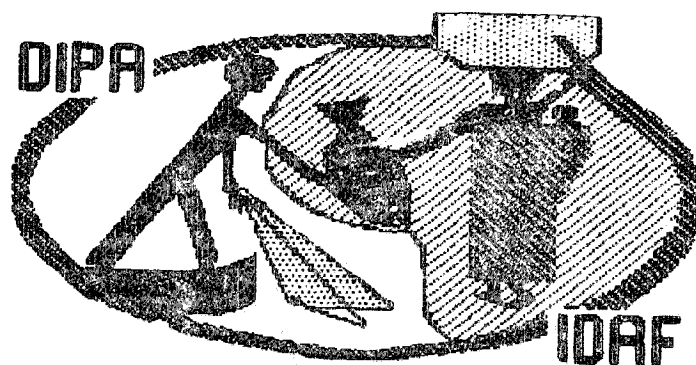


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SMALL - SCALE FISHERIES DEVELOPMENT ISSUES
IN WEST AFRICA



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IN WEST AFRICA

by

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des Pêches Artisanales en Afrique
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Programme for Integrated Development
of Artisanal Fisheries in West
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With financial assistance from Denmark and Norway, and in collaboration with the Peoples 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, based upon an integrated approach, involving production, processing and marketing of fish, and related activities.

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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1. INTRODUCTION

There are three sections to this report. The first section concerns the important topic of finance for the subsector, and emphasises the need for persistence in the provision of improved technical support to, prior to or in association with finance. The second section summarises some of the information gained from surveys of fishing activity and fishermen's earnings, and the indicators, so important to decision makers, that can be gained from their examination. The third section highlights some common dilemmas facing administrators of fishery development programmes. In the appendix is a list of artisanal development projects, either being implemented, recently implemented, or in the pipeline for implementation.

Over the last fifteen years or so the number of projects, programmes, and miscellaneous initiatives to promote small-scale fisheries in the region has increased to such an extent that many lessons can be learnt from an examination of the context in which they operate. By way of description and cross-analysis it is hoped that some of the salient features of the complex issues of small scale fisheries development can be clarified.

2. FINANCING

Background

Throughout this report the term 'small-scale fisheries' is used to describe marine canoe fisheries and inshore craft of up to about fourteen metres length. The area considered extends approximately from 20° North to 5° South. There is little need to emphasize the importance of small-scale fisheries, and how the many canoes and inshore craft along the West African coast play a vital role in providing fish (700,000 tons p.a.) and employment for the population.

Traditional sources of finance

In many parts of West Africa the family bond is strong and kinship systems play a key role in the provision of finance. Vercrujisse (1984), on Ghanaian gillnet fishermen, writes 'the distribution of work, and therefore of income between females and males, is commensurate with the requirements of the kinship system... in that it helps to maximize earnings from fishing. And

in view of the relative independence with which the wife earns (and has to earn) her income it also helps to make these earnings maximally available to the household'. Moreover the 'banking' function which the wife performs, and which acts as a buffer between the fishermen and indebtedness, is very much tied up with her trading role.

In simple gillnet fishing the need for non family finance is less necessary than in more sophisticated fishing where expensive motors, craft and large nets are required. Many such fishing units are still partly financed by family members and, increasingly, from outside the family. Nevertheless it has been argued that canoe fishermen (as well as most other peasant producers) do not receive the full labour equivalent in exchange for their product, and if their inputs are costed according to capitalist criteria (Afful and Osafo-Gyimah 1979) it may be concluded that canoe fishing is an unprofitable activity; but Vercruijsse (op.cit.) maintains that within the kinship system this is not a key issue.

The actual repayment conditions for traditional credit rarely stipulates the payment of interest in formal terms yet when fish traders also operate as creditors they might be expected to prefer an arrangement whereby they can claim the right to sell a number of the fishermen's shares and to keep any profits earned. However non-traders might be expected to favour repayment of the principal increased by a substantial percentage. The credit relationship thus not only gives the dealers a hold over the supply of fresh fish, but also helps to turn the terms of trade against the fishermen.

According to Vercruijsse (op.cit.) 'larger boat and net owners are having some success in getting away from the big traders as a source of credit, but they are still far from the financial independence that would allow them to gain control over smoking and selling the fish. Even if this were possible, they would still be hampered by the fishwife system and indirectly hampered by their own kinship traditions'. These kinship traditions e.g. ceremonies for burial etc., can pose over-burdening obligations, and it is believed to be one reason for fishermen migrating.

In Sierra Leone White and Wentholt (1988) noted that some processors at Shenge refuse to sell fish on credit to traders, but there is the realisation that if large scale processors want to continue doing business with the wholesale market then they are forced to either risk giving credit to traders, or to carry their own fish to market. Sometimes however the traders find it difficult to give full satisfaction to processors and fishermen particularly when processed fish is not selling well upcountry. Thus sustained demand is important in keeping fishermen fishing, and - as just one example - in Guinea Bissau the project manager

of the SIDA Bubaque project, in May 1988 said 'just now we have a cash flow problem, and cannot pay fishermen immediately for what they deliver, and thus they catch less. When the Army has repaid what they owe for a two-month supply of fish (our cash flow position will improve and) we will be able to pay immediately, and there should be more fishing'.

Weigel (1987) described the informal but influential grip by market women ('nanas') on foreign canoe fishermen in Lome (Togo). The women give preferential treatment to Ghanaian fishermen from the Ewe tribe who are of the same lineage, but no commercial preferences are given to fishermen from other Ghanaian groups (such as the Can, Ada, or Fanti). The women look after crew lodging, medical and living expenses, cost of the trip to Lome, and loan of funds to ensure purchase of motor and new gear etc. However, they demand that all fish be sold at a price fixed by the women themselves. Loans may be accorded at interest rates of up to 70%, and Weigel recognizes that the non-Ewe fishermen are subject to blatant exploitation by these nanas. Nevertheless in spite of these high costs the fishermen are given a chance to earn higher incomes than they would have done in Ghana, and the ease with which the loan can be obtained appears to be appreciated. The market women can grant loans at short notice and of a type linked to immediate needs of the fishermen's operation. Although the interest rate is high the market women take risks, and often bear with default or slow repayment; the supplementary cost to non-Ewe fishermen is a sort of payment for the right to take part in the canoe fishery at Lome. Formal institutional finance for the canoe fishery has never been able to compete with the informal traditional system, not only because of the pressure of market women but also because officials in the formal institutions are never able to provide a competitive flexible service to blend in with the fishermen's needs (and fishermen return to Lome port year after year despite their automatic submission to the monopolistic fish mammals).

Price (1987) reported on a typical situation in Guinea; 'Young men normally initiate independent fishing operations with seed money furnished by paternal kin. If financing from kin is inadequate, resources are solicited from other community members (friends, age-mates, etc) and then from local merchants. Reimbursing kin and community does not include any interest, and kin are generally not reimbursed for the full value of the loan. Merchants participate in financing major investment (such as motors and canoes). Although Kabak fishermen claimed that these loans are repaid without interest, other evidence indicates that important charges are paid in one form or another. In Dubreka, fishermen estimated interest charges as high as 100%. Merchants

in Kabak prefer payment in kind - that is fresh or smoked fish - rather than in cash. Equivalent values are calculated at local market rates at Kabak, and additional fish are certainly at least periodically allocated to the merchant as part of the relationship between the two parties. Men and women interviewed consistently emphasized the role of 'trust' in client-merchant transactions'.

The credit clubs or savings associations called tontines, compins, or osusus are sources of finance also, but it is not certain how far they actually go in financing activities like fishing. It seems they are more for providing a backup financial support to members in case of unforeseen difficulty, and/or celebrations, as well as for continuing close links with family members and/or colleagues, rather, than as a serious channel of large amounts of capital (Atti Mama, 1986; Lebouc 1987). However, it does appear that such funds can be used to cover small recurrent costs like fuel, small amounts of netting material, and minor engine repairs. White and Wentholt (op.cit.) in relation to the Sierra Leone situation write 'processors can obtain cash from such credit clubs for banda and processing inputs; but several women on Plantain Island expressed their disillusionment with the traditional clubs because many times they never see the money for loans after they have contributed their own fees. The women's concerns are not seen as a priority. For this reason they would like to turn to cooperatives for loans'.

Seibel and Marx (1986) note that 'informal financial self-help organizations excel in accessibility, popular participation, basic needs orientation, organizational flexibility, local adaptability, situational appropriateness and socio-cultural integration on the local level. But operating outside the formal sector and barred from refinancing institutions, they tend to keep a near-stationary economy going, rather than contributing to its development'.

At a recent consultation on African fisheries organised by the African Development Bank (ADB, 1987) it was noted that institutional credit schemes had not provided the financial assistance expected to artisanal fishermen, and negative aspects of the informal credit system, particularly the high interest rate, were often balanced by the facilities (e.g. quick availability) provided by the middlemen, which were beyond the scope of formal credit institutions. At the consultation it was accepted that traditional sources of finance (fishermen, family members, traders, moneylenders, thrift and loan groups etc) play a very useful role in making finance available.

