. fait état d'une cinquantaine d'échantillons de produits analysés, et fournit des résultats sur l'état de contamination de 4 produits aux différentes étapes de la transformation. Certains thèmes prévus dans le contrat ne sont pas encore finalisés. L'assainissement des sites s'avère difficile vu la timide participation des transformatrices et des services habilités. Les constructions prévues à Joal et Thiaroye sont terminées : l'aménagement des sites de Thiaroye, Joal, et Rufisque en collaboration avec le Service des Pêches et le PAPEC est en cours d'étude et nécessitera les services de compétences extérieures. Pour les magasins de stockage les essais en cours sont fonction des disponibilités en produits finis.

Le programme "Technique de transformation" comporte 2 activités. Pour l'amélioration des techniques existantes certains modèles de matériel ont été construits (ciaies en rônier, four traditionnel et bac de saumurage) et seront testés bientôt. Une collaboration est en cours avec la faculté des

sciences pour une étude d'insecticides appropriées. La nouvelle technique de fumage par les fours chorkor a démarré avec une démonstration faite en Mars 91 avec l'assistance d'un expert de la FAO/DIPA.

Le programme "Commercialisation des produits" compte actuellement une activité liée à l'utilisation des fours chorkor dont les produits ne sont pas encore sur le marché.

SECTEUR 4 : LE DEVELOPPEMENT INTEGRE

Comme indiqué lors du plan d'exécution global soumis en janvier 1990, nous utilisons le terme "développement intégré" quand il s'agit d'une activité impliquant deux ou plusieurs secteurs d'activité et s'adressant à plusieurs groupes d'intervention différents.

Dans ce secteur nous avons retenu pour le moment une seule activité : l'assainissement de sites de transformation et de débarquement.

Cette activité touche les secteurs de la production, de la transformation, des services aux pêcheurs et de l'appui aux transformatrices. Elle s'adresse également à plusieurs groupes d'intervention : les pêcheurs, les transformatrices, les mareyeurs, les charretiers et tous les autres intervenants sur les sites.

Différents autres organismes et agents sont également invités à participer à cette activité qui devient en fait un "programme".

- Le service des pêches ;
- La protection de l'environnement ;
- Les autres projets ;
- Les communes et autres autorités.

Ce programme qui vise avant tout l'amélioration de la qualité du produit sera divisé en 3 grandes activités :

- L'étude de la qualité, l'identification des différents agents de contamination et la sensibilisation des groupes ;

Le travail est déjà amorcé avec l'étude de l'ITA et le premier rapport d'une stagiaire canadienne.

- L'évaluation des moyens à prendre en compte pour l'assainissement et leur acceptabilité par les différents intervenants impliqués ;

Deux stagiaires canadiennes et les agents de plage feront un premier travail dans le 3ème trimestre.

- Réaménagement des sites actuels et aménagement des sites nouveaux selon des normes permettant de garantir la qualité ;

Un spécialiste canadien sera recruté et associé à des organismes et/ou individus sénégalais.

Mais ATEPAS seul ne peut mener à bien ce programme.

3.2. Composante Servipêche : elle compte 2 volets principaux

3.2.1. Le volet Crédit :

L'objet de ce volet consiste en un appui à l'auto-développement des opérateurs économiques, des différents groupements ou associations du secteur de la pêche artisanale en fournissant à ces derniers un accès :

- au crédit à des conditions bancaires adaptées : crédit d'équipement et crédit de fonds de roulement. Le taux d'intérêt consenti est de 15,5 % avec une ristourne de 5 % aux emprunteurs ayant honoré leur contrat dans les délais et conditions prescrits ;
- à des services d'aide à l'organisation et à la gestion de leurs entreprises ;
- à l'épargne à des conditions sécuritaires par un service approprié de dépôts et retraits.

Les actions entreprises pour répondre à ces objectifs se résument en 3 thèmes :

- implanter le projet dans les secteurs où les populations n'ont pas (ou peu) accès à des services de crédit et d'épargne. Sur sa zone d'intervention (côte Nord), Servi-pêche dessert les sites de Dakar, Kayar et Saint-Louis ;

- s'assurer de la pérennité du projet, c'est-à-dire de faire en sorte que l'action se poursuive normalement après le départ de Servi-pêche. La stratégie adoptée a été d'établir une entente de partenariat avec une institution financière de la place et dont les objectifs s'apparentent avec ceux du projet : la caisse Nationale de Crédit Agricole du Sénégal (CNCAS) a été sélectionnée et choisie ;

- en arriver à la mise en place d'un véritable Crédit Maritime, bien adapté aux besoins de la pêche artisanale. Au départ, l'action de Servi-pêche doit se mouler dans celle de la CNCAS ; par la suite grâce à une collecte constante de données et à une meilleure connaissance du milieu, elle devra évoluer en s'adaptant du mieux que possible aux besoins de la pêche artisanale. A l'heure actuelle, une banque de données relative aux divers aspects du crédit Maritime Artisanal est en train d'être mise en place.

Situation des crédits au 31 Mars 1991

TABLEAU DES PRETS MIS EN PLACE

| CREDITS MIS EN PLACE AU 31-03-91 | | | | | | | | |
|----------------------------------|-----------|-------------------|-----------|-------------------|------------|--------------------|------------|--------------------|
| DESCRIPTION | Nbr | DAKAR | NBY | KAYAR | NBY | ST-LOUIS | NBY | TOTAL |
| Trimestre antérieur | 20 | 39 869 420 | 8 | 19 285 154 | 181 | 200 472 900 | 209 | 259 627 474 |
| Trimestre actuel | 10 | 14 976 008 | 4 | 15 362 082 | 3 | 1 809 250 | 17 | 32 147 340 |
| TOTAL | 30 | 54 845 428 | 12 | 34 647 236 | 184 | 202 282 150 | 226 | 291 774 814 |
| ENCOURS AU 31-03-91 | | | | | | | | |
| DESCRIPTION | Nbr | DAKAR | NBY | KAYAR | NBY | ST-LOUIS | NBY | TOTAL |
| Trimestre antérieur | 20 | 29 981 406 | 8 | 11 440 434 | 181 | 170 302 285 | 209 | 211 724 125 |
| Crédits mis en place | 10 | 14 976 008 | 4 | 15 362 082 | 3 | 1 809 250 | 17 | 32 147 340 |
| Remboursement | 0 | | 0 | -222 312 | 0 | 14 833 428 | 0 | 14 611 116 |
| TOTAL | 30 | 44 957 414 | 12 | 27 024 828 | 184 | 157 278 107 | 226 | 229 260 349 |
| IMPAYÉS AU 31-03-91 | | | | | | | | |
| DESCRIPTION | Nbr | DAKAR | NBY | KAYAR | NBY | ST-LOUIS | NBY | TOTAL |
| Trimestre antérieur | 0 | 0 | 0 | 0 | 105 | 30 864 885 | 105 | 30 864 885 |
| Trimestre actuel | | | 2 | 830 330 | 153 | 55 880 125 | 155 | 56 710 455 |
| Variation | | | 2 | 830 330 | 48 | 25 015 240 | 50 | 25 845 570 |
| % p/r à l'encours | 0 | 0% | 17 | 3.07% | 83 | 35.53% | 69 | 24.74% |

Le taux d'impayés très important à Saint-Louis résulte du refus des pêcheurs saintlouisiens rapatriés de Mauritanie après les événements d'Avril 1989 de rembourser les prêts qui leur avaient été consentis. Diverses actions ont été tentées et à ce jour n'ont pas apporté de solution tangible à ce problème.

