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MEXICO'S MARGINAL INSHORE PACIFIC FISHING COOPERATIVES

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Following their establishment by the central government in 1933, Mexico's inshore Pacific fishing cooperatives enjoyed great prosperity. Today, however, they are marginal entities, and many are failing. The inshore cooperatives of south Sinaloa state are examined as a case in point. Their decline was brought about by a multiplicity of factors-corruption, counter-productive technological innovations, natural catastrophe-and especially by an underlying structural flaw in their organization: as State-instituted and controlled entities, they are not autonomous. Thus, as the central government developed economically more viable offshore shrimp-producing cooperatives, the inshore cooperatives were unable to respond competitively, and declined.

Along Mexico's Pacific coast are complexes of lagoons and estuaries which produce prodigious quantities of fin-fishes, oysters, and shrimp. Mexico's first fishing cooperatives were established in these regions in the 1930's. These organizations are primarily devoted to the production of shrimp, and to a lesser extent oysters, for export.

The inshore cooperatives of south Sinaloa state-the first fishing cooperatives to be established in all of Mexico-are currently members of a State-instituted and controlled federation called Sur de Sinaloa y Norte de Nayarit (South Sinaloa and North Nayarit). That federation includes six ruralinshore producers' cooperatives, which fish in the estuaries and lagoons situated between Mazatlan, Sinaloa, and San Blas, Navarit, and a centrally located packing plant at Escuinapa, Sinaloa. Similar federations organize the inshore production of north Sinaloa and Sonora, as well as the Gulf of Tehuantepec. All the federations are strictly regulated by the Secretary of Industry and Commerce in Mexico City.

In this paper I concentrate upon the inshore cooperatives of *Sur de Sinaloa y Norte de Nayarit.* Among the inshore federations they have the greatest production, and they reflect most critically the problems which have plagued all the inshore cooperatives of Pacific Mexico. Practically all commercial fishing in Pacific Mexico is now carried on by government-instituted cooperatives. Although in recent years the greatest rate of growth has been among cooperatives devoted to producing pelagic marine resources, shrimp production and export is still the main business of Mexico's Pacific fisheries. Indeed, crustacea are the nation's leading primary commodity export—about 47.1 percent of the total value of all such exports (Food and Agriculture Organization 1972).

Shortly after they were organized in 1933, south Sinaloa's inshore cooperatives were heralded as among the most successful collectives to be established in Mexico's era of post-revolutionary reforms (Diario Oficial 1933). They seemed to have surpassed their organizers' expectations, which had emphasized three main goals: (1) the promotion of widespread participation by rural fishermen in the inshore fisheries, and an increase in their living standards, (2) the production of vitally needed foodstuffs for the nation, and (3) the generation of income from exports, which the nation badly needed following nearly fifteen years of bloody and destructive revolution.

Yet just three decades later, these same cooperatives had become marginal economic entities. Production had dropped to less than half its level at the time they were founded, and they had surpluses of unwanted, unproductive members. They were plagued with internal conflicts and dissension. Corrupt officials ran many of them with an iron hand. They were also embroiled in conflicts with other rural people in their regions, as well as with the government officials who regulated them. Furthermore, although their production was traded for large sums of money in the international marketplace, comparatively little of that income returned to their members. What-went wrong?

A Flawed Organization Structure, and Other Marginalizing Factors

I agree with Smith who stresses the inadvisability of reducing one's hypotheses about complex socioeconomic phenomena "to a single, all-encompassing explanation in terms of a prime factor" (Smith 1976: 122). Such theoretical reductionism is undesirable, he cautions, because "no one underlying approach and image can exhaust the rich variety of actual historical sequences" (Smith 1976:124). Thus, while a major factor underlying the decline of Mexico's inshore Pacific cooperatives was their lack of power and autonomy in the face of central-government control, I feel that it is necessary to flesh out the actual historical sequence associated with their decline. The interplay of their powerlessness and lack of autonomy in combination with other factors needs to be understood in dynamic perspective.

Other accounts of the deleterious effects of central-government control upon fishing cooperatives contain similarities and parallels to the situation in Mexico (e.g., Brox 1972; Cordell 1973; Kottak 1966; Davenport 1956; Norbeck 1954; Alexander 1975; Firth 1966, and Fraser 1966). Many of the factors which have weakened Mexico's inshore Pacific cooperatives have been similarly problematic for fishing cooperatives in other parts of the world. Indeed, although the factors which have marginalized Mexico's inshore Pacific cooperatives are not unique, the extent of their impact and manner of interplay over a number of decades is.