Institutional schemes

Most countries in West Africa have commercial banks with branches located to mobilize local savings and credit, in both rural and urban areas, although the degree of coverage of the population varies. There are also state-run development banks with a branch network, and in some countries there are revolving funds and thrift and loan schemes with specific objectives. Cooperatives also play a role in mobilisation of savings and credit.

In many countries, and particularly in rural areas, there has grown up a general distrust of formal financial institutions; and this is not difficult to understand when a customer comes up against inconsiderate counter service, inability to obtain a statement on his/her account and/or inability at times to receive bank notes. On top of this there has been a demoralisation of financial staff as their institutions become unable to pay reasonable interest rates on deposits to match a high inflation rate, and this has been aggravated by a low rate of loan recovery. The foreign exchange exposure (particularly in countries with a rapidly devaluing currency) and/or loss, coupled with a non-performing loan portfolio, poor management decisions and inefficient operations (including corruption) have now placed many financial institutions in serious financial difficulty.

It is well known that the average loan size for artisanal fishing items such as nets and motors is small, compared to relatively high administrative costs. Artisanal fishermen are frequently mobile and scattered, thus increasing costs of lending, opportunities for debt collection, and making it difficult to obtain security over fixed assets. Banks (almost invariably) are unwilling to develop expertise and branch networks to support artisanal fisheries involvement.

For a sample of development banks at the end of 1983, almost half had 25 percent of their loans in arrears and almost a quarter had more than 50 percent in arrears. Some have since been bailed out by the government or the central bank, but many remain under heavy financial pressure, and some under threat of insolvency (World Bank, 1987). Some development banks performed badly because their managements were forced to finance unviable government projects.

The World Bank (Anon 1987) admits that its projects providing loans to small-scale fisheries through formal institutions mostly generally have not been successful, and notes that - in rural areas - credit programmes have increased income disparities, as 5% of the borrowers have received 80% of the credit.

The International Fund for Agriculture Development (IFAD) Lagune Aby project (Côte d'Ivoire) was provided with funds to operate a revolving loan scheme through the local development bank, but project officials refused to be pressurised into approving all requests for loans from canoe fishermen. From experience they have learnt that loans should be given only for specific cases; when loans become generally available it becomes difficult to maintain an efficient organisation over a sustained period of years to ensure repayment, and also it is recognized that fishing effort on the Aby stocks should be reduced. Not of least importance is the realisation that IFAD funds are a loan (albeit on easy terms) and not a gift.

The European Development Fund (EDF) artisanal project in The Gambia financed a loan scheme which had to be discontinued when funds could not be accounted for. The scheme restarted when the local village chief agreed to vouch for any loan given to canoe fishermen in his community, but each loan is of modest value and there is close evaluation of each loan application (and needs for gear motor, etc.). It was a decision of the local EDF office to stop further disbursement until loan procedures were tightened up; and this tightening up of procedures normally/often means that, ultimately, less finance finds its way to canoe fishermen through formal institutional channels.

Some interesting practical field observations on executing an artisanal credit scheme given by the credit specialist for the (CCCE/EDF) 'Projet de développement de la pêche artisanale maritime dans la région de Ziguinchor' Senegal were : (a) The difficulty of making repayments over the 3 month period when fishermen leave fishing to go and farm; (b) The difficulty of arranging insurance for gear purchased on credit; (c) The difficulty of working through G.I.E. (Groupement d'intérêt économique) which are really rather artificial groups, and the difficulty of group members to understand legal obligations of the group and each individual; (d) The need for loanees to realise they should obtain at least the minimum of material for a successful operation, as well as being prepared to use/contribute their own funds; (e) The general lack of knowledge of revolving loans; (f) The lack of time within which some migrants have to repay a loan, before either end of fishing season or before they decide to leave the fishing area; (g) The minimum age of 21 is too high, because it doesn't allow loans to good fishermen below that age; (h) The great difficulty for headquarters staff of a credit scheme actually paying the suppliers direct for material supplied, when there may be several suppliers, and some supplies may be lacking from time to time.

One use of credit to promote modernisation and improved fishing in Senegal is analysed by Kebe (1982). The activity involved construction of 13m long wooden craft, capable of carrying 7 to 9 tons of fish, after trips of 5 to 7 days, caught by handlines.

Two experimental craft were built in 1959, followed by two in 1962 and five in 1963. FAO experts Gurtner and Fyson assisted with boatbuilding experience. The finance was provided from the French FAC (Fonds d'aide et de coopération) 25%, 9% from the BNDS (Banque Nationale de Développement du Senegal). The second phase involved construction of 26 boats up to 1968, with a grant from the Senegal government (20%), owners contribution (7.5%), and 72.5% provided with a five year loan from the BNDS. Twenty five per cent of the revenue from each trip was deducted to pay off the loan. Of these craft, five were still active in 1982, and the majority were operational for five to ten years. In the late 1970's and early 1980's in a third phase twenty two handliners came into the fleet with French and Spanish aid (in part exchange/payment for fishing rights).

In fact it was hard to operate the vessels as a viable economic activity, principally it seems because of the high reimbursement costs. Kebe (op.cit.) reports that the Senegalese government had to pay off boat owner debts of about US\$ 3 million. Certainly the problems of management had a negative impact (partly because the vessels did not make enough trips), though the government initiated cooperative, in support of these vessels, was of assistance in improving performance. One difficulty was in maintenance and keeping the engines operational; and this problem recurs frequently throughout the fishing sector. Another difficulty of fishermen was to change their work style so as to adapt to conditions so different from that expected of fishermen working out of canoes. Yet in general, the modernisation programme can be judged a success, although with not quite the spectacular results that were hoped for at the start.

Another instructive experience with providing finance for modernisation of small-scale fisheries is given by Lawson and Kwei (1974). Until 1953 the Ghanaian fishing industry was based entirely on the non-mechanised production of some 8,000 dug-out canoes that were launched from beaches and operated by sail and paddle. The first vessels - 27 ft beach boats and 31 ft surfboats - were built for inshore trawling in the restricted area of Ghana's continental shelf. Of these the 27 footer was best suited to the situation in which there was only one harbour (at Takoradi) and boats had to land at sheltered beaches at other points along the coast. The number of these vessels increased from 12 in 1954 to 198 in 1961, but were later replaced to some extent by a more powerful 38 ft vessel introduced as an all-

purpose boat, for ring-netting, purse-seining, or trawling. Nowadays the number of all inshore craft in operation appears to have stabilized at about 200.

Owners of the first boats received financial support from the "Charter Party Scheme" initiated in 1953 by the Fisheries Division. This was taken over in 1957 by the Agricultural Development Corporation. No information is available on how much of the £ 306,000 provided by the government between 1953 and 1966 under the Charter Party Scheme was lost by default, nor have any statistics been published on the number of charters that had to be withdrawn or on the losses incurred on laying-up, repairing and renovating re-possessed vessels. However, the results have shown how successful the scheme was. In addition to providing financial support ('seed' finance it may be called) through its Charter Party Scheme, the Fisheries Division trained fishermen in the handling of motor vessels, and provided technical advice to owners. Lawson and Kwei (op.cit.) also describe the assistance given by the Fisheries Division to aid the immediate acceptance and use of outboard motors on traditional canoes in the early 1960's. Credit was given, but even without credit the introduction would have gone ahead.

It is this extension service technical assistance which has been lacking in Ghana in recent years, but now that the European Development Fund (1985 onwards) has been financing technical assistance (in addition to new engines, as well as spare parts) to the inshore sector, there is a better future for these vessels. Also, the agents for certain motors, e.g. Deutz, now run a mobile support and repair service along the coast (which effectively is an extension service).

Following independence in 1961 the Sierra Leone government launched a Fisheries Loan and Credit Scheme to facilitate increased small-scale production. One hundred and fourteen loans at four percent interest were made to individual fishermen for the purchase of outboard motors and gear. By 1968 out of total disbursements of Le 102,527 only 14 per cent had been repaid. Linsenmeyer (1976) reports that one extension officer was appointed in 1967 and the staff grew to seven officers in 1973, but the extension service failed subsequently to make an impact, due partly to funding problems.

A reasonably successful credit exercise was carried out in 1982 and 1983 when the African Development Fund (ADF), an affiliate of the African Development Bank, granted the Ghana Agricultural Development Bank a credit line of UA 8 million for small-scale operators in farming and fishing. The activity concerned with outboard motors went well, with distribution of outboard motors on a cash basis. However, at that time there were considerable problems with the economy. A bank official made the following report "though the Bank anticipated a re-adjustment

of the cedi, the demand for the outboard motors was so high that their mere presence in the country stirred off pressure from fishermen groups for their release to them. Their premature release however, was followed, as bank officials had expected, by a series of readjustments of the cedi by the Government. The result of these adjustments was that the bank lost substantial revenues which would otherwise have been realised from the sale of the motors taking the readjustments into consideration in pricing". These remarks are an indication of the frustration felt by officials working in formal finance institutions when they see inappropriate decisions (of a socio-political rather than financial nature) being taken which are in the long term detrimental to preserving the institution's capital.