3.2.1. Le volet Micro-réalisations :

Les micro-réalisations sont des infrastructures légères implantées sur la plage selon et pour les besoins de communautés concernées : leur étude de factibilité est menée par ATEPAS (secteur "Service aux pêcheurs") et la réalisation financée à 80 % par Servi-pêche, les 20 % étant l'apport en investissement humain ou en espèce de la communauté.

Depuis le début du projet (fin de 1988), 17 micro-réalisations ont été individualisées, 10 étudiées, 3 réalisées et 4 en voie de réalisations :

- le centre d'expérimentation intégré de Joal comprend un entrepôt avec étagères de stockage, une aire de pesage avec bascule et remise, 3 fours chorkor avec abri, un four traditionnel, un puits, une dalle de débarquement, des claies de séchage. Le coût total s'élève à environ 2.155.000 F CFA co-financé par Pro-Pêche et le GIE de transformatrices (ce dernier a été formé avec l'assistance du projet)
- la microréalisation sur le site des transformatrices de Thiaroye comprend la réfection d'un entrepôt existant, la mise en place de claies d'entreposage, l'adduction d'eau, la construction de 3 douches et 3 WC. Le coût total des investissements s'élève à environ 3.515.000 F CFA financé par Pro-Pêche et les 2 GIE travaillant sur le site.
- Le projet ostréicole en Basse Casamance est financé par Pro-Pêche sur les fonds de contrepartie. Il comprend 4 volets principaux : recherche, production, appui aux GIE et environnement. A date, beaucoup de problèmes entravent la rentabilisation de l'exploitation de l'huitre des palétuviers : une mission d'évaluation est en cours en ce mois d'Avril 1991 : elle permettra de décider de la poursuite ou non de ce projet.
- Les 4 programmes en voie de réalisation et approuvés par le comité de sélection des micro-réalisations sont le centre communautaire de Joal, les 5 abris de plage de Yoff, l'extension de l'aire de transformation de Lompoul et les caisses isothermes sous abri à Soubédioune.

La mise en place d'une micro-réalisation nécessite la participation effective des populations concernées. Un comité de gestion dont la majorité des membres sont issus de ces populations participe à l'élaboration, à la réalisation puis au suivi de ces différents programmes : il devra être à même de se les approprier à la fin de l'expérimentation ou de la construction.

4. CONCLUSION

Après 2 ans d'exercice, le projet Pro-Pêche fait actuellement l'objet d'une évaluation permettant de mesurer l'adéquation entre les objectifs de départ et les réalisations. Cette phase, jugée nécessaire et même obligatoire permettra de confirmer les actuelles orientations du projet ou d'en proposer de nouvelles. Pour l'avenir, l'accent sera particulièrement mis sur l'amélioration de la qualité des produits par la sensibilisation des producteurs et des encadreurs et l'assainissement des lieux de travail, sur la formation à la gestion, sur la multiplication des contacts avec les projets et intervenants locaux et extérieurs et sur la recherche de voies et moyens pour la récupération des crédits alloués surtout aux pêcheurs rapatriés.

ARTISANAL FISHERY PROJECTS IN SENEGAL
AND THE PAMEZ PROJECT IN ZIGUINCHOR

PAMEZ Project (Maritime fishery development project in the
Ziguinchor region)

The maritime fishery occupies a preponderant situation in the Senegalese economy.

Total nationwide catch has increased from 276.000 tons in 1985 to over 340.000 tons in the last two years, of which more than 70 % is landed by about 47.000 artisan fishermen.

The artisanal fishery sector supports about 10 % of the active population and contributes greatly in feeding the country as a whole.

y

1. PRODUCTION

In 1989, this sector carried out more than 70 % of all fish landings ; that is, about 240.000 tons compared to 169.000 tons in 1985.

The consumption of fresh fish has increased from 108.000 tons in 1985 to 163.800 tons in 1989.

2. ARTISANAL FISH PROCESSING

This activity is to be found in the different landing areas and handles about 30 % of the catch landed. In 1983, the estimated production of this activity stood at about 23.500 tons of finished products for an income of nearly 3 thousand million CFA francs.

The importance of this sub-sector lies in the added value of fishery products.

3. ORGANIZATION OF FISHERMEN

Originally, the modified decree n° 60 - 177, dated the 20th of May 1960, concerning the status of rural cooperation, also governed the fishery cooperatives. The latter were formed from 1970. Up until the Cooperative Movement Reform, which came into being in 1983, the first cooperatives in this sector operated as a relay between the fishermen and the CAMP (Centre d'Assistance à la Motorisation des Pirogues).

Today, emphasis is placed on the GIE (Groupement d'Intérêt Economique), an organization more suited to a greater participation of the fishermen in the management of their activities.

At present, the sector is made up of 627 GIE, as follows :

- 548 GIE - fishermen
- 35 GIE - traders
- 41 GIE - artisanal processors
- 3 GIE - oyster-farmers

These GIE regroup more than 11.500 members and have formed departmental and regional unions.

The National Federation of GIE for fishermen was set up in August 1990.

The importance of the fishery sector in the national economy was demonstrated by the holding of an Interministerial Council on the Marine Fishery, on Thursday, 14th of February 1991, presided by the President of the Republic.

Several ministers and high-ranking officials took part in this meeting during which the main problems of the fishery sector were examined.

As a result, important decisions were outlined to ensure continued development of this sector vital to national economy.

The following directives concerning the artisanal fishery were defined :

- The modalités applicable in financing the artisanal fishery would be alleviated and interest rates aligned whatever the source of credit

- So as to prevent conflict between artisanal and industrial fishery, as well as within the artisanal sector itself, a system of surveillance of the coastal zone would be set up within the framework of the PSPS (Projet Surveillance des Pêches au Sénégal).
- Continued creation of landing centres of artisanal fishery all along the coast so as to improve market operations as well as quality of the product
- So as to optimize the management of the national fishery wealth, specialized management would be introduced

Regulations would be adapted to the artisanal fishery, and a Fishery Council would be created in the main fishery centres.

4. PROJECTS TO ASSIST DEVELOPMENT OF ARTISANAL FISHERY

Equipping the fishermen is facilitated by the intervention of development projects such as :

PAMEZ Projet de developpement de la Pêche Artisanale dans la région de Ziguinchor (artisanal fishery development project in the Ziguinchor region)

PAPEC Projet de développement de la Pêche Artisanale dans la Petite Côte (Artisanal fishery development project in the Petite Côte region)

PROPECHE Programme d'Assistance à la Pêche Artisanale au Sénégal (Programme of assistance to artisanal fishery in Sénégal)

MISSIRAH A community fishery centre, assisted by Japan, to the north of the border with The Gambia.

These projects of assistance to artisanal fishery make credit available to fishermen at the CNCAS (Caisse Nationale de Crédit Agricole au Sénégal).

Today, the Senegalese coast is well-covered by development projects.

The intervention of CAMP (Caisse d'Assistance à la Motorization des Pirogues) has made possible the motorization of practically the entire canoe fleet.

5. MARITIME FISHERY DEVELOPMENT PROJECT in the region of Ziguinchor (PAMFZ)

5.1. Objectives

The main objective of this project, created in 1987, is to develop and assist a maritime artisanal fishery network in the region, through :

- Training the young in maritime fishery techniques
- Facilitating access to bank credit
- Creating firms and informal employments
- Assisting activities associated with fishing
- Experimentation and extension of new techniques.

