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Market Development, Government Interventions and the Dynamics of the Small- scale Fishing Sector: An Historical Perspective of the Senegalese Case

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'Behind the net, the canoe and fishing, there is a fisherman: a man, and a man with his own history' (Théodore Monod, *Leçon inaugurale du cours de pêches et productions coloniales d'origine animale du Muséum National d'Histoire Naturelle*, 15 mars 1945).

Senegal is Africa's third most important fish producer, after southern Africa and Morocco (Weber and Durand, 1986). Thus Senegal's artisanal fisheries are economically important not only within Senegal, where they account for two-thirds of the 250,000 tons of fish landed each year (between one-third and half of total commercial value), but in Africa as a whole. Their output is remarkable, considering their use of traditional means of production (similar to that of the Ghanaians — another large, though less important, fishing centre); the vulnerability of Senegalese waters to industrial exploitation; the relative lack of population in the fishing areas (Sutinen et al., 1981); and the fact that canoe fisheries play a significant rôle in supplying fish, crustacea and cephalopoda to the industrial and export sectors (Chauveau, 1983a, 1983b; Dème, 1983).

The condition of maritime fisheries in Senegal contrasts strongly with a general state of economic recession in the country. At the height of the 1980-1 groundnut crisis the export value of fishing products exceeded that of groundnuts; the two are now more or less equal. About 10 per cent of the population live directly or indirectly on small-scale fisheries, and the 30,000 active fishermen supply over half the animal protein consumed in the country. The inland regions are at a clear disadvantage in terms of access to fish, despite an

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important artisanal processing sector that processes (mainly through drying) about 20 per cent of all catches from the artisanal fisheries (Durand and Conway, 1983; Fontana and Weber, 1983; *Programme d'actions pour la pêche maritime*, 1986).

1. SMALL-SCALE FISHERIES AND FORMALIZED DEVELOPMENT: AN HISTORICAL PERSPECTIVE

Officially, the Senegalese authorities consider the fisheries sector as a kind of 'escape valve for the country's economy' which 'occupies a privileged place in economic recovery policy' (*Programme d'actions pour la pêche maritime*, 1986). The artisanal fishing sector is expected to make an essential contribution to the domestic food supply and to the expansion of exports, employment and investment. Such expectations are relatively new elements in the long history of external and state intervention in the sector, which began with the expert's report of Gruvel and Bouyat in 1906. Only since 1980, when the findings of biological and socioeconomic research were taken into consideration, did the state bureaucracy recognize that canoe fisheries were not obstacles to the growth of the sector, but important growth stimuli.

For development agents and institutions this new policy trend remains tied to a very particular approach to small-scale fisheries. The dominant ideology continues to be based on the premise that progress can be achieved only by the modernistic, positive and sustained action of 'developers', and that impediments necessarily arise from 'traditional' mentalities and structures. It is important to emphasize that such an approach preshapes the ways reality is perceived, 'problems' diagnosed and interventions conceived (Chauveau, 1985).

An historical approach to understanding small-scale fisheries and state intervention best displays the normative positions underlying development strategy — and provides a vantage point from which to abandon the ideas that socioeconomic transformations of a sector depend unilaterally on the goodwill and knowledge of external interventionists, and that the initiatives of those who are being 'developed' are mere reactions to such intervention. The destiny of any development project is, in the last analysis, in the hands of those for whom it is intended. The effects of development projects thus cannot be evaluated only in light of their explicit aims: indeed, their

main outcomes are often unintended. Accurate evaluation of the conditions and results of intervention is therefore possible only if this includes analysis of real process in the context of the global, and to a large extent unseen, logic of social relations. To proceed otherwise often leads to the transformation of data into explanations, and a confusion between the outcome of a process and its cause.

The problems of Senegalese artisanal fisheries have been associated, for instance, with the mentality of the fishermen (assumed to be individualistic and resistant to change), with misconceived state or external intervention (deemed technocratic and preoccupied with industrial fisheries) or with the structure effects of sectoral growth (producers' dependence on distributors, the specialization of migrant fishermen to the detriment of the sector as a whole), etc. The real problem, however, is to identify the *right* variables and the correct nature of their causal relationships. To take a single example, state intervention is an inadequate explanation for such spectacular successes as the motorization of canoes or the diffusion of purse seining. One must also understand the internal preconditions that enabled them.