Eighty loans were made also (from the Fund's credit line) to assist purchase of inboard engines through the Bank. In the two years after disbursement the rate of repayment of funds due was 60%, considerably below the expected rate. Some problems were (a) inability to purchase adequate nets, (b) poor fishing period, (c) inadequate spares and support from the local agent for the engine, (d) poor construction of engine beds and installation, (e) mishandling gear box, (f) lack of routine maintenance, and (g) use of incorrect lubricants. Many of these problems could have been alleviated if the ADB and/or Fisheries Department had been able to provide technical assistance, and the loan activity in Sierra Leone might also have been successful if it had been linked to an extension service.

Subsidies

Apart from the more general economic arguments the wisdom of subsidizing a fishery depends on the status of the stocks. In a moderately or heavily exploited fishery thought rather needs to be given to the opposite policy of restraining fishing effort. Unfortunately, loss of profitability through over exploitation often leads to a demand for subsidies, a request which political considerations make difficult to refuse.

For the last twelve years the Government of Senegal has been operating a system of eliminating tax on gasoil and fuel for fishing vessels and canoes. In addition, there has been a further subsidy element so that the fuel cost is reduced. The subsidy served principally to mitigate the sharp increase in price in fuel of 1974 and 1979/80, and has almost been eliminated since 1986 as world fuel prices have declined. It should be admitted that the subsidy did soften the impact of fast price increases; however, fishermen and owners of the industrial vessels campaigned vociferously for the fuel subsidy to continue, and it is doubtful if the subsidy was of overall benefit to the nation; because there is an indication that engines bigger than necessary have been installed, and vessels have gone over more to freezing at sea than normally would have been the case if fuel

was not subsidized. Frielink (1985) showed there was no need to have introduced a subsidy on gasoil, as many vessels would have operated profitably without the subsidy. With regard to the small-scale sector there is some evidence that large outboards, more powerful than necessary, were purchased; furthermore there was no campaign to reduce fuel consumption by encouraging skippers to use less speed. Certainly there was no campaign to encourage the use of static fishing gear.

At below US\$ 0.10 per litre the fuel (petrol) price in Nigeria is effectively subsidised quite substantially relative to world prices (West Africa, 1987) and gives no incentive to fishermen to save fuel, or find alternative ways of using less fuel to catch fish. There is no evidence that this low price leads to fishermen producing more fish than they would otherwise do if there was no subsidy. The price of fuel (petrol-US\$ 0.25 per litre approx.) to fishermen in Ghana also is below world levels, because less tax is imposed on its sale, relative to such countries as Cote d'Ivoire and Togo (where fuel price - at about US\$ 0.80 per litre - approaches that of European countries, which are discouraging wasteful energy consumption). This gives an advantage to Ghanaian fishermen over fishermen based in neighbouring countries, but there is no assurance that the nation benefits.

With reference to the more general matter of subsidies for infrastructure it may be noted that canoes as such need little, but if infrastructural improvements are undertaken these can aid operations. An immediate gain is when a commercial port is built, and canoes can benefit from the resultant shelter. A good access road can also help fishing activity. But infrastructural facilities can be costly, and it is rare that such structures are built solely for the use of canoe fisheries. Here it may also be mentioned that such structures aid increasing professionalism of the artisanal fishermen, as (in addition to migrations along the coast) many fishermen move to base themselves in ports.

A subsidy was introduced in Senegal to encourage expansion of all exports from certain sectors by paying 15 per cent of the FOB value of the product to the exporter. As a result of this subsidy, from April 1981 through 1983, the government paid out CFA 3.6 billion (about US\$ 10m) to fish exporting companies. However, after analysis (World Bank, 1984) it was found that manufactured exports in non-subsidised sectors had grown faster; and for subsectors already oriented to export markets (e.g. fish) the subsidy had been accompanied by export expansion, but not any faster than the growth before subsidy was introduced. The subsidy

may have intensified the extra effort to buy high value fish landed by artisanal fishermen, for direct export. On the other hand the export trade of this fish probably would have been initiated without an export subsidy (given the high demand for quality marine products in Europe). Thus export subsidy was probably a costly and unnecessary transfer of finance to the fishery sector.

One interesting example of providing subsidy through grants and loans, for improving access to supplies is given by Nigeria. Over the last ten years or so the Federal Department of Fisheries (FDF) supplied engines, craft, and gear to canoe fishermen but only a limited number in each state at half price (Onabanjo, 1979). Also, forty five small 13 metre long TR-13 trawlers built in Poland were passed over to fishermen's cooperatives at half price, with the allocation for acquisition being considered as a loan. It has been noted however that most of the TR-13's passed over to cooperatives have not been operating well, have not been properly maintained, and it would seem that owners now await purchase of paint, spare parts, etc.. by the FDF rather than seeking to maintain the craft at their own cost. This can be compared with TR-13's sold at full price on the open market, not through government channels, that operate well under individual or company ownership (catching one ton a day relative to the fishermen's cooperatives normal catch of one to two tons per week).

The amount of inputs sold under the FDF special assistance to canoe fisheries, the National Accelerated Fish Production Project (NAFPP), were quite limited, in 1975-80 at 872 outboards, 6,618 coils of rope etc, in addition to subsidy programmes administered by the Fisheries Division of each state government (Ibadan, 1982); also the same source indicates that expenditure was about one third of appropriated expenditure for the period 1975-80. In 1983 (Federal Department of Fisheries, 1984) only 180 outboard motors and 93 FRP craft were distributed, which is not a large number relative to total number of outboards and craft in the country. Although the NAFPP was oriented to canoe fishermen only some fourteen per cent of total funds (87.3 million Naira) of the 1981-86 FDF capital budget was allocated for this activity. The majority of funding was allocated for non-canoe activities, to build three terminals for small industrial vessels (40%) and to provide small trawlers (11.5%). This shows that when large amounts of capital funds are available it is difficult for government to spend funds on canoe fisheries. However, the support to artisanal fisheries should be more of a long term low cost recurrent rather than capital support; which requires trained technical staff (in an extension service).

In analysing recent fishery development in Nigeria Mabawonku (1985) notes 'there appears to be no significant correlation between total landings and the quantum of expenditure', and 'increase in financial support did not yield the expected increase in yield'. He also notes that 'beneficiaries appeared to be better off than most Nigerians'. This leads one to question, as Uwe Beck (of the Tombo Project in Sierra Leone) did at the FAO/CECAF/IDAF meeting at Lome in 1985 how far a development project can in fact work with the really small-scale isolated canoe fishermen. It is much easier to work with fishermen and boatowners who have already shown initiative and an interest in change. This dilemma has faced staff of the Model Project in Benin who have reoriented partly their activities to assist Cotonou based owners enter a developing canoe fishery using gillnets (on hard ground some fifteen miles offshore). The Model Project assists with training and transfer of technical knowledge and this relatively low-cost sustained assistance is an ideal way of giving support to develop private small-scale fisheries (FAO/IDAF 1988). However, it has had a lesser impact on isolated rural fishermen. The World Bank (Anon, 1987) has also drawn attention to the difficulty of bringing financial aid to the really poor fishermen.

At the FAO/CECAF/IDAF workshop on small-scale fisheries development and management held at Lome (Togo) in November 1985 (CECAF, 1986) subsidies were classified in two ways. The one, of a social nature, included (i) unplanned social and economic aid, often adopted in periods of emergency, (ii) regional development as a means to reduce disparity between regions, (iii) social welfare in the form of unemployment relief and income support, and (iv) tax and duty incentives. The second, of an economic nature, included (i) operational subsidies, e.g. fuel subsidies or price support programmes, (ii) modernization, (iii) development, i.e. subsidies aimed at developing a national fishing capacity or the improvement of efficiency within the fishery, and (iv) withdrawals. The workshop recommendations were: (i) The attention of governments should be called to the negative aspects (for public finance and the fishery sector) of long term subsidies. (ii) The effect of subsidies should be studied before their introduction, as well as the means to reduce or stop them in the short or medium term when appropriate. The amount of taxes on inputs should also be studied. (iii) There is the need to ensure participation of the target group in the formulation and implementation of policies leading to subsidies. (iv) Except for a fishing industry in its infancy, subsidies are not generally recommended. Even at that stage, the time of introduction must be well studied and a limit on their duration

imposed. (v) Governments with subsidy programmes should review them with a view to reduce them so as to improve the performance of the industry. (vi) It is essential for Governments to concentrate their efforts on making fishing inputs and equipment readily available without necessarily subsidizing them.