In order to meet these objectives, the project set up a training course especially for the young, opened credit lines at the CNCAS for the fishermen and women processors, outfitted secondary fishing centres and created a section for experimentation and extension of techniques.

The amount of 1.684 thousand million (FCFA) was allocated jointly by the following :

- CCCE (Caisse Centrale de Cooperation Economique)
- CEE (Commission Economique Européenne)
- The Senegalese Government

The transformation section is financed by the CCFD (Catholic Committee against hunger and for development).

5.2. Realization

5.2.1. Training

The training course is in keeping with the programme to modernize artisanal fishery :

- Fishing techniques
- Setting nets
- Navigation (use of compass and sounder)
- Safety (buoys, life-jackets, first aid)

- Outboard motors mechanics
- Literacy
- Fishing regulations (fishing zones, prohibited equipment, protected species).

The results so far are as follows :

- 378 young men trained
- 122 canoes financed
- 488 direct employments created

5.2.2. Experimentation and Extension

The project is experimenting with:

- New craft (canoes from logs, planks and fibreglass)
- New fishing techniques (nets, long lines etc)
- Safety and navigational equipment (compass, sounder, reflecting radar etc ...)
- Introduction of new processing techniques (chorkor), use of non toxic insecticides.

5.2.3. Transformation

This section is made up of 13 GIE grouping 182 women.

The programme concerning the improvement of processed products consists in :

- The construction of a store
- The construction of improved drying racks ; 45 6 meter-racks are being experimented for professional appraisal.
- Commercial promotion of certain products such as salted ethmalose, ray and shark.
- Prevention against worms and dermestes beetles which damage the products, especially during the rainy season.
- A chorkor oven is being built at Kofountine and another is provided for in 1991 at Diogné.

3.2.4. Credit

The credit system set up is of the decentralized type.

A cashier has been posted in each of the four training centres ; 300 accounts have been opened by fishermen. The total investment stands at 449.434.446 FCFA.

Prospects

Further activities required, so as to continue the PAMEZ action.

- Training of fishermen by following-up those groups formed region by region
- Reinforcing the local management committees based in the landing site
- Creating a supply circuit for the different elements involved
- Reinforcing the circuit to trade fresh and processed products
- Management of resources

The ways and means to set up such a policy :

- A structure for regional assistance (PAMEZ II)
- An association of GIE grouping the young producers and women processors
- Development of an "in-partnership" policy

INTEGRATED ARTISANAL FISHERIES DEVELOPMENT PROJECTS IN THE GAMBIA

The Fisheries sector in Gambia is divided into the industrial and artisanal subsectors. The industrial is mainly marine. The artisanal subsector covers the marine, estuarine, and freshwater areas.

By the nature of its social organization of production, the artisanal fishery offers a great potential in making a positive impact on the national long term development goals of achieving equitable income distribution consistent with a generalized improvement in rural nutritional status. Commensurate with this potential is the fisheries management efforts that are based on tactical implementation strategies formulated in projects.

Fish accounts for about 15 percent of the total protein supply in the Gambia and the artisanal subsector provides about 80 percent of the supply. This large sub-sectoral protein supply source attracted Government's development efforts in the late sixties. The efforts were hampered by human and material resources :up to recent when donor agency participation accelerated the development of artisanal fisheries.

The first community centre, based on the integrated artisanal fisheries development concept, was commissioned in the Gambia in 1963 at a cost of US \$2.7 million provided by the EEC under the Lome II Convention. The CFC, 10 tonnes/day ice plant, 26 km feeder road linking six coastal fishing villages, bridge at one of the villages, fishermen's training programme, and revolving loan scheme provided by the project influenced the success of the Project. The success of this first integrated artisanal fisheries development project became the justification for two successive integrated artisanal fisheries projects, the artisanal fisheries development project - Lome III and the Italian Government funded inland artisanal fisheries development project.

Artisanal Fisheries Development Project - Lome III

This US \$ 3.0 million EEC Funded Project was started in early 1988 to last for three years. The Project is confined to the coastal area of the Western Division of the country (see map). The aim of the Project is to create employment, maintain average levels of fish consumption, reduce the dependence on the relatively more expensive meat by increasing fish supply and increase the export of high value fish and fish products.

The main elements of the Project includes the establishment of community fisheries centres at four sites and the improvement of facilities at two others ; the training of fishermen, processors, traders and village level associations in the adoption of new fishing and smoking technologies ; the development of village level management committees for planning and management of the fisheries centres ; vegetable gardens to improve income - generating opportunities for women involved in the fisheries sector ; a fuelwood plantation to increase fuelwood supplies and avoid expansion of environmentally damaging fuelwood harvesting ; the provision of credit to the fishing, processing and marketing sectors ; the expansion of local ice supplies through the establishment of an ice plant ; the provision of water supplies for domestic, fisheries, livestock, and horticultural purposes through windmill supported well pumps ; and the provision of a fish landing jetty at Tanji.

The Project, managed by the department of Fisheries of the Ministry of Natural Resources and the Environment includes overseas consultancy services in technical and management areas, and eight VSO (Voluntary Service Overseas) Community volunteers are engaged. A valuable element of the project is the participation of the local fishing community in the planning and implementation of the Project. The users are also responsible for the operation and maintenance of the facilities through the village management committees. The sustence of the facilities provided will be done by the fisherfolk through a management concept based on the collection of rent on the facilities by the community selected centre management committee, who decide on centre budget and expenditure, as well as supervise centre operations with the assistance of Fisheries department staff at each centre.

The civil works on the community fisheries centres (see photographs) and the landing jetty have been completed. The Ice plant component has been suspended due to a change in government policy on public and private service schemes. But it is expected that the private entrepreneurs will soon bid for and implement this Project component that is urgently required. the activities presently being implemented are the training of loan and theoretical and practical fishing ; the training of loan and management committees ; the theoretical and practical training of women in fish processing ; the experimentation, in new fish processing ; and the literacy and numeracy programme for the fisherfolk.

The Project's facilities have already started to stimulate improvements within the fishing sector and to encourage the formation and strengthening of trade between village groups, as well as their participation in the management of the fishing centres. The Project also offers the potential to contribute to an improvement in the use of the environment through the fuelwood plantation component and the introduction of more fuel efficient

fish smoking technologies. The present successes and the potential for future benefits have attracted proposals for an extension to the Project which ends in June 1991.

Inland Artisanal Fisheries Development project

The Italian Government funded a US \$ 1.5 million artisanal fisheries development project in two key inland fishing villages; Kemoto and Tankular. This project was implemented in 1987 and it was the first major inland fisheries project.

The Project provided canoes, outboard engines, and nets to the fishermen on credit in order to increase fish production. The fishermen received training before credit was given, and mechanics to repair and maintain the diesel outboard engines offered by the Project were simultaneously trained. The Project also provided community fisheries centres in each village, water supplies for domestic and fisheries purposes, and two insulated vehicles for fish marketing from the villages to major market centres.

the Project facilities increased the fishing units in the villages fourfold and the fresh fish distribution in the area improved significantly. Fish processing and the use of processed fish, smoked and dried, also increased in the target villages and environs. In spite of the problems with the diesel engines supplied to the fishermen, the project was quite successful in introducing integrated artisanal fisheries development inland.