Such knowledge also has direct, practical value. Practitioners see themselves as faced with problems of transfer and diffusion of innovation, rather than with technical problems. But their problem cannot be expressed in this way. Development as an institution constitutes an element of the reality it proposes to reform, not a force above and outside it. It can be effective only if it recognizes that:

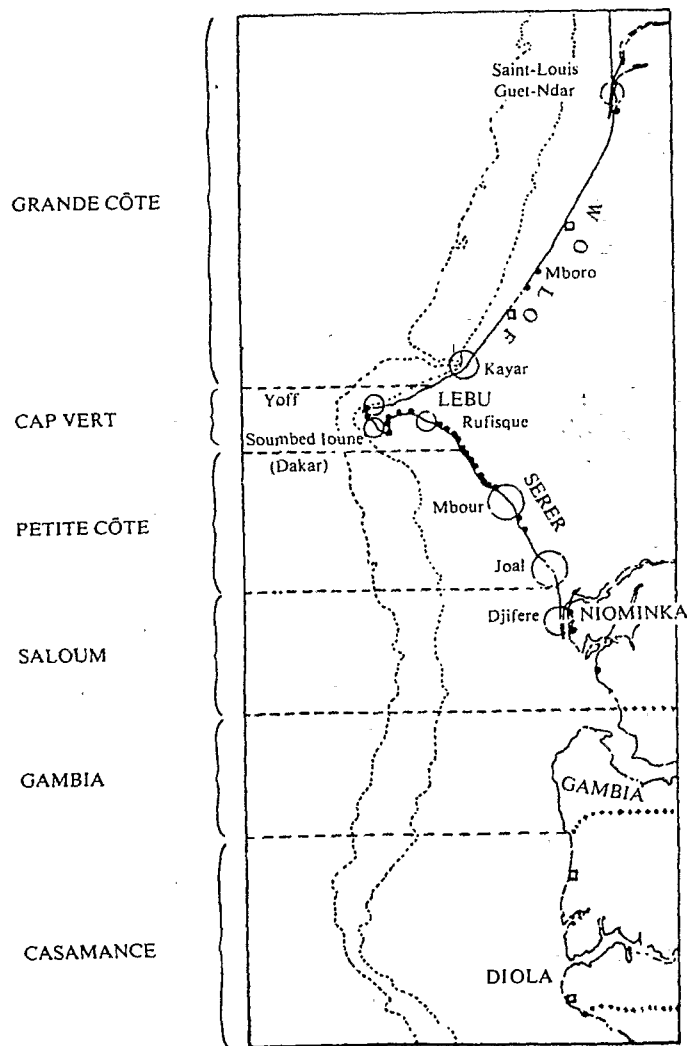
1. Local agents already have a long history of practice and relationships with the development bureaucracy.
2. Most innovations and changes can be better explained in terms of the relationship between the sector and the economy as a whole than in terms of specific programmes or policies in isolation.

A useful starting point is therefore to review the distinctive periods of this history, using the main patterns of development policies and interventions to unravel the sector's internal dynamics.

2. CANOE FISHERIES PRIOR TO 1950: MISASSESSED DEVELOPMENT

During the first years of this century, under the influence of Gruvel's works, systematic endeavours were made to develop the

Artisanal Fishing Centres along the Senegalese Coast



fishing resources of French African colonies, particularly in Senegal (Gruvel, 1908). Scientific experts and colonial administrators considered fisheries and local processing methods primitive, unproductive, stagnant and unsound. Due account was taken of the strong local demand for fish, in particular for dried fish, but the colonists

concluded that only 'European-style fisheries' would be capable of satisfying the rising markets.

Here lies the first great misassessment of the self-transforming capacity of native Senegalese fisheries. In-depth analysis of the evolution of fisheries and navigation in western Africa from the Portuguese reports of the fifteenth century through the nineteenth century show the continuous development of maritime activities along the Senegalese coastline. A succession of technical borrowings and innovations appears in the general economic history of Senegambia (Chauveau, 1983b). These transformations, which will not be elaborated here, are quite revealing of the inner dynamism of African maritime activities, and it is to be regretted that this history is so little known (Hendrix, 1983; Diaw, 1983; Chauveau, 1986).

Yet it is this very evolution of techniques, localizations and human and cultural specializations that the abrupt and negative judgement of the first colonial experts clearly ignored. The contrast is all the more striking as the attempts to develop 'European-style' fisheries on the Senegalese and Mauritanian coast failed, despite the provision of incentives of all sorts, from the Abbé Beaudou's project in 1788, through the fishing port project of Port-Étienne in 1906 and the granting of fishing bonuses in 1909 and 1911.

The First World War was the first period during which attempts at planned economy and planned fisheries development were made. The aim was to supply wartime France with food products and to supply the local population, which was deprived of European exports. Two European fisheries were established, in Lyndiane on the Saloum river and in Saint-Louis, with the explicit purpose of collecting local native catches. They were of little interest to native fishermen, who continued to use local markets and were keen to avoid dealing with administrative authorities, leading to a quick abortion of these early attempts at planning Senegalese fisheries development.

Between the wars, while the administration continued to bank on the creation of 'modern' fisheries, it was, paradoxically, in the indigenous fisheries that the main impulse for growth was to be found. The colonial administration set up a *Service Technique des Pêches*, but this took no initiatives with respect to canoe fishing on the grounds that these would be doomed to failure because of the fishermen's 'independent spirit' and archaic ways of catching, processing and distributing fish. The administration focused all its efforts on improving the preservation processes for export (in par-

ticular to the southern colonies) and, in its opinion, the sole solution was 'the setting up of a metropolitan type of fisheries, using local labour and acquainting it with the most modern preservation processes' (*Rapport annuel sur l'industrie des pêches*, 1923).