Supplies

With regard to supplies of motors and materials to West African artisanal fisheries Haling and Wijkstrom (1986) found often that the gear which is ordered is not in accordance with requirements of fishermen. Likewise engines are ordered which do not correspond with requirements, and there are difficulties with ordering spare parts. Incorrect technical specifications in purchase orders associated with lack of technical competence are part of the reason for difficulties in maintaining operations of the semi industrial fleets in Senegal and Ghana. If there was increased technical competence in fisheries departments the problems might be resolved, at least partially.

Certain projects, such as the Fisheries Pilot Project Tombo have set up a gear store in the village itself. This has helped local fishermen by providing required inputs, and by bringing the inputs to the village for sale, so fishermen do not have to spend time in going to Freetown (Beck, 1987). However, such a project is supported by external funds, and expatriate technical staff, and it will be difficult to continue when external funds are withdrawn. In theory the shop could be sold, but it is unlikely that a businessman would be prepared to finance the operation in such a relatively isolated area.

In spite of reports that supplies of large canoes from Ghana trees are in short supply there appears at present to be no practical difficulty in acquisition (for over two years now the price of 14m long canoes delivered to Cotonou has been about 700,000 FCFA). However, this does not mean to say the remaining resource of large trees is adequate to cover future needs.

Although some local net factories do manage to keep working it is generally cheaper to import netting than make up the nets locally. However, nets made in Nigeria appear to be used mainly in inland waters (of Cameroon as well as Nigeria) because they are cheaper although of lower quality than imported nets. Fishermen discard them and buy new ones, frequently, rather than make repairs to old nets.

Although it is not necessarily easy to purchase gear in the region it does not appear that lack of gear is actually inhibiting fishing. This does not imply there are never any shortages, but fishermen show enterprise in obtaining gear from nearby countries and returning with it for sale to their colleagues. Externally financed projects can assist with

purchasing gear for sale to fishermen, and this can include importing novel gear or materials (as the Model Project has done with introducing small echosounders and multimono-filament gillnets for use from canoes). Further details on externally financed projects are given in the Appendix.

In some countries the sudden gift of engines and materials may upset the supply, and discourage the traditional channel from a) holding stocks, b) making further orders, and c) becoming more skilled in fishermen's requirements. This has been the case in particular in Cameroon and Senegal where large donations from Japan have upset the market and disarranged the local agents. Japan has also given amounts of equipment at unexpected times to Ghana, Togo, The Gambia, Mauritania and Cape Verde.

Some concluding remarks

The role of informal and traditional finance is substantial, and needs to be appreciated. There is little chance in the short term of this importance being diminished. Indeed the non-formal channels should be encouraged to expand. However, it is difficult to logically analyse the informal credit systems and there is no advantage to the system in seeing governments interfere.

At the present time there are no indications that a well organised canoe or small boat owner is unable to find finance for purchasing or renewing craft, motor, gear, or assisting overcome the vagaries of production and trade, whether the finance be from informal or formal sources. It is interesting to note that the acting Governor of the Bank of Ghana is reported (Anon, 1988) recently to have said that in relation to agriculture (and applicable to artisanal fisheries) the problem was "more than pure credit; there was a need to look at complimentary factors like research, organisation, which addressed together would increase efficiency". This is relevant to fisheries where credit by itself will not lead to an increase in incomes; it needs to be available, either formally or informally, but more important is the question of resource availability, use of time, material, people, sales outlook, etc.

Ryrie (1986) made comments which are of relevance to the wider aspects of agriculture and also to fisheries, and particularly the need for organisation: 'Agriculture is more about organisation than it is about investment. It means getting a lot of aspects of government organisation, and the environment within which farmers work, right then allowing farmers to get on with the job. It is about pricing, the supply of fertiliser and seed, credit for small farmers, water, research into new varieties and farming methods, roads and other forms of transport and marketing arrangements'.

A constraint to self financing of small-scale fisheries sometimes may exist when local resources are fished out, or when competitive fishing activities, e.g. by industrial craft, have been allowed to expand/develop so much that rural fishing communities cannot eke out a reasonable existence from fishing. This has happened along the coast of various Asian countries, but so far this does not appear to have happened in West Africa, because inshore industrial fishing has not intensified to fish out stocks caught by artisanal fishermen.

In some countries outside the region a government-backed development authority has been set up to use grants and loans according to the situation of the individual and community, to revive optimism and breathe life into the social fabric (e.g. HDB in Scotland, Greig, 1972), and this sort of initiative could play an important role in many West African countries (but it would be difficult to administer).

In the case that government is able to expand formal channels for credit, for example through a specific facility, or through gift of equipment which can be distributed through a financial institution, the government should ensure that adequate technical (extension) services are provided. In theory this should avoid incorrect ordering of goods, and improve maintenance facilities. The technical services should normally be provided by a Department of Fisheries (but they can be provided through the finance institution). In both cases there should be close cooperation between the two agencies.

It is easy to overemphasize the social obligation of development banks to the detriment of their basic aim which is to provide finance. However, any development bank (like a commercial bank) should give priority to safeguarding the professional approach to lending, to safeguard capital and ensure that a reasonable rate of return on this capital is obtained. In this way emphasis is given to viability of artisanal operations. Unfortunately however, this creates a dilemma where for example canoe fishing cannot be considered viable enough to warrant a commercial or even semi-commercial loan, but in such instances the role of the informal channel becomes predominant.

If existing systems for capital accumulation/credit are enough to assist the small-scale capture fisheries to their present position the question (Weigel, 1985) may be asked as to whether these systems can sustain the situation: the conditions which may affect this are (a) availability of more attractive alternative investments, (b) reduced profitability of the fishery, (c) disappearance of the former lending group, (d) general improvement of the national economy, etc. Furthermore if capital/credit arrangements for maintaining the existing fishery are adequate, one would also expect them to suffice for at least a slow expansion of the fishery, if such expansion were

justifiable on the basis of existing resources and economics of the fish production sector. Certainly the data collected by various workers in this field, needs to be assessed. Noremans (1986) indicates that supply of motors to artisanal fishermen may lead to less fishing in Cape Verde, but this may not be true in other countries, although obviously there are implications for any project providing inputs.

Many governments are tempted to become involved in subsidy schemes, but before taking any concrete decision the situation needs to be examined carefully. Frequently the subsidies become a costly exercise for the national exchequer and yield no real benefits in the long run. Often there is a reason to introduce subsidies when grants or low interest loans are made available from external sources, but sometimes (unfortunately) this facility is linked to purchase of inappropriate equipment or advice.

The gift of equipment at one time (direct to government for selling direct to fishermen) can be bad for the local agent that previously was providing an adequate service, and who may then be discouraged from continuing or improving the service. Apart from determining technical specifications for required gear, there is also the need for the agent to forecast requirements for different types of gear. The gear needed by fishermen may change from season to season, and according to location. Thus the trader/importer/agent should have quite a sophisticated knowledge of the sector, in order to avoid the expense of ordering gear which may prove unnecessary under changed conditions, and these persons in the private sector should be supported in their attempt to provide a better service (and not be bypassed by government).

A key element in artisanal development is the overall economic situation of the country. If the government of a country shows no interest in following realistic economic policies the sub-sector can suffer as much as any other economic activity, but if the national economy is on an expansionist course it is more than likely that artisanal fishermen will join in the benefits (provided, of course, the fish resource is available). Nevertheless in Ghana, during the recent economic crisis, the canoe fishermen were able to weather the difficulties relatively well (Haakonsen, 1988), due to their commitment to the profession.

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December 1988.

3. FISHING INTENSITY AND EARNINGS

SURVEYS

A few studies on the actual time at sea of fishermen, and
their earnings, have been done in the region, but they are
diverse in approach and presentation of data. Some surveys tend
to give weight to biological considerations, whilst some
emphasise the economic features, but this is to be expected in
view of the wide range of interests of persons responsible for
the surveys. Nevertheless each can point to some particular
aspect which is characteristic to a fishing zone, or which may
also be applicable, if treated with some caution, to the
artisanal subsector in the whole of West Africa.

Earnings

In Benin the estimated average crewman's earnings per month on a Fanti gillnet canoe was estimated at CFA 7,329 (\$ 24) compared with CFA 6,800 (\$ 23) on an Ada line canoe and CFA 11,785 (\$ 39) on a Fanti purse seine canoe (Magermans, 1988). This may be compared with results from a survey carried out in Senegal in 1982 and reported on by Durand (1984) where the average monthly earning was estimated at CFA 6,201 (\$ 21) for a gillnet fisherman, CFA 7,197 (\$ 24) for a line fisherman and CFA 9,841 (\$ 33) for a fisherman on a purse seine canoe.

Koroma (1988) estimated the average monthly wages of fishermen on the two craft mainly used in Sierra Leone, the Ghana boat and the Yelefufu boat. Taking into consideration the average crew size, the revenue from fishing on a day where catch is reserved for the crew, and the revenue from sales of a percentage of the craft's catch, the monthly wage per fisherman was Le 1,546 for a Ghana boat and Le 1,115 for a Yelefufu boat. At an exchange rate of Le 50 to the US dollar the earnings range from US \$ 22.3 to \$ 30.9 or about CFA 6,690 to CFA 9,270.

