

Tradition and change in the brazilian small-scale fisheries : a preliminary synthesis

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TRADITION ET CHANGEMENT DANS LA PÊCHE ARTISANALE AU BRÉSIL : UNE SYNTHÈSE PRÉLIMINAIRE

RÉSUMÉ

La pêche artisanale contribue pour la moitié des prises de poissons au Brésil. Cependant, en dépit de son importance, elle n'a pas bénéficié des mêmes crédits et services que ceux accordés à la pêche industrielle par le Programme de Développement de la Pêche lancé en 1967. Les bateaux financés par la pêche capitaliste moderne ont rapidement épuisé les stocks de poissons et crevettes destinés à l'exportation et ont envahi les espaces côtiers traditionnellement utilisés par les communautés de pêcheurs artisanaux, en créant des graves conflits. En même temps, ces communautés souffrent des impacts de la pollution produite par une urbanisation chaotique et par l'implantation de centres industriels importants dans des estuaires et lagunes côtières. Cette étude analyse les rapports entre la pêche industrielle et artisanale au Brésil, en mettant en évidence les conflits et les articulations entre ces deux formes d'organisation de la production. Elle fait aussi un bilan préliminaire des études sur la pêche artisanale au Brésil.

1. INTRODUCTION

Though there is a lack of technical and financial support from the government, small-scale fisheries are able to provide about 50 % of the total fish catch in Brazil. In 1967, as a policy of fiscal incentives for the industrial fishery was started, small-scale fisheries contributed with more than 80 % of the catch. In the period of 1967 to 1973, more than 110 million US dollars were destined for building up an industrialized fishery sector through fiscal incentives.

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In the same period, less than 10 millions US dollars were used to assist small-scale fisheries and probably less than 50 % of that amount reached the artisanal fisheries. Most of the funds were used to create and support a heavy and inefficient state bureaucracy (SUDEPE - Brazilian Agency for Fishery Development and PESCART - Programme for Artisanal Fishery).

Fishing companies created by fiscal incentives strongly invested in the infrastructure needed on land (landing and processing facilities) as well as in modern boats for the export of first class fish species (shrimp, lobster, catfish and tuna). The results of this strategy were not encouraging. Most of those subsidized fishing companies broke down after a short period of operation. The firms which survived had already had some tradition in the fishery sector before 1967. One of the main reasons for this disaster was the lack of biological research in order to determine the existing fish resources. Production forecastings were based on wrong estimates and inadequate data basis. The original objective had been to reach some 2 million tons of fish within 10 years, starting with 400 000 tons in 1967. Now, twenty years later, fish catches in Brazil are still below 700 000 tons of marine fish. It is also important to say that part of this increase in production is due to nowadays statistic facilities (DIEGUES, 1983).

The impact of «modern fishing» on the Brazilian fish resources was devastating. In order to pay back low interest loans to comply with export contracts, the subsidized firms concentrated their activities only on some fish species. In a few years, shrimp stocks on the southern coast were overexploited and industrial companies moved from that area to the North, particularly to the Amazon delta. Using the same highly predatory fishing gears, these firms, specially those based in Belém, are quickly destroying the important estuarine and marine fauna of the Amazon (PENNER, 1984 ; FIUZA DE MELLO, 1985)

The above described development strategy started numerous conflicts between the small-scale and the industrial fishery sectors. First of all, there was a conflict of space. In order to get quick profit from shrimp, lobster and catfish export, large boats from the industrial sector invaded areas which traditionally were exploited by artisanal fishermen. Fixed nets used by these fishermen close to the shore, where only small-scale fishermen were supposed to operate, were wiped out by large trawlers. In the Brazilian northeast these practices led to casualties among fishermen. In the Amazon, where almost all protein consumption is based on fish, industrial fishing invaded lakes and small rivers («igarapés» and «igapós»), destroying important reproduction habitats of the main fish species (LOUREIRO, 1985). Consequently, artisanal fishermen communities got poorer.

As industrial fishing becomes less profitable, fishery firms buy the fish catch from artisanal fishermen. Insulated trucks are sent to buy fish from small-scale fishermen and purchasing facilities are established in these communities to buy fish at a low price. Many artisanal fishermen, who used to have a sound ecological relationship with their environment, are also overexploiting it.

2. THREATS OVER SMALL-SCALE FISHERY COMMUNITIES

Along the 8 000 km of the Brazilian coast, there live about 500 000 part-time and full-time small-scale fishermen. Including those fishermen living along rivers and lakes, this number may reach some 600 000. These fishermen use a great diversity of habitats, ecosystems and fishing techniques.