This policy failed, remaining limited to a few Breton spiny lobster-fishing boats and a few freeze-trawlers from La Rochelle. Even the European processing companies on shore did not live up to the administration's expectations. They were fundamentally artisanal and remained completely dependent upon the local fishing techniques and fishermen; their main market was local and, moreover, was short-lived.

Meanwhile, without administrative intervention, the canoe fisheries grew in response to the booming local market which arose in the wake of the groundnut cash-crop economy (while not superseding traditional exchanges of fish for inland farm products); the constitution of a semi-urban structure along the Cap-Vert and the Petite Côte coastline (the main groundnut ports were also important fishing ports); improved communications and enlarging markets (artisanal fisheries supplied the stop-off points along the railway system); and the first exports of processed fish to the south via small European companies.

Intensified labour migration related to groundnut production were paralleled by the migration of fishermen, often from the same socio-geographical groups, also migrated. The activities of the Wolof middlemen from Saint-Louis and of the Lebu from Cap-Vert were paralleled by the migrations of Guet-ndar and Lebu fishermen towards Petite Côte, Saloum and Casamance; the migrations of seasonal agricultural workers from the Senegal river region towards Kaolack were accompanied by migrations of Tiubalo fishermen towards Saloum. The fisheries expansion not only affected the populations along coastline; inshore beach-seine specialists in particular (Walo-walo and Tiubalo) helped diffuse this technique from the Cap-Vert peninsula to the Saloum estuary.

The regional differentiation of the Senegalese coastline was reinforced: Saint-Louis, whose hinterland soil had lost its fertility, gave up groundnut cultivation and asserted itself as a centre of maritime fishery and inland navigation. This region constituted a reservoir of migrant Guet-ndar and Walo-walo fishermen. The Lebu fishermen from Cap-Vert, the farmers, the boatmen, and the market gardeners were less engaged in seasonal migrations or, if they did migrate, it was along a more limited stretch of the coastline.

The markets of Dakar, Rufisque, Thiès and Koalack attracted Wolof migrants, in particular to Kayar. The Petite Côte area, whose inhabitants remained mainly farmers, was already a seasonal immigration centre, not only for the Guet-ndar and Lebu fishermen but also for the Niominka from the Saloum islands who came to fish with traditional cast nets.

In the Saloum islands fishing took place almost exclusively in the estuary, and fishermen supplied the neighbouring inshore and groundnut regions; Wolof, Lebu and Tukolor migrant fishermen seasonally joined the native Niominka (a part of the production was directed to Gambia). Maritime Casamance was weakly integrated with the groundnut economy: its Diola and Laobé woodcutters were mainly in the business of providing wood to the northern fishermen, who used it for canoes. Quite naturally, these fishermen supplied the Ziguinchor centre with fish.

The growth of fish consumption mainly affected the coastal region and, to a lesser extent, those parts of the groundnut basin served by good lines of communication. Fresh fish consumption in urban centres along the coastline, according to various estimations, absorbed 70-80 per cent of the catch. Since the end of the 1920s the rise in fish prices has reflected the sector's progressive integration into the Senegalese trade economy.

The effects of the First World War were felt from 1939 to the re-establishment of international trade in 1948. Even more systematically than during the First World War, the colonial administration intervened to ensure France an ample supply of food. Artisanal fishermen made a selective use of the measures decided by the administration (new infrastructure, bonuses, creation of cooperatives, demand of the industrial processing sector) to develop the canoe fisheries. They also initiated various practices designed to circumvent administrative policies, practices which were to reach their peak in the 1950s.

From 1941 onwards the *Service Technique des Pêches* became a true interventionist, policy-making, and research apparatus (following the French model). It encouraged cooperative organizations, set up fish-drying units, promoted the creation of a landing point in Mboro to supply the Tivaouane region, aimed at making up for the lack of fuel for the transport of vehicles, distributed subsidies for the construction of new canoes and even attempted to fix a price ceiling.

The fisheries administration favoured the concurrent establishment of European business ventures to undertake purchase and

export contracts for *salé-séché* and preserved fish. Moreover, it called upon the Breton fleet to fish near Dakar. Furthermore, shark fishing received a great impetus when a strong market developed for vitamin A obtained from shark liver. As a result, about 25 fisheries and European processing units appeared along the coast, from Saint-Louis to Sangomar, all of them small-scale units which profited from wartime contracts with the colonial administration, and none in any way industrial.

These European fisheries depended upon raw material landed by artisanal fishing units. The canoe sector was thus in a position to gain benefits from various sides. On the outlet side it could rely on several channels: the local market, European business ventures and state-cooperative marketing organizations, all potentially in competition with each other. In particular, the existence of an active local food market, served by the *julë* (Dioula, Maures, Wolof, Tukolor) traders and wholesale fishmongers, enabled the fishermen to retain a strong bargaining power vis-a-vis the European sector and the administration. For instance, the fishermen's marketing cooperative of Guet-ndar, organized by the administration in 1941, quickly failed as the fishermen were engaged in profitable supply contracts with European processing units. Even the supply of local consumption was reduced as a consequence of thriving private export contracts. In 1944 increasing numbers of small-scale private merchants, and rising prices on local fish markets, turned the fishermen away from export channels and business contracts, bankrupting the weakest European companies. The main effect of the administrative measures was just the opposite of that sought: offering occasional speculative outlets, distributing subsidies for canoe construction and popularizing the set gill net and the encircling gill net, did not ensure an adequate supply of fish for European companies, but did reinforce the dynamics of the artisanal sector to the benefit of African consumers locally and elsewhere in Africa (since dried fish could now be sold to neighbouring countries).