For Cape Verde a cost and earnings survey was undertaken by Horemans (1986) who found that incomes of line fishermen varied between islands from about CFA 10,500 to CFA 22,050 per month. This is a generally higher revenue than in other countries. Certainly the choice of exchange rate in Sierra Leone will determine the estimate (because in 1988 the official -as opposed to the market- rate was only Le 35 to the US \$ which was almost certainly an overvaluation). It is striking however that the fishermen's earnings were similar for Benin, Sierra Leone and Senegal - in spite of difficulties in collecting comparable information.

Gobert (1984) calculated that the income per fisherman on the Congo coast with a paddle canoe was higher than incomes of fishermen with motorised canoes. He noted that a motor reduces physical hardship, but did not increase incomes. Gillnet fishermen with non motorised canoes commonly earned 17,000 CFA per month.

Although the above data indicate that some fishermen can earn respectable incomes from the profession it should be emphasised that the greater number of fishermen may earn little or nothing (and sometimes only a few fish shared out).

An interesting comparison also can be made between earnings of fishermen and earnings of civil servants. In Sierra Leone a fisherman may now earn more than a middle ranking civil servant, according to data presented by Longhurst (1987). This is partly due to inflation, and the slow increase in salaries of civil

servants. Fishermen's earnings are more flexible and can move upwards if the market is buoyant. In Ghana the middle ranking civil servant's salary would appear to be slightly above earnings of a fisherman. Recently (Feb. 1989) it was reported that a primary school teacher in Nigeria receives 300 Naira (CFA 10,000 or \$ 30) per month. However in Benin a primary school teacher receives between 40,000 CFA and 60,000 CFA per month and these relatively high salaries are presently found throughout the CFA zone.

Days spent fishing

The number of days at sea per "bote" in Cape Verde (Horemans, op.cit.) was low (rarely more than 11 days per month and more normally 6 to 7 days). It is interesting to note that at landing points where motorisation was almost non-existent that trips were most frequent (more than ten times per month) but where motorisation was high there was a low number of trips per month, often below five. It was also noticeable that where catches were high (often above 50 kg per trip) that number of trips was low (and where catches were least - 10 to 25 kg per trip - the number of trips was most).

Linsenmeyer (1976) writing on use of time for fishing activities in Sierra Leone observed that "almost 42 percent of the male labour availability for fish production... was used to repair nets, whereas only 52 per cent of the fish production labour was actually spent at sea in fish harvesting activities". Seasonal variations in labour inputs in Sierra Leone fisheries was affected by weather, fish migratory patterns, type of equipment used, seasonality of competitive nonfish enterprises, and other factors.

From a more recent account of artisanal fishing intensity in Sierra Leone (Koroma, op. cit.) at Shenge it is estimated that "about 190 days per annum are used by the fishermen for actual fishing" and this is about 54 per cent which is not far above the percentage quoted by Linsenmeyer. Based on field observations and fishermen's experience non-fishing days per year can be accounted for as net mending (72), bad tide/weather (32), boat repair (12), engine repair (19), and other reasons (40). Many vessels make more than one trip per day; for example the outboard powered craft (Yelefufu outboard, Ghana -40 hp- boat, and Ghana 25 hp boat) make more than 240 trips per annum and the Yelefufu sail boat makes 185 trips annually.

Durand (1984) found that canoes followed in the Senegal survey on average were 49.7 % of the "guinzaine" (-two week-intervals) on sea trips. The index of activity (number of trips per number of days in year) was 43 per cent for all fishing units, but this excluded canoes under repair, canoes rarely used, and canoes temporarily absent from the survey. Variation in

activity of ring nets might vary from zero for certain "quinzaine" intervals to periods of 12 days fishing per "quinzaine" over a period of four or five quinzaines. Thus effort at certain times could be very intense. One fishing unit spent 258 days at sea, but generally the average was around 140 days. Line fishermen appear to spend generally less time at sea.

In the case of Senegal there is no official rest day, as in Ghana (every Tuesday) and along the Gulf of Guinea coast, so this allows higher fishing intensity compared to other countries. In the Shenge zone of Sierra Leone Friday was recently accepted, at least informally, as a day when fishing does not occur. For improved canoes working from Cotonou port the line craft attempt to make two trips within a period of eight days, for it is on the eighth day that a rest day is universally respected by fishermen. For each three day trip the fishermen spend two nights at sea.

The gear technologist of the Benin Model Project reported that in the period 1/1 - 31/5/88 (152 days) there were 29 trips by the FAO Model Project canoe "Cairnbulg", 25 trips by "Gamrie", and 24 trips by the canoe "St. Jude" (i.e. approx. 77, 75 and 72 days at sea respectively). This was an activity of about 50 per cent which is the maximum that can really be expected of an artisanal operation. Given the lack of organisation at local level it can be supposed that very few fishing units will work more frequently.

For Togo (Faggianelli, 1984) use of the beach seine was normally once a day, but at certain times (e.g. September and October) the fishermen pulled in the seine twice per day. It was also observed that number of gill nets set per night increased from 7 to 9 nets in the high season to 11 to 14 in the low season, which was an interesting change to reflect varying abundance. One might have thought that more nets would have been set in the period of high abundance. In another study on Togo Welgel and Hem (1984) said that beach seines were used about 8-15 times per month whereas ring netters go out 10 to 23 times. The smaller time gillnet "tonga" fishermen and line fishermen went out least, at about 6 to 11 and 5 to 6 times respectively.

A short but intensive survey was undertaken of artisanal fisheries in Morocco by Schimdt, Frielink and Bellemans (1987). They estimated that 12 trips were made on average per month by artisanal craft. They looked at length of trip, and estimated the average as 12 hours in the Atlantic and 10 hours in the Mediterranean.

Fishing crews

Gobert (op.cit.) reporting on artisanal fisheries in the Congo, noted that for most canoes the number of fishermen

associated with a canoe was far higher than the actual number of persons going out for a canoe trip. There was substantial movement of crew members between canoes. About one in three of the fishermen had been in more than one crew over the last three months, and besides the core of regular fishermen there were many persons whose activity was casual. Five fishermen took part in 67 to 89 per cent of the trips. Twenty nine other fishermen took part for 20 to 30 percent of the time. In one non-motorised fishing unit, the fishermen most associated with the canoe only went out on one third of the possible trips. In all, there were 37 persons working as crew members over the year. In another canoe 43 persons were crew members at various times. Five of the fishermen were present on 61 percent of the trips. In summary it can be said that occasional fishermen played a very important role in fishing. The importance of family links in choosing the crew was also emphasised. The average age of the fishermen's population was 27, and apprenticeship started often at the age of 14.

At a meeting on artisanal fisheries at Cotonou in 1980 the labour intensive nature of purse seine fishing from canoes in Senegal was discussed (FAO, 1980). This type of fishing needed a crew of 17 to 20 and it was necessary to have a number of potential fishermen available in view of absences due to sickness, social obligations (baptisms, marriages, funerals etc) and bearing in mind also the activities on land (handling of catches, maintenance of vessel, etc). It was noted that for 17 to 20 men embarked the real total crew was 30 or more. The size of the crew was also a reflection of the need to supply an income to the maximum number of young men of the "family", which leads to a fairly rapid rotation of the crew.

Christensen (undated) reports on Ghanaian fishermen some twenty years ago from a PhD dissertation by Quinn, M. of 1971. He emphasised the casual approach of many fishermen to their profession. Some drop out to help prepare a farm for planting and a few occasionally work as labourers for short periods. Others do little or nothing during those times of the year when the catch is poor. The intermittent nature of fishing is indicated in a study made at Bixiva (Ghana) in a 17 month period during 1967-68. In the sample of 23 crew members none was recorded as fishing the entire period of the 13 "seasons" (a season varies from 1 to 2 months, with 5 seasons in a year); 101 crew members fished only 2 seasons and only 3 fished a maximum of 7 seasons.

A feature of artisanal fisheries, highlighted in surveys of this type, is the attention given to spread of risk in economic activity. This is mentioned by Gobert (op. cit.), Linsemeyer (op. cit.), Emerson (1980), and Jorion (1988). It may be a reason for the common travels or migrations of fishermen, and the occasional nature of fishing for many, associated with other nonfish activities.