In the northern region (Amazon) there live about 21 % of all the Brazilian small-scale fishermen. They are organized in 54 «guilds» (organizations created by the Navy at the beginning of the century) and they use some 10 000 boats, many of them being of indian origin. They exploit a variety of rich ecosystems, especially the estuaries with extensive mangrove of the Amazon and Tocantins rivers, the lakes of the «várzeas», known as nurseries for several fish species, the «furos» and the «igarapés» (small rivers). In 1983, these fishermen were responsible for 88 % of the northern fish catch, the remaining 12 % coming from the industrial fishery. The small-scale fishermen are tied up to

local merchants through the «aviamento» system, which allows middlemen to provide fishermen with fishing equipment, food and ice, while the fish production is sold to them at low prices. The main problems faced by small-scale fishermen in the Amazon are the lack of infrastructure for landing and storing their production, the total dependency on the middlemen and the conflicts aroused through the industrial fishery. The pollution through the mercury used in gold mining also brings a real threat to several rivers of that region. Another recent threat is the industrial pollution caused by the establishment of mineral processing industries, particularly aluminium in São Luís do Maranhão and Belém do Pará. Given the lack of surveillance, these highly polluting industries, mainly multinational, are degrading the environment, displacing thousands of fishermen from the beaches and reducing their income.

The northeastern region (from Maranhão to Bahia) has about 40 % of all Brazilian small-scale fishermen. They are responsible for 86 % of the regional fish catches. There, the coastal ecosystems are totally different from those existing in the northern region. Although mangrove areas can be found, sand beaches, rocky coasts and coral reefs are the main habitats used for fishing by the artisanal fishermen. Because of the rocky bottom of the narrow coastal shelf, trawling is not used. Therefore the industrial fishery is not so menacing to the artisanal fishermen, although it controls the important lobster fishery. The most important boat in the region is the raft, or «jangada», that does not require any special landing pier. Fish resources are limited in that area and most of the species have a high market value.

Over 270 000 part-time and full-time fishermen live in the 9 northeastern states, organized in 157 guilds. There also, in addition to the dependency on the merchants, small-scale fishermen are suffering from the intensive and rapid destruction of important habitats such as estuaries, mangroves and coral reefs, through industrial pollution. Since the 70s, several petrochemical industry centers have been established in the region, particularly in Bahia (Aratu), Pernambuco (Suape) and Sergipe (Aracajú). Other important fish habitats, such as the lagoon of Mundaú-Manguaba (in Alagoas) are being affected through the sugarcane sewage resulting from the alcohol production.

In the south and southeastern region (from Espírito Santo to Rio Grande do Sul), there are about 170 000 part-time small-scale fishermen, organized in 88 guilds. There, the coastal shelf is large and trawling is possible. This area is rich in pelagic species, particularly sardines, mullets and shrimps. This is the only Brazilian region where small-scale fishermen are decreasing although they still represent 40 % of the regional artisanal fishermen. In contrast to the other two regions, here the industrial fishing is more important as far as production is concerned, as it is responsible for over 70 % of the fish landing.

The main constraints faced by small-scale fishermen of this region are the conflicts with industrial fisheries, the destruction of trashfish and juveniles through trawling and the pollution of habitats, particularly the previously rich estuarine areas such as Guanabara Bay in Rio de Janeiro, Cubatão in São Paulo and «Lagoa dos Patos» in Rio Grande do Sul. Artisanal fishing communities are suffering the invasion of urbanization schemes into important mangrove areas and the consequential tourism and land speculation.

In summary, the communities of artisanal fishermen have been undergoing important changes in the last 40 years. Most of these changes are related to the fishermen's integration in the capitalist market economy. Since the 30's, when urbanization and industrialization started in Brazil, many subsistence oriented fishing communities started to fish mainly for the incipient urban market. Some of them, closer to market centers, gradually abandoned agriculture and devoted most of their time and work to fishing. After the Second World War, cotton fishing nets were replaced by nets made of nylon and sails and oars were replaced by outboard engines, particularly in the south and southeastern regions (MOURÃO, 1971). More important than this, specialized fish merchants appeared, providing small-scale fishermen with loans, nylon nets and engines. These merchants replaced agricultural products' traders and introduced several technological innovations, provided they were able to control the process of change (FORMAN, 1970).

The establishment of fishery industries through subsidies has had a great impact on artisanal fisheries. After a first phase of hard competition for space and fishing gears, small-scale fisheries are now interconnected to industrial/

capitalist fisheries through the selling of products and provision of labour. In fact, when industrial fisheries started in the sixties, there was a lack of experienced fishermen, particularly captains. Many captains came directly from the artisanal fishing (DIEGUES, 1983).

The main changes in the petty mode of production are coming from the advance of urbanization and industrialization. Whole communities of fishermen are being displaced by land speculation and purchases with touristic and urbanization purposes, particularly on the south and southeastern coast. At the same time, in the last twenty years, many oil industry centers have been located in large and important estuaries such as Maranhão Gulf, Todos os Santos Bay, Cubatão, Lagoa dos Patos etc. Pollution from urban centers and from industries became the single most important factor affecting the survival of many small-scale fishing communities.

3. THE GOVERNMENT RESPONSE TO THE CRISIS IN COASTAL COMMUNITIES

In the seventies, the Government established the assistance programme for the artisanal fishing sector called PESCART. Following the «modernization» strategy for the whole fishing sector under the military regime, it was based on the need for also «modernizing» the artisanal sector. The strategy of PESCART was to bring technological innovation, concentration of financial resources on better-off small-scale fishermen, elimination of paternalistic behaviour and interrelationship between artisanal and industrial fishing. The only objective achieved was the last one and this done in benefit of the capitalist sector. Using funds from IDB, SUDEPE was able to build up some few fishing harbours and storage facilities intended be operated by fishermen cooperatives. As these never got off the ground, these facilities were lent to private investors at subsidized prices. This process only reinforced the power of traders and fishery enterprises over the powerless fishermen.