Its success influenced the negotiated for a second phase for six inland villages. The implementation of the US \$ 8 million second phase, funded by the Italian Government, started in October 1990. This project will provide community fisheries centres, water supplies for the centres and some villages (water taps), credit facilities, access roads, and two salt production fields for salt supply to processors. It will last for three years and will cover villages in the North and South banks of the Gambia River.

CONCLUSION

By the end of the implementation phase of the second phase of the inland artisanal fisheries development project, the country will have fourteen operational community fisheries centres with related community facilities. This will be a significant progress in the utilization of the integrated artisanal fisheries development concept, and it will also indicate the success of the implementation in the country.

Therefore, the government fully supports the use of the integrated artisanal fisheries development concept in the contribution of the artisanal subsector to the national economy within the Government's national development objectives.

ARTISANAL FISHERY DEVELOPMENT PROJECTS
IN GUINEA-BISSAU

1. DIRECCAO GERAL DO FOMENTO DA PESCA ARTESANAL (DGFFA)

The political and economic changes that have taken place over the last few years have brought about the redefinition of the State's role in artisanal fishery and a restructuration of the Fishery Ministry and PESCARTE

At present, the DGFFA (ex-Pescarte) no longer acts as an intermediary and distributor of fishery products.

It only intervenes in :

- The management of the exploitation of fishery resources in territorial waters
- The development of artisanal fishery sub-sector
- Support given to initiatives to develop this sector.

In order to do so, a new structure has been created, with seven regional delegations whose main tasks are the administration and extension to fishing communities.

The following projects are directly dependent on the DGFFA ; Bubaque (ASDI), Bolama (PAI) and Cacheu.

The other delegations (Bioula, Buba, Cacine and Mansao) have at their disposal different supplies for sale to the fishermen, left over from previous funds. Several projects are being studied so as to boost these centres.

The FAO project "Assistance to the Secrétariat of State for Fisheries" started in August 1989 and is planned for at least 30 months, to assist in the setting-up of an operational structure in development of the artisanal fishery.

The expected results are :

- A Secrétariat of State (Fishery Ministry) with the human, logistical and financial means whereby it may fulfill its mandate in the development of artisanal fisheries
- Trained personnel at a central administrative level and in the development of artisanal fishery projects

- A reliable system of collection, compilation and statistical analysis of information concerning catch in artisanal fishery
- A national development plan approved and put into action by the Government
- A proposition as to the progressive setting-up of a network of small private contractors to supply goods and services to fishing communities.
- Improved knowledge of resources accessible to these fishermen as well as the internal market and possibilities in exportation
- A committee of coordination for the development of artisanal fishery, meeting regularly.

The IUCN (International Union for the Conservation of Nature) is also at present defining a proposal for coastal taking into consideration the fishery resources, which is to be submitted to the Guinea-Bissau Government.

2. PROJECTS

2.1. Bijagos

ASDI

This project, worth 72,560,000 Swedish crowns, is financed by the ASDI since 1977.

The installations are as follows :

- 2 ice-making machines with a daily capacity of 5T. each
- 3 220 kw generators
- 2 cold storage chambers
- 1 workshop for repairs
- 1 store selling fishing material

The project has 2 transportation vessels and 4 trucks at its disposal :

- Canhabaque ; a tug with three units for transportation, 2 being insulated to transport fish with 9T. capacity each and 1 for fuel (30.000 l.)

- Victoria ; a 15T. transport vessel (fish and material)
- 3 insulated 3/4T. trucks
- 1 4T. truck

Up until last June, the project took part in the commercialization of the fish. This activity has been taken over by the private sector. At present, Swedish assistance only intervenes in the following domains :

- Sale of fishing material
- Training young fishermen
- Technical assistance in maintaining the installations.

The ASDI is presently redefining its intervention policy in the artisanal fishery domain in Guinea-Bissau, particularly with regards to a progressive withdrawal of assistance from the Babaque project and a study of needs and possibilities of intervening on a nationwide scale. A three-year programme to this end should be set up as from July 1991.

A study is underway for private management of the Babaque installations.

Catholic mission

The catholic mission in Babaque has been intervening in the fishing domain for several years (financed by several ONG, notably Misereor).

To start with, the actions were in support and in the organization of groups of fishermen (sale of fishing material and motors, mechanical assistance, construction of craft).

At present, the project only acts as a company providing services, essentially in craft construction and mechanical assistance.

CYBO/CBCI (in collaboration with IUCN)

This project, which began in January 1991, is to last 3 years and is worth 400,000 US \$. It should study fishery resources in the Bijagos islands, the objective being to propose the measures to be taken for national management of this milieu.

2.2. Bolama

Project financed by the Italian cooperation (FAI)

In the first phase (1987-1988), this project received 1,500,000 US \$ for a 20-month period.

The following equipment was installed :

- 1 3T. cold storage' chamber
- 1 ice-making machine producing 800 kg daily
- 1 Wood-cutten for joiner's workshop
- Mechanical workshop
- 1 general store

One of the project's crafts, a canoe of 7T capacity transported the fish to Bissau. However, the training activities were stopped.

A second phase has recently begun with 4,500,000 US \$ for 1990-1991 and the following activities are foreseen :

- Installation of a cold storage chamber of 30 T capacity and an ice-maker producing 4T. daily
- Various constructions including a social and fishing materials sales centre (see text for sense) P4
- Overhauling of fish-port
- Sale of fishing material and outboard motors
- Training young fishermen
- Training in fish processing and trade

"Iles de paix" Project

In 1990, the Belgian ONG "Les Iles de Paix", present on Bolama island since 1986, started a project to promote fishing in the Bijagos archipelago. The project uses a different approach to that of other projects in the region, with a mobile and versatile infrastructure.

A supply boat brings ice (bought in Bubaque or Bolama), fuel and provisions to the small local fishing boats. The fishermen's catch is bought out at sea by the supply boat and dispatched to different ports (mainly Bubaque or Bissau).

The project also provides training for fishermen, local sailors, as well as the sale of material on credit and logistical support (construction and maintenance of craft, fishing material, motors and workshops).

Technical characteristics of craft :

- Supply boat ; 9,60 m long, 4T. load capacity, insulated hold measuring 4m³, with a 62 HP diesel motor.
- Fishing craft ; 6,30 m long, V-shaped bottom with 10 hp motor.

2.3 Cachau

Financed by USAID in 1982, with 500,000 US \$ for 1981-1982 and followed up by a CEE financed project worth 1,955,000 ECU for 1982-1986.

The project's installations are as follows :

- 1 15T. cold storage chamber
- 2 ice-makers with a theoretic daily production of 2.6T and 5T ; however, neither of these machines is in working order
- 1 mechanical workshop, which is practically at a standstill owing to the lack of spare-parts
- 2 80 HP generators
- 1 supply store, which is almost empty
- 2 fuel tanks of 10.000 and 20.000l respectively

At present, the centre's activities are practically at a standstill, as most of the motors supplied by the project are out of order. Fishing is carried out almost exclusively by paddle-canoes.

Punctual assistance from Portugal has provided equipment (fiberglass canoes, fishing equipment and 30 HP outboard motors) and rapid training of 2 groups of young fishermen, whose activities are greatly hindered by lack of ice and fuel.

In the near future, this centre should be turned over to the private sector.

2.4. Catic

The "Pesac" project is financed by a German ONG (Miserereor) and is centred on the development of artisanal fishery.