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Table 3.1. Benin : estimate of fishermen's earnings

Type of fishing	Trips per month	Revenue per fisherman per month (CFA)
Gillnet	15.2	7329
Purse seine	15.7	11785
Line	5.7	6800
Shark net	10.7	8387

Source : Magermans (1988)

Table 3.2. Cape Verde, survey on fishing

Per month (and are kg per trip)								
	Palmeira		Tarrafal		Ribeira Barca		Gamboa	
	Trips	Kilos	Trips	Kilos	Trips	Kilos	Trips	Kilos
June								
July								
August					13.5	26.0	5.3	51.7
September	8.6	46.4			10.7	7.0	4.9	32.7
October	5.2	41.9	14.2	8.9	10.0	13.9	3.6	42.1
November	5.3	38.0	16.1	5.2	11.4	14.2	2.3	38.2
December	3.0	45.2			9.7	15.9	3.6	39.6
January	4.0	41.0	13.7	23.6	10.6	23.5	0.9	44.9
February	3.1	56.8	9.9	14.6	12.4	18.1	1.5	54.6
March			10.4	8.3	10.5	7.4	0.8	122.7
April			12.1	10.6	11.2	9.8	1.9	79.3

Source : Horemans (1986)

Table 3.3 Senegal : annual earnings from purse seine fishing

Per unit				
Trips	131	148	137	258
Crew	16	20	22	25
Fisherman rev. CFA	77479	151376	105383	135144

Source : Durand (1984)

Table 3.4 Senegal : annual earnings from line fishing

Per unit		
Trips	Crew	Fisherman revenue
163	5	74415
106	4	27627
174	4	83175
99	5	47240
191	4	138500
226	3	242779
118	4	57244
196	3	98952
131	4	76683
149	5	71406
162	3	84371
107	3	49868
189	5	40324
105	3	150690
165	3	89394
115	3	55549
194	4	61547
158	2	46265

Source : Durand (1984)

Table 3.5. Congo : revenues per fishermen

Non-motorised Units		Trips per year	Rev. per month
Gillnet unit	1	96	17600
	2	97	17783
	3	251	87850
	4	213	23075
	5	82	23233
Handline	1	30	5000
	2	17	3542
Baseline	1	139	6950
	2	159	11925
Motorised Units			
Gillnet	1	11	1100
	2	33	4125
	3	30	18750

Handline	1	66	8800
	2	71	11242
	3	15	5250
Surface	1	124	42366
gillnet	2	107	20508

Source : Gobert (1986)

4. INSTITUTIONAL DILEMMAS

Austerity measures and technical responsibilities

A dilemma for fishery development workers at the present time is how governments can meet the needs of fishermen, fishworkers, and of course the resource, and at the same time work within the austere economic climate forced upon the region.

There are attractions in the attempt to multiply services available to fishermen and fishing communities by central government. Certainly in isolated locations where the fishery sector is the main generator of income and employment the Department of Fisheries can provide a base for and take the lead in integrating the various development initiatives, but the Department of Fisheries, at its headquarters, should not lose sight of its main role of assessing exploitation levels, and taking the necessary action to ensure the nation, as a whole, optimises the benefits to be obtained from the resource. Some of the generally unsuccessful attempts of the World Bank for example, to finance rural development projects, often called "integrated" with all their associated complexities, have been well described by Blackwood (1988). If first priority is shifted away from key technical activities then overall responsibilities of a Department of Fisheries become muddled.

Another consequence of the austerity measures is that the development budgets of many countries are now covered by external financing. This poses problems of balancing the different procedural requirements of donor agencies, and is just one of many constraints to implementing a coherent national development plan ; let alone carrying out basic technical services with a reduced recurrent budget.

Decentralisation

Another institutional dilemma is the pressure to let local groups organise themselves to take more responsibility for their communities, yet experience has shown this not always to be easy. Chambers (1983) says "All too often, centrally planned actions do not fit local conditions and priorities... blueprints have been designed centrally and then transferred to and imposed on

environments. It has long been recognised that many local needs and opportunities cannot be met or exploited by such standard imprints from above. A vast literature generated over the past 30 years a succession of labels - community development, decentralisation, devolution, deconcentration, local organisation, bottom-up approaches and participation. The fashionable mode of operation has also changed, starting with programmes pursued from the centre, leading now more and more to the idea that NGO's and local people should organise to make demands on government bureaucracies. The emphasis is on local learning processes rather than blueprints from the centre". However he goes on to say "The conclusions we can draw from the history of decentralisation are not encouraging. Country after country has announced a major decentralisation to provinces or regions, to districts, to elected bodies at various levels... But rarely does much seem to have changed".

One experience of an attempt in the fishery sector to decentralise decision making was the artisanal support project in Senegal described by Lavergne and English (1987). They describe the over-ambitious targets set by the Canadian International Development Agency, and how the comments of a number of Canadian staff involved in the project were ignored. A main objective of the project had been to work with and support cooperatives. However during the period of the project it became obvious that cooperatives were very artificial organisations, difficult if not impossible to work through. In some ways the original idea of the artisanal support service was to stimulate the "bottom-up approach" or "participation", yet it improved impossible to sustain and build on this approach. The traders and fishermen preferred to continue working as individuals or in family groups, without formal organisation recognised by the state.

One objective of the European Development Fund project for development of artisanal fisheries along the southern Atlantic coast of The Gambia was also to work with fishermen's groups so that structures and organisation could be passed over from government to such groups. Yet the groups never became well organised enough to take on this responsibility (although the initiative is continuing). In Senegal the government now talks less of cooperatives and more of "Groupements d'Intérêt Economique", yet there is little evidence that these groups can be expected to have much more of an impact than cooperatives, or act as replacements for the entrepreneurial abilities and initiatives already found amongst fishermen.

In Cape Verde the Department of Cooperatives recognises the special problems of working with fishermen, and has not tried to impose a cooperative structure on the sector. Yet the Secretary of State for Fisheries, with assistance of external donors, now plans for Techno-social Centres to be located in main fishing

villages, to help the fishing community in various ways, with the plan that fishermen assist management, and the experience will need to be analysed.

Finance and administration

The Benin Model Project evolved, over five years, a series of activities to assist a selected number of communities. Income generating activities for women (often through modest credits of about \$ 12 per person) were initiated, both in Cotonou and in the villages. Training of fishermen took place along the coast. Improvements were made to canoes, and trials with different motors undertaken - leading to private investment by entrepreneurs. Gear trials were carried out. Tracks for access to the fishing villages were made all-weather and supplies of drinking water were improved through digging of wells. However in comparison with other West Africa fishing areas the resource base is not rich so there is limited scope for landing higher fish catches. Thus the fishing activity can never be a lead force for development. Also, the general state of the economy remains depressed, with only a reduced purchasing power of the population.

A typical dilemma is faced by Equatorial Guinea. The dominant fisheries project is financed by the African Development Fund of the African Development Bank. Relative to the size of the subsector already the project is enormous. It faces the constraint of supplying inputs etc through a small technical service, which really should have more experience, competence and skills for working with craft, gear, etc. and the private sector in general. In addition, under the condition of an IMF loan, the civil service is not being expanded.

It is often the case throughout the region that government officials forget that funds provided by a bank are a loan, and not a grant. The need to repay a loan is overlooked. Partially this may be due to consultants or some bank staff formulating a project to fit a bank lending strategy rather than fitting the probably modest needs of a receiving country. Often the priority should be for a smaller project, on a grant basis.

In many countries government officials welcome finance which passes through government channels, but neglect to consider the benefits of (public and private) funds passing direct to the private sector. This finance (equity or loan) can ultimately be of more benefit to the sector than large scale finance passing through a government bureaucracy.

It may also be remarked that little attention is given to disinvestment or limiting increase in investment, so as to ensure reasonable returns on capital, especially where there are limits to the level of exploitation that a fish resource can withstand.

Brett (1988) discusses the breakdown of the civil service in a number of African countries and draws attention to the need to allow technical functions to be performed adequately by the experts. Everett (1988) has also drawn attention to the importance of training and supervision in the conduct of civil service officers.

Information and resource management

Although optimistic assessments of a situation may appear laudable at the time, they may in the end prove to be unrealistic and counterproductive if the development objectives to be accomplished for a particular activity, in the stated time scale prove to be too ambitious. This realistic assessment can be improved with better information. Robinson and Lawson (1986) summarised problems facing aid to fisheries in West Africa and the situation has generally not improved since. Certainly one gets the impression that not enough priority is being given to the collection of information, both for sound resource management and development of the sector. Their statement "local cadres of scientific workers have been established in a number of centres but the structure in many cases remains fragile and will need outside support for many years yet if this work is to be continued" still remains valid.

Lawson and Robinson (1983) have already drawn attention to the need for management of resources, with special regard to artisanal fisheries in West Africa. Their paper was concluded with the following warning on the situation in Côte d'Ivoire "In the Aby lagoon as in the North Atlantic it seems that rational management be considered only when economic distress offers no alternative"; and indeed this is exactly what happened in 1986, because in this lagoon there was an excessive increase in fishing effort with a consequently disastrous collapse of the fish stock. Thus the whole fisheries component of the project had to be reexamined in the light of this collapse. Kaczynski (1988) discusses the complexities of management of a resource in sub Saharan West Africa and implies that an optimum solution, given the difficulties facing the coastal countries in so many forms, may never be found in the short or mid term future.