After the war the rise of small-scale European fisheries, wrongly called industrial, must therefore not hide the new endogenous transformations occurring within the African artisanal fishing sector. First, the local canoe fleet increased considerably side by side with the standardization of the Guet-ndar/Lebu canoe and the distribution of the shark gill net and of the encircling gill net in the Petite Côte and on the Saloum river. Second, production increased still further in places where it was already important (particularly along

the Petite Côte and Kayan, which sent fish to Cap-Vert by camel and donkey) as well as in places where it had been less important or non-existent: Mboro; the Casamance where river fishermen settled and where Guet-ndar and Lebu people exchanged fresh and processed fish for farm products which they would later partly re-sell; and the Saloum, where the Tiubalo were engaged in fishing.

The *Conférence de la Pêche Maritime* held in 1948 in Dakar reflected the paradoxical situation of the relationships between 'industrial' European fisheries and the canoe fisheries: the latter in fact dominated the maritime fisheries sector without their role being duly acknowledged. The growing competition between so-called 'industrial' business ventures and the rising local market over access to fish was not analysed as such; quite the contrary, administrative services accepted the 'failure' of their attempts to stimulate African small-scale production, a failure which they ascribed to the inability of local fisheries to answer 'the ever-increasing demands because of its primitive methods'.

This point of view, based on a distorted appreciation of the respective roles of 'traditional' and 'modern' (European) sectors was taken up again in 1949 by the new *Service Technique des Pêches*. Research financed by the administration was then exclusively focused on the habits, habitats and movements of *fish*, as though the fishermen had disappeared from the scene.

Nevertheless, in the immediate post-war period the technical departments and 'industrial' settlers (dependent upon artisanal landings) were led to defend the fishermen against the administration's economic policy, which was entirely devoted to fostering the groundnut economy: fisheries service agents and manufacturers opposed the imposition of tax controls on the fishermen, and asked that fishermen benefit from food aid during the lean season in the same way that groundnut producers did. The strategic importance of the African small-scale production thus began to be acknowledged, although it continued to be seen as impervious to 'modernization'.

3. THE 1950s: DEVELOPMENT THROUGH THE DIVERSION OF STATE INTERVENTIONS

The return to international competition after 1948 proved fatal to European companies and fisheries located in Senegal. To stop the decline arising from competition at both the local and international

levels, the administration, supported by local manufacturers, tried to guarantee regular and cheap supplies of raw fish. Following the 1948 *Conférence de Dakar* the idea arose that production and productivity in the small-scale fisheries ought to be increased to enable this sector to supply both the local market and the European companies.

Canoe motorization appeared to be the ideal solution. It was also assumed to lead naturally to a later adoption of 'modernized' (European-type) vessels and to facilitate the organization of fishermen's cooperatives under the control of colonial administration and fisheries service technicians. Another advantage of canoe motorization was that it allowed the cheap popularization of motorization techniques with the fishermen bearing the financing burden of a project meant, before anything else, to insure the activities of the European units. Finally, giving the Guet-ndar fishermen priority access to motors was meant to re-stimulate fishing activities in the region of Saint-Louis, which was becoming more and more marginalized to the profit of the economic metropole of Dakar and, at the same time, to develop fisheries in Kayar, the Guet-ndar fishermen's migration point and main supply port of the Cap-Vert area.

Initiative for the canoe motorization drive rested with grassroot technicians, in particular J. Arnoux in Saint-Louis, who, from 1951 onwards, tread a cautious path by interacting with the fishermen and taking due notice of their practical remarks and suggestions. Repair and maintenance were assured by the commercial sector and the motors were partly subsidized (20 per cent by the state). The loans to the fishermen were on a personal basis but they had to pass through the *Mutuelle des Pêcheurs Motorisés*. By 1958 some 400 canoes (about 14 per cent of the seagoing fleet) were motorized. The only problem was financial: repayments were not forthcoming as fishermen coped with frequent breakdowns. According to the state the fishermen were not supposed to be acquainted with the refinements of interest-bearing loans and legal contracts. J. Arnoux, alert to field realities, noted that the fisherman, not used to being an object of concern, interpreted the equipment facilities as 'an assistance and a kind of contribution to some prestige action'. There was no question of the fishermen being averse to technical change or innovation. Rather, their behaviour reflected a particular perception of the mode of state intervention in their life. The further vicissitudes of the cooperatives were to bear this out later.