The project got underway in 1985 with the following installations :

- 1 ice-maker, 900 Kg daily production
- 1 workshop where several fishing and transport craft have been built
- 1 mechanical workshop

Fishing material was sold on credit to the fishermen. Up until now, the project has been in charge of the purchase, transport and sale of the fish, by means of an insulated vehicle.

A new phase has recently begun, aimed at forming autonomous groups of fishermen by 1993.

During this last phase, the project will be especially active in the islands south of Catic, giving assistance to fishing camps by means of a supply boat (ice, fuel and provision) which will also transport and commercialize the fish. Attempts will be made to improve methods of fish transformation.

3. PROJECTS UNDER CONSIDERATION

Several projects are under consideration in this domain.

- Aid in the form of fishing material, outboard motors, mechanical and cold storage assistance -Japan. The sale of equipment supplied should allow the creation of a National Artisanal Fishery Development Fund. This project--should start in 1991-1992
- Advanced artisanal fishery development project to be applied to all coastal areas, based at Cacine (FAD). The loan agreement was signed in December 1990 with the BAD for 15 million US \$.

The project provides for fishermen training, extension of fishing techniques, improvement of internal trade circuits and strengthening of the Ministry level.

The main sections are :

- . Training and/or retraining of 17000 artisanal fishermen and 5 crews for handlining
- . Assistance in settling the fishermen
- . Logistical assistance at sea
- . project management and regular study of resources.
- Development of artisanal fishery in the Cacheu region. (proposed by the CEASM for CEE financing). The aim of this project is to contribute to the setting-up of a true native artisanal fishery network and includes an important training programme within the fishing communities, combined with the creation of a system of credit. This project has been approved by the Guinean authorities and should last 5 years.

It provides for :

- . Equipping the fishermen
- . Training
- . Assisting women in processing and trade
- . Innovation
- . Other agents in the network
- . Rendering the zone more accessible
- . Credit
- Development of artisanal fishery in the Biombo region (proposed and financed by Guinean cooperation)
- IUCN development project (Rio Grande de Baba). Its aim is national management of resources with close implication of riverside populations. This project is presently being formulated
- Study of resources in territorial waters.

AN INTRODUCTION TO THE ARTISANAL FISHERY IN ANGOLA

by Christer B. Alexanderson

COUNTRY PROFILE.

Angola is a large country with a relatively small population, with some nine million inhabitants (population density 7.2/km²). Natural resources are abundant, including fertile lands, fishing and mineral resources. There has been a series of export booms in the Angolan economy, rubber until 1912 then diamonds which were superseded by coffee in 1946, and, in latter years oil. Fishmeal was another important export product in pre-Independence times.

Since Independence in 1975, the level of output has fallen dramatically. Despite a rapid increase in oil production, per capita income levels are today significantly lower than in the early 70s.

In 1987 the president launched the "Saneamento Economico e Financeiro" (SEF) programme for economic rehabilitation.

MARINE FISH RESOURCES.

Angola has a coastline of 1650 kilometers, including Cabinda. Estimated Exclusive Economic Zone (EEZ) area is 330 000 square kilometers.

The continental shelf is relatively narrow and covers area of about 51 000 square kilometers. It is widest in the northern part, about 50 miles, and is very narrow in the south, only a few miles.

The waters off the Angolan coast are distinguished by dense concentrations of marine life. The north-going cold Benguela current creates zones of coastal up-welling which are breeding grounds of marine life.

The total annual potential of marine fish resources in Angola is estimated at 655.000 metric tons. (FAO/Bonzon et al. 1988). Periodic surveys carried out by FAO research vessel "Dr. Fritiof Nansen" indicate a significant decline in pelagic stock abundance in 1988-1989 compared to estimations made in 1985-1986.

HISTORICAL BACKGROUND.

During the colonial time the artisanal fishery played a major role in the supply of fish for human consumption. Mainly this fish consisted of high quality demersal species caught by long line, gill nets and sometimes also beach seines.

The artisanal fishery in Angola has little resemblance with other artisanal fisheries in West Africa. Angolan artisanal fishery distinguish itself in two main respects from artisanal fishery in for instance Ghana or Senegal. These are a) type of boats, and b) type of fishing gear. Because of these differences small pelagics has never played a major role for the artesanal fisherman in Angola.

BOATS.

Dug-out canoe.

In the northern part of the country in particular around the river Congo estuary one will find dug-out canoes of the traditional model but of much smaller size than in other West African countries. The length of the dug-outs seldom exceeds 8 meters. Dug-outs will be seen as far south as to N'zeto, abt. 80 n.m. south of the Congo River.

These canoes are made from the trunks of three or four different species of trees that today mainly are found in the Cabinda province and in the inland forests. In the south trunks suitable for dug-out construction are scarce due to overexploitation in the 1950s and 1960s.

Chata.

The chata is a flat-bottomed dory, 4 - 7 m, of portugese origin which was introduced in the late 50s. The model rapidly gained acceptance among the artisanal fishermen for several reasons. The chata is relatively easy to build. It is carvel-built with boards or with marine plywood. It is stable and thus safer than the dug-out. The loading capacity is greater and it is easy to put an outboard motor on.

Traineira.

The traineira is a larger, ruffed wooden boat which ranges in length from 8 to 20 metres. It was brought to Angola by portugese fishermen and the model is similar to the Mediterrean type seen in Spain, Italy, Tunisia.

Many traineiras are equipped for purse seining and trawling.

These different kinds of boats were during colonial times associated with different sections of the national economy. While subsistence fishing always played an important role for the angolans using dug-out canoes and chatas, the portugese used the traineiras exclusively for commercial purposes.

Catronga.

From 1966 and a few years onwards approximately 60 catrongas were built and distributed by IIPA (Instituto da Industria Pesqueira de Angola) through a development project called "Promocao da Pesca Artesanal". The model was developed by FAO and were built in 4 different sizes. (6m, 8m, 8,3m and 9,3m).

After this project was ended in 1972 the construction of "catrongas" continues on small yards along the coast till this day.

Mölnlycke Boats.

A similar project was initiated in 1982 when the Swedish International Development Authority (SIDA) began to distribute the so called "Mölnlycke Boat", a 8.5 m long glass fiber boat. A total of 57 boats of this kind have been distributed to artisanal fishermen between Cabinda and Luanda.

In 1986 a 10.5 m trawler and a similar purse seiner were distributed to Soyo and Luanda respectively.

From 1987 and onwards glass fibre canoes are distributed to fishing villages from Cabinda down to N'zetu. Up to now about 100 such canoes have been imported by SIDA.

Gigs.

As part of the soviet development aid to Angola 75 gigs, 7 - 10 m, have been distributed from Luanda and southward since 1985. The gigs are constructed by baltic cooperatives according to a model common in the Baltic Sea. It is clinc-built with certain parts covered by glass fibre and have inboard diesel motors. Few of these gigs are functional today.

All boats described above, except for canoes and chatas, depend on harbour facilities to operate. Hence, they are most commonly located to places like Cabinda, Soyo, Luanda, Lobito, Lucira and Namibe, while the canoes and the chatas are preferred in areas with open beaches.

Today the Angolan artisanal fishing fleet consists of approximately 3540 boats. Most of these, or 60 % are chatas, 19 % are dug-out canoes, 6 % are traineiras and 7 % are catrongas.

The foreign produced boats and canoes just reach a total of less than 3 %.

Regionally these boats are distributed according to table 1.