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Appendix

SUMMARY OF DONOR-AIDED FISHERIES DEVELOPMENT PROJECTS

The Japanese have been in the forefront of increasing cooperation in the artisanal subsector through short term projects with a T.A. and/or equipment component in several West African countries. Invariably the equipment is intended for setting up a revolving loan fund, but sometimes it proves impossible to replace the original imported stock because the central bank refuses conversion of local funds into foreign exchange.

French aid tends to be of rather a long term nature through financing technical assistance to strengthen technical departments and research centres in Mauritania, Senegal, Guinea, Côte d'Ivoire, Cameroon and Congo (and many are involved in small-scale fisheries). Canada has provided funds to Senegal for artisanal fisheries development and surveillance. The German Federal Agency GTZ has financed various types of assistance to small-scale fisheries in the village of Tombo, Sierra Leone, which have been described by Beck (1987) and During and Forde (1988) as well as with the lagoon fishery in Benin. Other bilateral projects affecting small-scale fisheries in the region have been financed by the Dutch, British and Italians.

The United Nations Development Programme has financed projects, executed through FAO, in almost all countries. Many projects have been of an institutional building character, and assistance to private small-scale fishermen has been provided through the concerned technical department. Mention should be made of a specific intervention for development of the purse seine for use by fishermen in Senegal from local canoes. Grasset (1972) reported on these trials, as part of a UNDP/FAO Project for studying and exploiting small pelagic fish stocks. His work with fishermen is recorded in detail and it shows convincingly how technical assistance can be used to best effect. Fishermen subsequently took over the technique and, without any formal training, the number of canoes using this technique increased rapidly to beyond one hundred in a few years. It is also interesting to note that no formal credit scheme was set up to promote this activity even though the purse seine is costly. Finance was found both within the sector and from businessmen.

Mention should also be made of FAO assistance to Mr. R. Ocran of Mankodze Fisheries Ghana at the World Fishing Conference at Hamburg in 1957, where he learnt of the purse seining technique and went on to use it from vessels in Ghana. This was adapted for use by canoe fishermen from Ghana canoes along the whole coast.

Through its Investment Centre FAO identifies and formulates artisanal fishery projects that may subsequently be financed by international development agencies; examples are IFAD finance for the Congo inland fishery, and lagune Aby (Bouberi, 1988) in Côte d'Ivoire, BADEA/ADB finance for artisanal fisheries in Guinea, and ADB/ADF finance for Senegal Petite Côte fisheries.

The European Development Fund (EDF) has been increasing its funding of artisanal fisheries development since 1979, with projects in Senegal, The Gambia, Guinea-Bissau, Guinea, Sierra Leone, Ghana, Benin, Cameroon and Gabon and a regional project for artisanal fisheries covering Zaire, Congo, Sao Tome and Principe, Equatorial Guinea and Gabon. EDF projects have provided support services to artisanal fishermen in the form of technical advice, gear and craft improvement, processing and storage facilities, feeder roads, modest credit, training, etc.

There have been few activities of NGO's in the marine fishery sector of West Africa. At present the better known NGO work is in Guinea Bissau (Iles de paix), Guinea (C.E.C.I.), Cape Verde (Entr'aide Suisse) and Sierra Leone (Plan International). The Freedom from Hunger campaign introduced outboard motors to Togo and Benin in the 1960's.

Inevitably there are problems with using externally funded projects to the best advantage of the receiving country, for not least of the difficulties are blending in the overall objectives of the donor with the day to day tasks of the host executing agency. Sometimes there are difficulties with using expatriate staff who have a shorter time-frame within which to see achievements, compared with local staff. Other times the promised counterpart contribution from the host agency cannot be realized and this interrupts the work output. For artisanal projects the working conditions are often not easy since much of the work is in isolated field locations. In general, it can be said that almost all externally funded projects to assist small-scale fisheries have made positive contributions, but that the effort needs to be sustained over many years.

Mauritania

1. DANIDA, cold store chain at Nouakchott and south, to assist artisanal marketing.
2. Italy (FAI) provision of 40 x 12 m GRP boats with Ruggerini outboard diesels.
3. CCCE(France), fisheries economics unit in Ministry of Fisheries, two technical advisers.
4. GOPA Germany, one fishery specialist at Ministry headquarters, and German interest in and support for surveillance.
5. France, technical assistance (FAC) to fishery school (ISSTH) at Nouadhibou, for CBAO, built with funds of Islamic Development Bank.
6. AFESD (Arab Fund for Economic and Social Development) US \$ 1.1 m, provision of infrastructural facilities for the artisanal fleet. Started 1987 3 years. Understood to provide funds to ACRN boatyard at Nouakchott receiving FAO/UNDP assistance MAU/84/012. Follows on from Kuwait Fund interventions.

Senegal

1. CIDA, assistance to improved artisanal fishing/processing, US \$ 16.5 m, started 1988 with flexible five year programme. PROPECHE is the short name for this project.
2. African Development Fund of ADB, project for assisting artisanal fisheries along the Petite Côte. US \$ 8.4 m, started 1987 with four year implementation plan (PAPEC).
3. EDF, US 1.5 m, started 1986 associated with CCE (France) for integrated artisanal fishery development in the Casamance (PAMEZ).
4. CCCE (France)), US \$ 3.0 m, started 1986 with EDF Casamance project, to provide credit to artisanal fishermen and processors.
5. Italy, US \$ 1.5 m, started 1987 to provide 300 Ruggerini outboard diesels, and assistance of two mechanics.

6. Japan, supply of 1,000 Yamaha outboards, and trials with Yanmar Y-Dom outboard diesel.
7. French funding (FAC) for cooperants with research (CRODT) and advice to Minister (Conseiller Technique), and with shrimp culture at Ziguinchor.
8. Japan provision of artisanal centre at Missirah (Sine Saloom) with supporting services.
9. Canada, continuing CIDA assistance, 1984-86, for surveillance (PSPS).
10. Recent FAO (TCP/SEN/4401) assistance, 1984-86 for canoe improvement and marketing study (TCP/SEN/6653).
11. NGOs and ENDA TM, assistance to two GIE-fishing groups, and one group of women processors.
12. ICOD assistance to CRODT for a publicity pamphlet.

Cape Verde

1. African Development Fund (AfDB), US \$ 6.1 m for general artisanal fishery development starting 1987. PDPA -Projet de Développement de la Pêche Artisanale-craft development and loans.
2. FAO/UNDP CVI/86/006, US \$ 1.2 m primarily to provide technical assistance in support of the AfDB project. Duration 8/87 - 7/91.
3. IFAD, US \$ 6.1 m, to provide supplementary funds to support the AfDB and FAO/UNDP projects, for artisanal fisheries socio-technical centres and community development.
4. German aid to assist integrated development, including fisheries, on the islands of Fogo and Brava.
5. Japan, \$ 2 m, 220 Yamaha outboards in 1988 (200 x 8 hp and 20 x 15 hp), plus ice plant, experimental gear and 2 vessels.
6. Italy, Progetto Sud-Instituto Sindical de Cooperacao, assists with fish marketing in Boavista, Maio, Santiago, San Nicolao (in the second phase). Includes Italian diesel outboards.

7. Care-France, assists the Centre de Formation de la Pêche Artisanale at Praia (perhaps with EDF support to NGO).
8. Netherlands, support to fishery sector as part of the integrated development of Santo Antao island, through the PAPASA project.
9. FAO TCP/CVI/8854 assistance with fish marketing, as well as legislation/agreements. \$ 45,000, 6/88-3/89.
10. Iceland (ICEIDA). Provision of research vessels and survey staff until mid 1989. Continued assistance to Interbase and Pescave thereafter.

Gambia

1. EDF, start 1987, Artisanal Fisheries Development Phase II, US \$ 2.45 m, for marine artisanal fisheries along southern Atlantic coast follows on from long term EDF involvement since 1978. Latest phase is for 1988-1991 at a cost of US \$ 3.8 m.
2. Italy US \$ 1.6 m, start 1986 end 1989, for assistance to estuarine villages Kemoto and Tankular, probably to be extended to many other estuarine villages. Include Italian outboard diesels.
3. Japan, provision of one masterfisherman and one mechanic to assist Department of Fisheries, in addition 200 outboard motors, and 130 FRP craft.
4. Canada-IDRC, assistance with oyster culture. Small project continuing since 1984.

Guinea Bissau

1. EDF, start 1988 ending 1990, US \$ 1.8 m to provide followup assistance to Cacheu centre for artisanal fisheries.
2. Sweden, starting 1976 now running down, cost of present phase US \$ 5.8 m, assistance to Bubaque fisheries.
3. FAO, 1986 and 1987, TCP/GBS/411 for Riombo fisheries, US \$ 250,000.