As planned, therefore, motorization had an impressive growth-

inducing effect on small-scale fisheries. However, instead of fixing the fishermen in definite locations and ensuring the European processing sector a regular and ample supply of raw fish, it fostered fishermen's migrations towards main fish-trading centres. Moreover, motorization allowed exploitation of new fishing grounds further afield, and in the Petite Côte it increased the effectiveness and spread the use of the encircling gill net. The production increases thus obtained were recycled through 'traditional', African trade circuits, quite effectively catering to local needs. The fish trade was very well organized, even according to the report of the fisheries service in 1955: 'Purchase on the beach, transfer, resale, retail and display are organized in a remarkably economical way. Loans and advances in kind, post-sale payments, advantages and favours for former fishermen all ensure that the profession is well defended, so much so that it has hit the fish-processing industry badly.' And the report concluded: 'Industrial fisheries and African fisheries have always been opposed, on the grounds that the former would kill the latter; but it is the opposite that has actually occurred.'

Besides the *Mutuelle Sénégalaise des Pêcheurs Motorisés*, which was a simple grouping of fishermen created in 1952 to buy outboard motors on credit, common-law cooperatives have emerged under the impulse of administrative and political measures adopted since 1948 as part of the Senegalese government's post-war political strategy. The activities of the cooperatives were, however, limited and their main effect was to create strong clientele relations.

Thus we must look for the cause of the dynamic growth of artisanal fisheries during recent decades not within the administrative framework but in the processes that have diverted state measures. Although canoe motorization was promoted by the fisheries service it was rooted in an essentially commercial organization and received little subsidy. Besides, motorization cannot account for the whole of the growth of small-scale marine fishery; this is *a fortiori* so in the Saloum estuaries and above all in Casamance, where motorization is not needed. In reality, the expansion of local food markets continued to be the engine of growth of the small-scale fishing sector. Fish retail prices moved in accordance with prices paid to the groundnut producers, whose economic condition determined trade transactions throughout the country. Producer prices for fish rose less quickly: they rather aligned themselves with the urban wages and the overall prices of food products; and while at the end of the

1950s increased catches slowed the rise of consumer fish prices, this was only a slowdown, because market demand remained strong.

Problems of marketing and prices worried the colonial administration. A marketing cooperative organization was set up by the administration in 1952 (Coopmer). But the wholesale fishmongers' organization could offer fishermen high prices for their fish, and private small-scale retailers could still sell the product to consumers at prices as low as those offered by Coopmer. Coopmer, unable to compete, disbanded in 1954.

Thus, while state interventions (e.g. motorization and cooperatives for distribution of fishing equipment) can be diverted by the fishermen, they are accepted selectively, with some interventions (e.g. the state marketing cooperative) being rejected or foiled.

4. THE 1960s AND THE 1970s: YEARS OF ROOTLESS DEVELOPMENT

After the setting up of the so-called regime of internal autonomy (1958) and after independence (1960), public authorities followed a paradoxical policy. Despite their very critical evaluation of colonial policy and its failures, those in power and their experts could not help but propose similar types of policies (industrialization, modernization of small-scale vessels, marketing controls, fishermen's cooperatives for motorization) leading to the same mixed results. Noteworthy, however, are some important technical innovations (notably the introduction of the purse seine).

The initial criticism of colonial policies by the new decision-makers mainly focused on the *économie de traite* aspect of industrial fisheries. It was stressed that fisheries in general, and small-scale fisheries in particular, had not been sufficiently supported from above. Yet it was quickly apparent that the main policy aim of the government lay in the development of industrial fisheries. The tuna fishery sector which began to develop in the late 1950s (and considered a typical enclave of foreign interests) was to be the core of this national sector. Hence the experiment with the *Société Sénégalaise d'Armement à la Pêche* (SOSAP), which was set up in 1962 and abolished in 1976, leaving behind a catastrophic financial situation after having absorbed a preponderant part of the public finance allocated to support fisheries (Domingo, 1982).

To the failure of the tuna fishery policy were added disappoint-

ments with the trawler and coastal pelagic industrial fisheries projects. The development of trawler fisheries was judged harmful because, among other reasons, it competed with the artisanal fisheries on the local market and in the inshore waters. Coastal pelagic fishing had been seen as the natural prolongation of small-scale fisheries, and as an opportunity to familiarize artisanal fishermen with modern equipment with a long-term perspective towards the gradual replacement of traditional canoes by sophisticated industrial vessels.

This voluntary policy failed to pay off. Notwithstanding the deep mistrust and suspicion in official quarters, trawlers were quite successful because of overfishing in the North Atlantic and the increase in French demand for frozen fish and crustacea. In this speculative context (as during the Second World War when speculation was fuelled by strong French demand), the industrial units relied on the cheap landings from the small-scale sector under conditions which remind one of the so-discredited *économie de traite*.

The project to modernize artisanal fisheries succeeded no better. The projects of artisanal ropemakers, *côtiers* and sardine boats followed upon each other without gaining the fishermen's support. The reason invoked to explain this failure was the inexperience of the managers and crew (even though the latter were recruited from among the fishermen milieu). Perhaps the genuine reason was the difficulty of competing with the highly efficient technique of canoe fishing (even in the case of sardine boats that land their catches locally). This possibility is all the more obvious in the case of industrial vessels, since they were heavily subsidized.