TABLE 1:Regional Distribution Of Artisanal Fishing Boats

| Prov. | Train. | Catrong. | Chatas | Canoes | | Gigs | Total |
|----------|--------|----------|--------|--------|------|------|-------|
| | | | | GF | Wood | | |
| Cabinda | 0 | 18 | 0 | 7 | 231 | 0 | 256 |
| Zaire | 1 | 38 | 2 | 94 | 406 | 0 | 541 |
| Bengo | 0 | 22 | 49 | 0 | 6 | 0 | 77 |
| Luanda | 120 | 55 | 1050 | 0 | 0 | 5 | 1230 |
| Kwanza S | 36 | 0 | 280 | 0 | 20 | 0 | 336 |
| Benguela | 10 | 24 | 634 | 0 | 0 | 0 | 668 |
| Namibe | 40 | 103 | 131 | 0 | 0 | 0 | 274 |
| TOTAL | 207 | 260 | 2146 | 101 | 663 | 5 | 3539 |

Source:Dept.Pesca Artesanal 1991.

GEARS.

The most common fishing gears used in Angola are bottom gill nets, drift nets, long-line, hand-line and to some extent beach seines. Amongst the artisanal fishermen the use of purse seine is virtually unknown even though some of the larger traineiras are equipped with purse seine and power block.

Typical gill net used in Angola.

| | |
|--------------|--|
| Lenght | : 60 - 80 meters |
| Depth | : 6 - 8 -"- |
| Mesh size | : 60 - 90 mm square mesh |
| Yarn | : 210/18 or 210/24 nylon multifilament twine. Lately many fishermen has switched to another yarn, namely: 0.20 x 8 or 0.20 x 12 nylon multimonofilament. |
| Weight | : Normal bottom conditions: Braided leadline 18 kg/100 meters Stony/coral bottom: Unhewn stones of abt. 300 gr bounded direct onto 5 meshes of the net. |
| Rope | : 8 mm Polyprole (PP), 3 strands. |
| Floats | : PVC floats, egg-shaped, bouyancy 200 gr for min. 50 mtrs depth. |
| Signal Buoys | : Wooden floats or inflatable PVC buoys anchored in each end of the net. |
| Anchor. | : 20 kg. |

To catch bait for the hook fishing a small meshed net with the following specifications are used.

| | |
|-----------|--|
| Lenght | : 100 - 120 meters |
| Depth | : 4 - 6 -"- |
| Mesh size | : 33 mm square mesh |
| Yarn | : 210/6 multifilament or 0,3 - 0,4 mm nylon monofilament. |
| Weight | : Braided leadline 5 kg/100 mtr. |
| Rope | : 6 mm Braided Polyprole(PP) |
| Floats | : PVC floats,egg-shaped 200 gr buoyancy |

Line fishing.

| | |
|-----------|--|
| Hook size | : Nr. 3 - 10 Mustad Kirby ringed tin hooks. |
| Line | : 1,2 - 1,5 mm nylon monofilament line |
| Weight | : Abt.500 gr.lead |

CATCHES.

Demersal species of high value are dominant amongst the species caught by Angolan artisanal fishermen,i.e groupers,croackers, dentex,sea-breems,snappers and tuna.But also large quantities of sharks,rays and barracudas are captured.

It is estimated that the total annual catch from the artisanal fishery is abt. 20.000 tons.

The total marine capture,including foreign licensed fishing in 1989 was.322.424 metric tons.

GEOGRAPHICAL LOCATION.

Small scale fisheries take place along the entire coast of Angola,but with a larger concentration in the northern and central parts where the continental shelf extends out to about 50 miles from the shoreline while in the south the shelf is only a few miles wide.

A recent study carried out by the Departement of Artisanal Fishery indicates the following geographical locations of fishermen.

TABLE 2. GEOGRAPHICAL LOCATIONS OF ARTISANAL FISHERMEN.

| Province | Fishermen |
|----------|-----------|
| Cabinda | 516 |
| Zaire | 2000 |
| Bengo | 423 |
| Luanda | 2000 |
| Kwanza S | 3000 |
| Benguela | 5000 |
| Namibe | 1000 |
| Total | 13939 |

Source: Dept. Pesca Artesanal 1991.

NB. These figures do not include artisanal fishermen operating in rivers and inland waters. The reason is that the latter category of fishermen administratively belongs to the Ministry of Agriculture.

GOVERNMENTAL STRATEGY FOR THE DEVELOPMENT OF SMALL SCALE FISHERIES.

The decade of the 90s has been dedicated to the development of the coastal fisheries in Angola. The unfortunate experiences with the producers cooperatives after the Independence has led to the privatization of the boats and to the abolishment of the fixed prices on fresh fish.

The long term policy is to encourage the small scale fishery to supply more fish for the domestic market and to develop an export outlet for quality fish.

A newly created Credit Fund directed towards the small scale fishermen and farmers will facilitate investments and acquisitions of equipments needed.

More service centres for coastal fisheries will be created along the coast and networks of local retailers (for the distribution of fishing gear and means of processing) and small workshops will be established. An extension system will furthermore be introduced.

Exclusive fishing zones for small scale fishery is guaranteed in the new fishing legislation document.

Privatization of certain infrastructure, i.e. cold stores, ice factories and salinas has already been initiated.

FUTURE PERSPECTIVES FOR THE SMALL SCALE FISHERIES.

It is obvious that the development of the small scale fisheries in Angola still has a long and difficult way to go before all the objectives are fulfilled. However, the privatization and the introduction of free prices have encouraged the fishermen and stimulated them in a very positive direction which will make this struggle worthwhile fighting.

The sea is rich on demersal speices, up till now underexploited. With better boats, gears and service facilities the small scale fisherman has good perspectives for the future. The market is large and once the peace has been established fish will be available for all regions.

References.

The Fishery Sector in Angola, Development Perspectives and Swedish Support in the 90s. (Tom Alberts et al. 1990)

Artisanal Fishery. (Dan Rosengren, 1990)

Methods and Conditions for the Development of Coastal-Artisanal Fisheries in Angola. (Göran Levin, 1990).

Gear Descriptions. (Kurt Madsen 1991).

Relatorio das Actividades da Pesca de 1989. (Gab. do Plano, Minpescas).

LISTE DES RAPPORTS DIPA - LIST OF IDAF REPORT
Documents de travail/Working papers

- De Craauw, M.A., Etude de préfactibilité technique de l'aménagement d'abris pour la pêche maritime artisanale au Bénin. Cotonou, Projet DIPA. 55 p., DIPA/WP/1.
- Black Michaud, M.J., Mission d'identification des communautés littorales de pêcheurs artisans au Bénin. Cotonou, Projet DIPA, 24 p., DIPA/WP/2.
- Gulbrandsen, O.A., Preliminary account of attempts to introduce alternative types of small craft into West Africa. Cotonou, IDAF Project, 51 p., IDAF/WP/3.
- Gulbrandsen, O.A., Un compte-rendu préliminaire sur les tentatives d'introduire des types alternatifs de petites embarcations en Afrique de l'Ouest. Cotonou, Projet DIPA, 53 p., DIPA/WP/3.
- Jorion P.J.M., The influence of socio-economic and cultural structures on small-scale coastal fisheries development in Bénin. Cotonou, Projet DIPA, 59 p., IDAF/WP/4.
- Jorion P.J.M., L'influence des structures socio-économiques sur le développement des pêches artisanales sur les côtes du Bénin. Cotonou, Projet DIPA, 59 p., DIPA/WP/4.
- Tandberg, A., Preliminary assessment of the nutritional situation of subsistence fishermen's families. Cotonou, Projet DIPA, 31 p. IDAF/WP/5.
- Wijkstrom, O., Recyclage des personnels pêche en gestion et compétence. Cotonou, Projet DIPA, 25 p. DIPA/WP/6.
- Collart, A., Development planning for small-scale fisheries in West Africa, practical and socio-economic aspects of fish production and processing. Cotonou, IDAF Project, 34 p., IDAF/WP/7.
- Collart, A., Planification du développement des pêches artisanales en Afrique de l'Ouest ; production et traitement du poisson, ses aspects matériels, techniques et socio-économiques. Cotonou, Projet DIPA, 67 p. DIPA/WP/7.
- Van der Meer, A.J.L., Socio-economic aspects of integrated fisheries development in rural fishing villages. Cotonou, IDAF Project, 29 p., IDAF/WP/8.