4. UNDP GBS/86/001 Integrated rural development of Bijagos Islands. Component for craft by FAO.
5. Italy, (FAI) US \$ 1 m for Ruggerini outboard diesels and fisheries at Bolama.
6. UNDP/FAO, US \$ 0.7 m, for institutional support to artisanal fisheries (GBS/86/008), 9/88-2/91.
7. China. Provision of fishing craft
8. FAO/TCP/GBS/6651 Rice/Shrimp culture, 10/86-10/87, \$ 85,000.
9. FAO TCP/GBS/8851 Legislation and investment code revisions 12/87-7/88, \$ 57,000.
10. World Bank assistance to surveillance and management, as part of loan for agricultural sector restructuring.

Guinea

1. BADEA, starting 1986, US \$ 10 m, to assist ODEPAG develop artisanal fisheries -craft and engines- and aquaculture, with ADF (AfDB).
2. ADF (AfDB), starting 1986, US \$ 17.0 m with BADEA to assist ODEPAG to develop artisanal fisheries and aquaculture.
3. FAO/UNDP GUI/87/025, starting 1987, US 400,000 approx. for Kabak integrated fisheries development project, 7/87-6/90.
4. EDF, starting 1988, US \$ 2.4 m, to help integrated development along the southern marine coast and including Kabak.
5. FAO/UNDP/UNCDF, starting 1989, US \$ 1 m for development of Kamsar fisheries centre (GUI/86/C03 and GUI/87/004).
6. Italy, supply of 30 Ruggerini outboard diesels, second phase with Lombardini diesel outboards and GRP craft, plus centre/workshop, smokers, plus t.a. at Dubrekah.
7. France, provision of researchers through ORSTOM, for resource evaluation and research on artisanal fisheries (through Min. de l'Education Nationale).

8. Canada, provision of adviser to the Secretary of State for Fisheries, training and surveillance project with World Bank from 1/90.
10. FAO, assistance with legislation improvements.

Sierra Leone

1. EDF, starting 1989, 6 m ecus, for integrated fisheries development along coast north of Freetown.
2. Germany, GTZ, since 1980, but most recent phase 1987-1989, US \$ 2 m for development of Tombo fisheries and community.
3. UNCDF/UNDP, US \$ 3.9 m, for provision of technical assistance and capital development of fisheries area at Shenge. The project will provide infrastructural support for fishing activities (multipurpose building and jetty), gear and engines through a working capital fund, processing ovens, rehabilitation of the 85 km road to Moyamba, construction of wells, and on Plantain Island a school and primary health clinic (SIL/85/C03).
4. FAO/DANIDA, US \$ 331,000 for womens fish processing and community development at Shenge (GCP/SIL/018/DEN).
5. FAO/UNDP SIL/82/C15 Shenge project, for integrated development of rural fishing villages, 12/84-12/89, \$ 1.7 m.
6. FAO TCP/SIL/6654, monitoring and surveillance, 11/87- 10/88, \$ 192,000.

Liberia

1. EDF, to cover cost of a short mission in 1988 to examine possibilities of assisting artisanal fisheries.

Côte d'Ivoire

1. IFAD, starting 1985, terminating 1989, US \$ 2.6 m, to assist management and development of artisanal fisheries on Lagune Aby with technical assistance and finance for inputs and trials.
2. FAO/UNDP, IVC/87/001, US \$ 1.6 m for inland fish culture, extension and training, based at Bouaké, 1/87-12/90.
3. France, technical assistance for research and extension (pipeline craft improvement activity) and advice to the Ministry (Conseiller Technique).
4. EDF, research unit for shrimp culture at Assini, with French assistance (FAC), near implementation.
5. Canada - IDRC assistance for lagoon aquaculture (through CRO).
6. CCCE - further finance to catfish/Tilapia culture on the lagoons.

Ghana

1. ADF (AfDB), FUA 8 m line of credit since 1982, to provide outboard motors, gear etc (as well as oil palm equipment) followed by FUA 15 m second line of credit since 1985.
2. EDF, since 1985, but second phase 1988-89, US \$ 2.4 m, to reengine inshore fishing fleet, and provide TA for supervision, as well as resource evaluation;
3. FAO/UNDP GHA/88/004, starting 1988, US \$ 700,000 for artisanal fisheries development at Yeji on Lake Volta, 9/88-8/90.
4. Japan, 1987-1988, US \$ 2 m for outboards and artisanal fishing gear.
5. FAO TCP/GHA/4506 Processing and training activity in 1987.

Togo

1. Japan, 1985-1988, US \$ 1 m, supply of boats, gear and outboards.
2. FAO TCP, 1968, assistance by model project Benin with improvements to fishing techniques (TCP/TOG/6759).
3. ICOD Canada, assistance to institutional restructuring, and training.

Benin

1. UNDP/OPE (BEN/88/003), 1985-1988, US \$ 200,000, for assistance to setting up outboard motor store and workshop (BEN/82/C01). UNDP has asked for activities to be privatised.
2. DANIDA/FAO, 1983-1989, US \$ 6.1 m with Norway funds for model project Benin GCP/RAF/198/DEN and regional IDAF Programme (GCP/RAF/192/DEN and GCP/RAF/197/NOR).
3. GTZ Germany, US 1.1 m, 1986 ongoing assessment, management and development of lagoon fisheries.
4. EDF, 1979 started, new for lagoon aquaculture, écus 2 m from 1990.
5. Japan, 1989, US \$ 3 m for two trawlers (12 and 16 m), gear, engines and vehicles.

Nigeria

1. Japan, 1985 onwards, firstly to supply a research vessel then fishing gear research establishment (at NIOMR), and now providing seagoing crew for the research vessel.
2. FAO/UNDP-NIR/87/O10, started 1988, US \$ 1.8 m for three years to support integrated fisheries development in coastal villages. This continues from an earlier long running FAO/UNDP fisheries development project (NIR/77/001).

3. Pipeline IFAD Artisanal Fisheries Development Project for US \$ 19.7 million to cover Fisheries Development Units (\$ 3.5 m), incremental credit (\$ 8.5 m), water supply and sanitary facilities (\$ 4.0 m), development fund (\$ 0.5 m), management support (\$ 0.5 m) and contingencies (\$ 2.7 m) for the marine communities of Akwa Ibom, Cross River and Rivers States (from Delta of the River Niger to the border with Cameroon).

Cameroon

1. EDF, started 1985, probably to continue, technical assistance and inputs to aid management and development of the Lagdo Lake.
2. Japan, provision of motors for fishermen, and vehicles for government staff.
3. Canada - ICOD possible aid to Fisheries Research Station at Limbe.
4. FAO TCP*/CMR/4508. Processing and training activity in 1987.

Equatorial Guinea

1. African Development Fund (AfDB) US \$ 6 m project approved and signed and near to implementation for fishery centres both on mainland and island.
2. Recent FAO (TCP/EGG/8851) processing, handling and training activities.

Sao Tomé and Príncipe

1. Japan, supply of motors and gear.
2. IFAD, assistance with motorisation, craft development, and fishery centres.
3. France, support by ORSTOM for research.
4. EDF, part of a Gulf of Guinea regional fisheries project.

Gabon

1. UNDP/FAO/UNIFEM (RAF/86/WO4 and GAB/87/WO1), womens activities and processing on inland lakes near Lambaréné, 1988/89, \$ 60,000.
2. EDF, part of a Gulf of Guinea regional fisheries project.

Congo

1. IFAD, with FAO (UTF/PRC/O10/PRC) inland fishery development in the Congo River basin 7/84-6/88, \$ 1.3 m.
2. UNDP/FAO, assistance to freshwater aquaculture near Brazzaville (PRC/79/007), followed by PRC/88/007, \$ 591,000 for 3/88-2/89.
3. France, support by ORSTOM for research.
4. EDF, part of a Gulf of Guinea regional fisheries project.

Zaire

1. FAO/UNDP (ZAI/88/002) fishery planning and community development project (US \$ 1.6 m) succeeds an earlier long term FAO/UNDP involvement in the fishery sector.
2. French/EDF/Belgian assistance to various inland fishery developments.
3. EDF, part of a Gulf of Guinea regional fisheries project.
4. World Bank/Japan Subsahara facility ; 1400 outboards and 60 diesels for craft.

Regional

1. EDF, approx. US \$ 0.3 m for handling and post-harvest studies, 1988, followed by Ecus 1 million in 1989/90.

2. Spain, through FAO, to assist CECAF project extension, Dakar (GCP/RAF/250/SPA).
3. DANIDA/Norway/FAO, approx. US \$ 5 m. for integrated development of artisanal fisheries, 1989-1991. Cotonou.
4. Netherlands. Ghana based processing, handling and training activities.
5. INFOPECHE, FAO GCP/RAF/201/NOR fish trade and advisory service, based at Abidjan.
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7. Pipeline FAO/UNDP projects for planning and management ; North and South of CECAF area. To succeed GCP/RAF/215/USA assistance to CECAF, under preparatory assistance phase of RAF/87/098 Planning and Policy Formulation for Fisheries in West Africa.

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