The failure of this policy contrasts with the endogenous development of the artisanal sector, for which the administration has taken credit. It is evident, however, that the lion's share of state financial support for fisheries was geared to the development of the industrial sector. Public action in small-scale fisheries centred upon the provision of modern equipment inputs and the establishment of national marketing structures. Because of the importance of fish in the main urban centres, the latter issue was a real obsession of the relevant authorities.

The distribution of outboard motors and fishing gear was, and still is, effected through a cooperative structure, the organization of which has varied over time without, however, solving the problems inherent in all top-to-bottom approaches to cooperation. The authorities preferred to ascribe the difficulties encountered in

getting the loans repaid to the inadequacy of the fishermen's mentality (even though credit is a common practice among the fishermen's communities). As in the 1950s, the more likely explanation is that the cooperative structure was perceived by the intended beneficiaries as an alien and obligatory partner, subject to many deficiencies (discontinuities in services provided, embezzlement of loan repayments, political clientelism, etc.) and susceptible as well to manipulation by the fishermen themselves. In 1971 the latter actually managed to have all their debts written off, without doubt the most important subsidy which artisanal fishermen have yet obtained, although in a quite unexpected form. The reorganization of the fishing cooperatives by the *Centre d'Assistance pour la Motorisation des Pirogues* (CAMP) since 1972 has resulted in a sounder financial situation for the cooperatives. Nevertheless, it is wrong to view it as the instrument of the 'motorization revival'. Indeed, the fishermen have long been convinced of the advantages of motorization; the main contribution of CAMP has rather been its capacity to attract foreign assistance and to channel it to the fishermen in the form of new imported motors, fishing gear and spare parts.

The diffusion of the purse seine from 1973 onwards followed the same pattern as that of motorization. After a demonstration carried under the sponsorship of FAO, and considered conclusive by the fishermen, the technique of purse seining spread quickly (120 sets of gear in 1977, 260 in 1981) and the required adaptations were made in the canoe-making technique. The resulting increase in production was absorbed by the artisanal processing sector and the fishmeal processing factories (essentially that of Djifère from 1977 to 1982). The quick diffusion of this technique shows the inner capacity of the small-scale fishing sector to develop and to modernize, as well as its ambiguous relationships with industry. Indeed, in the wake of this process of technical change, non-fishermen owners entered the artisanal sector (wholesale fishmongers, civil servants, etc.) relying on wage labour recruited from other areas (Fréon and Weber, 1981; Fontana and Weber, 1983) speculating in the context of industrial supply. But when the unprofitable factory of Djifère closed down, in 1982, its purse seines were sold off at bargain prices to fishermen in Cap-Vert, whose production is essentially geared to the needs of the local market.

Interventions in the field of marketing are just a repetition of an old, well-known story. First, the post-independence regulation of the

small-scale fishing trade did not improve access to fish for populations in the hinterland, as was initially expected. Instead, it encouraged the concentration of the profession and a stronger dependence of the fishermen and, in certain zones, of the fish-processing women, upon the big wholesale fishmongers. In other words it produced results that were just the opposite of those intended. Afterwards, the attempt to set up a sale cooperative (Dakar-Marée) repeated the sad experience of Coopmer in 1954. It folded, unable to counter the competition from private fishmongers. Finally, barely ten years later, a fish marketing project embarked upon by the *Unions de Coopératives de Pêcheurs* (a Canadian-financed CAPAS project) was thwarted by the same difficulties that led its predecessors to bankruptcy.

5. ARTISANAL FISHERIES SINCE 1980: THE STATE'S PROGRESSIVE RETREAT AND THE LIMITS OF ENDOGENOUS DEVELOPMENT

The contemporary condition of artisanal fisheries may be characterized by the following contradiction. The public authorities acknowledge rightly the strategic place of the small-scale fishing sector, and have tried to put substantial means at its disposal. But the failures of operations in progress, and the government's pursuit of a policy of austerity imposed by its external creditors, soon forced it to disengage financially from development interventions. Yet, at the same time, the artisanal sector approached the limits of its own self-financing capacity and of the optimum exploitation of the fish stocks accessible to it. Only minor endogenous innovations still ensure the growth of small-scale fisheries, and the fishermen's income is at risk. Thus, precisely at the moment of need, the state confined its interventions to localized and uncoordinated operations.

Ironically, the early 1980s had been auspicious for small-scale fisheries. The new *Secrétariat d'État aux Pêches Maritimes* conceived a *Plan d'Action des Pêches*, taking due account of current research results showing the dynamism of the artisanal sector and the stagnating efforts to modernize the industrial fleet. Funding agents shared this diagnosis because they have become extremely suspicious of large projects.