In general, the technological modernization was a failure because in most cases the constraint to improve living conditions of small-scale fishermen was not set on their production's improvement but on the commercialization process which doesn't bring them much benefit because they only get very low prices for their product. Two schools for fishery engineering were created in the northeast and the technicians formed there assumed that the technology used by small-scale fishermen was backward and inefficient. Most of the so-called «technological innovations» introduced in the communities were unnecessary and costly, benefiting mainly the fish traders.

Given the low level of positive response to externally induced innovations, small-scale fishermen were considered «conservative», «lazy» etc. However, there are numerous examples of acceptance of innovations in the labour process. In these cases, the costs were within the financial means of the fishermen and the level of risk was acceptable to them (FORMAN, 1970 ; MOURÃO, 1971 ; SALES, 1986). Small inboard engines and nylon nets were gradually introduced in the fishermen communities, almost always without assistance from PESCART. Floating trap nets and «gerival» (small shrimp net operated by a single fisherman) are examples of innovations spread over fishermen communities at São Paulo's coast because they responded to actual needs.

4. THE SMALL-SCALE FISHERMEN RESPONSE TO THE CRISIS

The «guild system» established by the Brazilian Navy in the twenties has strongly contributed for the political control exercised by non-fishermen over coastal communities. Many fish dealers became the chiefs of those guilds («Colônias de Pescadores»). The extension of the Brazilian coast and the isolation of these communities also prevented them from creating social movements in defense of their interests. However, in the last years of the military regime, grass-root movements promoted by the Catholic Church and some small active political parties started

organizing the fishermen in order to regain control over the guilds and their national representation (SILVA, 1988). In order to contribute to the new Constitution, small-scale fishermen started a national movement that had a couple of national meetings (1984-1988). In this process, many guilds of provincial level were regained by the artisanal fishermen who promoted active movements against industrial pollution as occurred in Recife, in 1982. This grass-root movement has got support from several NGOs and became an important factor in raising the awareness of artisanal fishermen. The reaction of local oligarchies is strong and conflicts appeared in many parts of the Brazilian coast.

5. RESEARCH ON SMALL-SCALE FISHERIES

Biological research for stock assessment or for fisheries management has been made on a single species basis, imitating what exists in the temperate region. Now it is clear that a new approach has to be implemented in order to make fish stock assessment in tropical areas (PAULY and MINES, 1982). SUDEPE has created some monitoring groups that work also on a single species basis (shrimp, lobster, catfish, mullets) according to the interest of the industrial fisheries. CIRM (Interministerial Commission for Marine Resources), after the recommendation for an interdisciplinary evaluation team (DIEGUES, 1986) started some few research projects in Maxaranguape - Rio Grande do Norte, based on the ecosystem and following an interdisciplinary approach. Until recently, social sciences have been out of the interdisciplinary team. The Programme on Research and Management of Wetlands in Brazil (IUCN/Ford Foundation and São Paulo University) has started some research projects in small-scale fishermen communities, integrating biological and social sciences. In april 1989, the Programme organized the Third National Seminar on Social Sciences and the Marine Ecosystems, with the participation of 160 researchers from all Universities along the coast. The subject of the meeting was «Artisanal Fisheries - Tradition and Modernization» and intended to analyse the process of change which the Brazilian coastal communities are undergoing. A variety of sciences were represented through marine ecologists, biologists, linguists, architects etc.

The socio-economic and cultural research on small-scale fishery has started to have some importance in the 40s with few publications of geographers and anthropologists (PIERSON, 1947 ; MUSSOLINI, 1945, 1946 ; FRANÇA, 1954). These monographies had community study approaches describing very little about the relationship of fishermen with the surrounding regional society. After the sixties, research was done trying to analyse the processes of change in the fishermen communities (MOURÃO, 1971 ; FORMAN, 1970 ; KOTTAK, 1966). In these studies technological and market changes were stressed although FORMAN has analysed these changes from a political power perspective. In the seventies, the contractions between the petty mode of production and the capitalist/entrepreneurial fishing became more visible and some studies analysed this relationship on a national basis. PENNER (1984), FIUZA (1985) and LOUREIRO (1985), analysed the same process in the Amazonian region.

Some anthropological studies analyse the on-going changes through traditions, values and myths existing in coastal communities (CORDELL, 1984 ; MALDONADO, 1986 ; FURTADO, 1987 ; DUARTE, 1978 ; CUNHA, 1987 ; SILVA, 1988). There have been researches in the fields of linguistics (VIANA DA SILVA, 1989 ; BRANDÃO, 1989), music (SETTI, 1986), and cultural ecology (BEGOSI, 1988).

It may be said that at present there is a growing interest among the social scientists in small-scale fishermen communities and there is a beginning of cooperation between researchers of the natural and the social sciences.

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