- Haling, L.J., et Wijkstrom, O., Les disponibilités en matériel pour la pêche artisanale. Cotonou, Projet DIPA, 47 p., DIPA/WP/9.
- Akster S.J., Design and trial of sailing rigs for artisanal fisheries of Sierra Leone. Cotonou, IDAF Project, 31p., IDAF/WP/10.
- Vetillart, R., Rapport d'étude préliminaire sur l'aménagement d'un abri pour la pêche maritime artisanale à Cotonou. Cotonou, Projet DIPA, 31 p., DIPA/WP/11.
- Van Hoof, L., Small-scale fish production and marketing in Sierra Leone. Cotonou, IDAF Project, 36 p., IDAF/WP/12.
- Everett, G.V., An outline of West African small-scale fisheries. Cotonou, IDAF Project. 32 p., IDAF/WP/13.
- Black-Michaud, J., et J. Johnson, Participation communautaire aux projets intégrés des pêches artisanales. En cours de préparation (DIPA/WP/14).
- Anon., Report of the second IDAF liaison officers meeting; Freetown, Sierra Leone (11 - 14 November 1986). Cotonou, IDAF Project, 66 p., IDAF/WP/15.
- Anon., Compte-rendu de la deuxième réunion des officiers de liaison du DIPA. Cotonou, Projet DIPA, 27 p., DIPA/WP/16.
- Campbell, R.J., Report of the preparatory technical meeting on propulsion in fishing canoes in West Africa (Freetown, 15-18 November 1986). Cotonou, IDAF Project, 88 p., IDAF/WP/17.
- Davy D.B., Seamanship, Sailing and Motorisation. Cotonou, IDAF Project, 85 p., IDAF/WP/18.
- Anum-Doyi, B., and J. Wood, Observations on fishing methods in West Africa. Cotonou, IDAF Project, 53 p., IDAF/WP/19.
- Anon., Report of the third IDAF liaison officers meeting (Cotonou, 2 - 4 December 1987). Cotonou, IDAF Project, 88 p., IDAF/WP/20.
- Anon., Compte-rendu de la troisième réunion des officiers de liaison du DIPA (2-4 Décembre 1987). Cotonou, Projet DIPA, 85 p., DIPA/WP/20.

- Haakonsen, J.M. (Ed.) Recent developments of the artisanal fisheries in Ghana. Cotonou, IDAF Project, 69 p., IDAF/WP/21.
- Everett, G.V., West African marine artisanal fisheries. Cotonou, IDAF Project, 41 p., IDAF/WP/22.
- Everett, G.V., Les pêches maritimes artisanales en Afrique de l'Ouest. Cotonou, Projet DIPA, 44 p. DIPA/WP/22.
- Coackley, A.D.R., Observations on small fishing craft developments in West Africa. Cotonou, IDAF Project, 22 p., IDAF/WP/23.
- Zinsou, J. et W. Wentholt, Guide pratique pour la construction et l'introduction du fumoir "chorkor". Cotonou, Projet DIPA, 33 p., DIPA/WP/24.
- Zinsou, J. and W. Wentholt, A practical guide to the construction and introduction of the chorkor smoker. Cotonou, IDAF Project, 29 p., IDAF/WP/24.
- Chauveau, J.P., F. Verdeaux, E. Charles-Dominique et J.M. Haakonsen, Bibliographie sur les communautés de pêcheurs d'Afrique de l'Ouest - Bibliography on the fishing communities in West-Africa. Cotonou, Projet DIPA - IDAF Project, 220 p., DIPA-IDAF/WP/25.
- Everett, G.V., Small-scale fisheries development issues in West Africa. Cotonou, IDAF Project, 47 p., IDAF/WP/26.
- Haakonsen, J.M., et W. Wentholt, La pêche lacustre au Gabon. Cotonou, Projet DIPA, 36 p., DIPA/WP/27.
- Anon., Report of the ad hoc technical meeting on artisanal fisheries craft, propulsion, gear and security in the IDAF region; Cotonou, 25 - 26 September 1989. Cotonou, IDAF Project, 111 p., IDAF/WP/28.
- Anon., Report of the fourth IDAF liaison officers meeting (Dakar, 21 - 23 November 1989). Cotonou, IDAF Project, 135 p., IDAF/WP/29.
- Anon., Compte-rendu de la quatrième réunion des officiers de liaison du DIPA. Cotonou, Projet DIPA, 121 p., DIPA/WP/29.
- Houndékou, B.R., D.E. Tempelman et IJff A.M., Report of round table meeting on women's activities and community development in artisanal fisheries (projects) in West Africa. Cotonou, IDAF Project, 12 p., + annexes, IDAF/WP/30.

- Houndékou, B.R., D.E. Tempelman et IJff A.M., Rapport du séminaire sur les activités féminines et le développement communautaire dans les projets de pêches artisanales en Afrique de l'Ouest. Cotonou, Projet DIPA, 14 p., + annexes, DIPA/WP/30.
- A.M. IJff, Socio-economic conditions in Nigerian fishing communities - Based on studies along the Benin and Imo river estuaries. Cotonou, IDAF Project, 113p., IDAF/WP/31.
- M.O. Okpanefe, A. Abiodun and J.M. Haakonsen, The fishing communities of the Benin River estuary area: Results from a village survey in Bendel State, Nigeria. Cotonou, IDAF Project, 75 p., IDAF/WP/32.
- Anon., Compte-rendu du cours "Analyse Quantitative des Aspects Sélectionnés de Développement". Cotonou, Projet DIPA, 6 + xlvii p., DIPA/WP/33.
- Anon., Report of the course on "Quantitative Analysis of Selected Aspects of Fisheries Development". Cotonou, IDAF Project, 6 + xlv p., IDAF/WP/33.
- Callierholm Cassel E., Cost and Earnings and Credit Studies on Ghanaian Canoe Fisheries. Cotonou, IDAF Project, 38 p., IDAF/WP/34.
- Sheves, G.T., The Ghanaian dug-out canoe and the canoe carving industry in Ghana. Cotonou, IDAF Project, 109 p., IDAF/WP/35.
- Haakonsen, J.M. and Chimère Diaw, Fishermen's Migrations in West Africa. Cotonou, IDAF Project, 293 p., IDAF/WP/36.
- Gulbrandsen, O.A., Canoes in Ghana. Cotonou, IDAF Project, 82 p., IDAF/WP/37.
- Liste des documents de travail du Projet Modèle, Bénin/
List of working papers of the Model Project, Benin
- Coackley, A.D.R., Report on installation of a diesel inboard motor in a Ghana canoe. Cotonou, Model Project, 7 p. + annexes, PMB/WP/1 (En).
- Coackley, A.D.R., Installation d'un moteur diesel "inboard" dans une pirogue ghanéenne. Cotonou, Projet Modèle, 9 p. + annexe, PMB/WP/1 (Fr).
- Zannou, L.H., Etudes technico-économiques des fours améliorées pour le fumage de poisson en République Populaire du Bénin. Cotonou, Projet Modèle, 8 p. + 6 tableaux, PMB/WP/2.