The construction of all-weather roads has been, as during the

former period, an essential factor of development (Van Chi-Bonnardel, 1980); but, as always, it is the endogenous dynamics of the artisanal sector that constitute the engine of this development. First, wholesale fishmongers (of whom an estimated one-third have been duly registered and behave according to the 1973 rules of the professional organization) control the fishing trade by assuring a very flexible distribution system and taking only narrow profit margins due to intense competition typical of a free entry sector (Chaboud, 1983; cf. Guimarães, this volume). Second, there has been a remarkable rise in the artisanal processing sector, which employs external wage labour (Durand and Conway, 1983). Third, there has been a diffusion of new technical innovations such as enlarging the size of the canoes to increase their storage capacity and equipping them with iceboxes to allow longer fishing trips, with the result that semi-industrial vessels have become a less attractive option (Kebe, 1982). Fourth, on-the-spot training of mechanics has created a network of services for migrant fishermen all along the coast.

Official acknowledgement of the artisanal fishing sector's dynamism has allowed it to benefit from a third of the public finance provided for fisheries. Yet, progressively, this acknowledgement has been accompanied by reports of the failure of the main artisanal development projects initiated before 1980.

The main agent of these projects is the *Centre d'Assistance à la Pêche Artisanale du Sénégal* (CAPAS). Its first intervention was designed to set up new marketing cooperatives equipped with cold-storage facilities to distribute fresh fish throughout the country. Much more ambitious than the similar projects of Coopmer in 1952 and of Dakar-Mare in 1965, the CAPAS cold stores still could not hope to process more than 10 per cent of the artisanal production. As a consequence they could not really pretend to be able to 'bring morality' to the private fish trade sector by increasing the bargaining power of the fishermen vis-a-vis the middlemen. As a matter of fact, the deficiencies of this sector have often been overestimated by the official agents of development (Chaboud, 1983). CAPAS's project to increase the supply of fish to the hinterland also turned out to be non-viable: its three cold stores, in Kayar, Joal and Rufisque (five were initially forecast), were expensive to maintain and their turn-over marginal.

The CAPAS marketing project was stopped in 1987. I would argue that its infrastructure should be given to the private sector

after a period of joint management with the *Union de Coopératives de Pêcheurs*. The same could be done with the cold-storage factory in Djifère, which when reopened for a few years met with the same difficulties as before. CAPAS was unable to overcome the problems of previous marketing organization schemes: difficulty in ensuring the participation of fishermen, interference of local sociopolitical forces, and the relatively less attractive terms offered to the fishermen compared to those of the conventional petty fish trade.

In addition to their unsuccessful marketing projects, CAPAS took over the activities of the former CAMP, providing and repairing outboard motors through a pseudo-cooperative framework. The cumulative effect was increased stress, internal conflict and dysfunctioning in the CAPAS machinery. Cash-flow problems resulting from mismanagement caused severe disruptions in the supply of outboard motors and spare parts (1983-6). The fishermen were so deeply affected by this that they turned to private dealers, and when CAPAS had almost completely withdrawn, CAMP's activities could be resumed only with important financial assistance from Japan. Its quasi-monopoly over canoe motorization was then gradually eroded by the more decentralized organization of development interventions: such projects as Pamez in Casamance, Papec in the Petite Côte, or Missirah in Saloum, are all aimed at transferring the responsibility of motorization and dealing in spare parts and equipment to the local *Groupements d'Intérêt Economique* which have replaced the old so-called cooperatives.

The project to modernize artisanal fisheries is an idea that unceasingly rises from its ashes despite repeated failures. Here again, it is only recently that public decision makers have drawn lessons from these numerous failures and dropped some of the projects initiated at the end of the 1970s, like, for instance, the building of 'secondary ports' in Saint-Louis, Djifère, Elinkine and Nikine. The original objective was to relieve Dakar's fishing port and to introduce 'modern' artisanal fishing in the other regions. In Saint-Louis the idea was to force the artisanal fishermen to use the facilities for landing their catches, on the grounds that this would help develop the activities of small trawlers, ropemakers and artisanal purse seiners. The situation was misdiagnosed by public decision makers who did not care to ask for the opinions of experts and fishermen; the projects failed and finally the entire programme of secondary ports was abandoned.

Numerous attempts have been made to replace traditional canoes

by new types of small vessels, or by plastic or fibreglass canoes. While results were not always encouraging, the main obstacle does not seem to be the alleged technological unadaptability of the fishermen themselves: Senegalese carpenters have been able to construct European-style boats (cutters or schooners) since at least the nineteenth century. The network of repair workshops set up by private initiative in the wake of canoe motorization was well adapted to local constraints. In fact, artisanal canoe-making techniques permit numerous adjustments to accommodate new gear (as in the case of the purse seine) and new fishing patterns (as when iceboxes were fitted to the canoes to allow longer fishing trips). This unexhausted potential for innovation inherent in artisanal construction techniques is a crucial factor ensuring, in the eyes of the fishermen, the competitive edge of the ill-named 'traditional' canoes over the far more costly 'modern' vessels.

Despite their failures, most of the planned development projects have had unforeseen positive effects, due in large part to the fishermen's adaptability and creative genius. For instance, disruptions in the supply of gear and spare parts have prompted the fishermen to circumvent the difficulty in several ways: by bringing in supplies from neighbouring countries (Mauritania, Gambia and to a lesser extent Guinea Bissau) or by working in concert with the fish 'collecting boats' navigating outside Senegalese waters (Mauritania, Sierra Leone). In the latter case the system works through trawlers based in Las Palmas, which recruit canoe teams in Saint-Louis and Joal and transport them to the fishing grounds. Another example of spontaneous innovation is the adoption and diffusion of iceboxes fitted to canoes, adapted from the iceboxes tested by the fisheries service in 1977.

However, the innovational capacity of the artisanal fisheries seems to be weakening. The above examples suggest that it is approaching the limits of expansion based upon a growing national market. The crisis of Senegalese agriculture could well destroy the hopes placed upon a growing internal market. Fishermen are keenly aware of these difficulties: the diffusion of the purse seine has stabilized after causing deep concern about the state of the coastal pelagic species stock; the increase in equipment costs is no longer matched by productivity increases resulting from more efficient gear. The tendency is now for the investment costs in the artisanal fishing sector to rise faster than fish wholesale prices. First, the timber required for the making of the canoes has to be secured in

more and more distant places (while in the middle of the nineteenth century the Petite Côte forest still supplied 'prodigious kapok trees' suitable for canoes, by the end of the nineteenth century big trunks were brought in from Casamance; later they had to be imported, e.g. from Guinea Bissau and the Ivory Coast. Second, the relative price of nylon nets (which are becoming larger and larger), of outboard motors (often with useful lives of less than two years) and of spare parts increases. The owners tend to distribute the increase of the equipment costs on the crew's share and on the share traditionally redistributed among the communities of fishermen (see for instance Diaw, 1985 for Casamance and Sène, 1985 for Saint-Louis). Yet, despite this recent decrease of crew incomes within the artisanal fishing sector, fishermen's incomes remain much higher than those earned by the Senegalese peasants. Hence the growing attraction exerted by the fishing sector, particularly for the Serer groundnut cultivators from the Petite Côte and on the Diola rice-growers from Basse-Casamance (Diaw, 1985; Cormier, 1985). Only market gardening seems to be able to withstand competition from fisheries and, interestingly, in the big fishing centre of Kayar, these activities are often combined.

To counter this slowdown in the growth of the artisanal fishing sector the government is presently trying to develop fishing in the southern coastal zone, where catches have rapidly increased recently (Mbour, Joal), and in areas where untapped fishery resources exist and fishing activities have not yet been developed (Casamance). Public authorities seem determined to draw lessons from the experience of their past interventions (in particular from CAPAS) by relying directly on the initiative of the people concerned (fishermen, fishmongers, local artisanal processors). A new boost to motorization is expected from the introduction of diesel inboard motors. Yet the way this project is implemented is hardly comforting: the government again appears more concerned with meeting predetermined norms or planner's expectations, at whatever cost, than with fulfilling the genuine self-assessed needs of the fishermen. The cause of the success of the first motorization drive (in which incentives played a big role) seems to have been forgotten.

6. CONCLUSION

There is nothing less informal or less traditional than the process that has given the canoe fisheries of Senegal their present shape. The

artisanal sector has gradually built itself, autonomously, first by benefiting from the enormous inland market, later by elaborating its own strategies vis-a-vis external initiatives and interventions.

Regarding the need to integrate the internal dynamics of small-scale fisheries into a national development strategy, it is important to emphasize that the problem is not so much to 'rehabilitate' the former sector as to avoid undermining its strengths; namely, relatively little technological dependence; a comparatively high value-added (compared with industrial fisheries); sociocultural integration for a large number of petty producers, processors and traders; and a decentralized mode of operation. It is therefore not surprising that the artisanal fishing sector usually succeeded in absorbing in its own way various types of external 'development' interventions with a view to better adapting itself to the needs of a growing local and international market for fish. In 1981 an estimated 46 per cent of the volume of exported fish originated in canoe fisheries (Dème, 1983). With the industrialization of fisheries in a deadlock and the groundnut economy (which has been the country's major foreign exchange earner) in deep crisis, the question clearly arises as to how this trend can be encouraged.

But to promote fisheries, and in particular artisanal fisheries, as a kind of lifebuoy for the whole Senegalese economy is not without danger. On one hand its endogenous dynamics, only recently acknowledged by the public authorities, requires a growing local market for fish, as insurance against the risk of specializing for the export market. The success of canoe fisheries in meeting contemporary challenges is inseparable from the global transformation of Senegalese society and its economy. Can fisheries now become a growth pole? This is not certain.

On the other hand, one may wonder whether the structuring interventions of both the state and the funding agencies will inadvertently introduce rigidities in the small-scale fishing sector as soon as the latter is viewed as a key element of national policy. The possibility remains that, as in the past, planners' objectives and initiatives will be transformed through the sector's internal dynamics. This should not be a cause of worry in so far as the central goal of any development action is to be appropriated by those for whom it is meant.

It remains to be seen to what extent development agencies both in Senegal and abroad are ready to accept this lesson from history, and

to play a role in supporting artisanal fisheries that would not just be a pretext for reproducing the intervention machinery or the development establishment.

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