- Atti-Mama, C., et M. Raïs, Etude démographique des communautés cibles du projet Modèle Bénin. Cotonou, Projet Modèle, 20 p. + 10 annexes, PMB/WP/3.
- Jorion, P., Non-monetary distribution of fish as food in Beninois small-scale fishing villages and its importance for auto-consumption. Cotonou, Model Project, 26 p., PMB/WP/4.
- Tanimomo, P.F., Catalogue des engins de pêche maritime artisanale du Bénin. Cotonou, Projet Modèle, 46 p. + 3 annexes, PMB/WP/4, PMB/WP/5.
- Tanimomo, P.F., Rapport de consultation sur la formation des jeunes pêcheurs de l'UNICOOPMA à Lomé. Cotonou, Projet Modèle, 17 p. + 6 annexes, PMB/WP/6.
- Atti Mama, C., Impacte Socio-économique de la piste Pahou-Kpota. Cotonou, Projet Modèle, 10 p. + 3 annexes, PMB/WP/7.
- Ahouanmènou, C., C. Atti-Mama, B. Houndèkon, D. Tempelman et D. Turcotte, Animation, gestion et planification, séance de travail avec les agents de terrain. Cotonou, Projet Modèle, 142 p. + annexes, PMB/WP/8.
- Atti-Mama, C., D. Turcotte, et W. Wentholt, Evaluation interne des activités du projet modèle Bénin dans le secteur de Ouidah. Cotonou, Projet Modèle, 36 p. + 7 annexes, PMB/WP/9.
- Tempelman, D., The participatory approach in an integrated artisanal fisheries project ; structuring community development - womens activities. Cotonou, Model Project, 43 p. PMB/WP/10.
- Landry J., Cours d'alphabetisation fonctionnelle en calucul. Cotonou, Projet Modèle, 59 p. + 3 annexes. PMB/WP/11.
- Landry J., D. Tempelman, Functional literacy, Training Guide for a numeracy course. Cotonou, Model Project, 55 p. + 3 annexes. PMB/WP/11
- Atti-Mama, C., Systèmes traditionnels et modernes d'épargne et de crédit en milieu pêcheur au Bénin. Cotonou, Projet Modèle, 41 p. + annexes, PMB/WP/12.
- Sènouvo, P., Statistiques de pêches des villages du Projet Modèle 1990 Année 1987. Cotonou, Projet Modèle, 33p. PMB/WP/13.

- Sheves, G.T., Holler P.T. and Tanimomo P.F., Report on demonstration with echosounders, compasses and multimonograph gillnets in Ghana. Cotonou, Model Project 22p. PMB/WP/14.
- Coackley, A.D.R., and G.T. Sheves, A review of the experimental introduction of diesel inboard motors to Ghana canoes. Cotonou, Model Project 41 p., PMB/WP/15.
- Liff, A.M. et D.E. Tempelman, Etude sur les relations entre les captures de poisson et l'état nutritionnel des communautés de pêcheurs dans la province du Mono, au Bénin. Cotonou, Projet Modèle, 27 p., PMB/WP/16.
- Sènouvo, A.P. et Gbaguidi, A.A. Recueil des données statistiques des pêches maritimes au Bénin. Période de 1984 à 1989. Cotonou, Projet Modèle, 134 p., PMB/WP/17.
- Houndèkon, B.R., Initiative locale et développement: Expérience des communautés de pêcheurs marins du Bénin. Cotonou, Projet Modèle, 17 p., PMB/WP/18.
- Le Gurun, J.F., La section de technique des pêches. Cotonou, Projet Modèle, 43 p., PMB/WP/19.
- FAO/Government Cooperative Programme, Integrated Development of Small-Scale Fisheries in West Africa, Model Project Benin, Project findings and recommendations. FAO, Rome, FI:GCP/RAF/198/DEN Terminal Report, 34 p.
- Programme de Coopération FAO/Gouvernements, Développement Intégré de la pêche artisanale en Afrique de l'Ouest, Projet Modèle Bénin, Conclusions et recommandations du Projet. FAO, Rome, FI:GCP/RAF/198/DEN Rapport terminal, 40 p.
- Rapports techniques et des documents choisis/ Selected list of technical reports and documents
- Direction Nationale du Projet Modèle Bénin, Mise en place et plan d'exécution. Cotonou, Projet DIPA, 43., + 3 annexes.
- Sheves, G.T. Integrated small-scale fisheries projects: principles, approaches, and progress in the context of the Benin prototype project. Paper presented at the workshop on Small-scale Fisheries Development and Management, Lomé, 20-29 November 1985, 33 p.
- Sheves, G.T. Projets intégrés de pêches artisanales : approches et évolution dans le contexte du projet pilote. Document présenté à l'atelier régional sur le développement et l'aménagement des pêches artisanales, Lomé, 20-29 Novembre 1985, 36 p.

- IDAF Newsletter/Lettre du DIPA, 1, October/Octobre 1985, 4 p.
 IDAF Newsletter/Lettre du DIPA, 2, January/Janvier 1986, 14 p.
 IDAF Newsletter/Lettre du DIPA, 3, June/Juin 1986, 40 p.
 IDAF Newsletter/Lettre du DIPA, 4/5, Sept./Dec. 1986, 76 p.
 IDAF Newsletter/Lettre du DIPA, 6, September 1987, 58 p.
 IDAF Newsletter/Lettre du DIPA, 7, June/Juin 1988, 84 p.
 IDAF Newsletter/Lettre du DIPA, 8, June/Juin 1989, 74 p.
 IDAF Newsletter/Lettre du DIPA, 9, October/Octobre 1989, 84 p.
 IDAF Newsletter/Lettre du DIPA, 10, August/Août 1990, 84 p.
 IDAF Newsletter/Lettre du DIPA, 11, January/Janvier 1991, 6 p.
 IDAF Newsletter/Lettre du DIPA, 12, April/Avril 1991, 8 p.
 IDAF Newsletter/Lettre du DIPA, 13, July/Juillet 1991, 6 p.

Paraiso F-X., rapport sur stages de recyclage en identification
 1985 des poissons Cotonou, GCP/RAF/192/DEN 24 p.

Collart, A. et M. Guidicelli, Développement des pêcheries mariti-
 1984 times et continentales de la pisciculture au Gabon.
 Rome, FAO (GCP/RAF/192/DEN) 77 p.

Johnson, J.P. et M.P. Wilkie, pour un développement intégré des
 1986 pêches artisanales ; du bon usage de participation et
 de la planification. Cotonou Projet DIPA, 157 p. +
 annexes, Manuel de Terrain N° 1.

Meynall, P.J., J.P. Johnson, and M.P. Wilkie, Guide for planning
 1988 monitoring and evaluation in fisheries development
 units. Cotonou, IDAF Project, 116 p. IDAF Field Manual
 N° 2.