This said, what other factors-besides government control-have contributed to the decline of Mexico's inshore Pacific fishing cooperatives? One is inappropriate organic structure. The fishing cooperatives were organized, and financed, in the same manner as were the nation's agrarian collectives-the *ejidos*-even though the nature of fishing production is quite different from that in agriculture. Shifting lagoonal boundaries, for example, sometimes deprived the cooperatives of their choicest production sites, which were fixed by the government in the same manner as its award of fixed sites for the agricultural collectives. Furthermore, periodicity of production often made it difficult for the fishing cooperatives to meet their loanrepayment schedules (cf. Pollnac 1976:81, and Alexander 1975).

Another factor concerns the crucial role of middlemen (cf. Firth 1965; Pollnac 1976, and Ward 1967). Pollnac states, "cooperatives are often resisted by middlemen who have a lot to lose if marketing is taken out of their hands" (Pollnac 1976: 80).

For Mexico's inshore Pacific cooperatives, the central government is analagous to the middleman, since the cooperatives are obliged to turn over all of their exportable production to the government-owned packing plants where they receive payment at whatever price levels the government has established. Hence, the "middleman" in this instance lost nothing by sanctioning the establishment of cooperatives, since it retained absolute control over the marketing of the cooperatives' production. But, unlike local middlemen in most traditional fisheries, the government understood very little about the nature of fishing production. Moreover, this "middleman"-through its regulatory powers-was able to prescribe quite strictly the cooperatives' annual production levels, even to the extent of allow-

ing no production at all in years when it determined that certain resources were in jeopardy.

Usually, the main reason cooperatives are organized is to increase economic power among individuals having common social and economic aims, who cannot attain their aims through individual action. In the case of Mexico's inshore Pacific cooperatives such power was never conferred, even though one does encounter the rhetoric of collective power through collective organization in their charters. Thus, these organizations would prosper only if successive governmental administrations remained committed to the aims of their founders; failing such commitment, they would be doomed to decline.

How They Declined: The Historical Sequence

Export trade began in south Sinaloa's fisheries in the 1870's, when Chinese immigrants from Mazatlan ventured into the lagoonal regions in what is now the munici*pio* of Escuinapa, bought quantities of salted shrimp and smoked oysters from the region's fishermen, and began to export these to the United States, China, and Japan. Subsequently a number of privately owned exporting companies arose-their licenses conferred by the Diaz administration, 1876-1911-but these were broken up and disbanded during the Revolution, 1910 -1924. Thus, at the end of the Revolution the inshore Pacific fisheries were in a state of disarray, and their fishermen were limited to subsistence fishing and small-scale regional commerce (Ferreira 1965).

The Ley Federal de Cooperativas, 1933, brought order to this state of disarray by establishing the first of the so-called "enterprises of State participation" which today constitute nearly all the commercial fishing in Pacific Mexico. First the inshore fisheries were declared to be federal territories, and under exlusive federal jurisdiction and control; then the rural producers' cooperatives and central packing plants were established. This was carried out during the administration of President Lázaro Cardenas, 1934-1940, the same era in which Mexico's well-known agrarian collectives—the ejidos --were established. The fishing cooperatives were organized and structured in practically the same manner as the ejidos.

In the meantime, foreign companiesmostly from Japan or the United Statesmonopolized offshore fishing in Pacific Mexico, concentrating almost exclusively on shrimp production. The Mexican government lacked capital for developing offshore enterprises of its own, as well as decisive power for preventing incursions by foreign fishermen offshore, so it tried to regulate and tax the foreigners, while developing export trade based upon the production of its newly-founded inshore cooperatives (Ferreira 1965).

Nearly all the capital the government extended for development of the inshore fisheries went for construction of the regional packing plants. In contrast, development of the producers' cooperatives required little more than the concessioning of exclusive fishing territories, the recruitment of rural fishermen, and the extension of small loans for the construction of rudimentary weirs and dugout canoes.

From the start, the rural cooperatives were inextricably bound to the regional packing plants and subject to almost total bureaucratic regulation, a problem which worsened in the ensuing years as Mexico's fishing industry grew in size and complexity. Only in the conduct of their internal affairs were the cooperatives allowed some autonomy.

This lack of autonomy, particularly in the disposition of their production, was not initially perceived as a handicap by the *cooperativistas*. In those early years, marine resources were plentiful, the labor-intensive organizations accepted almost anybody wishing to join, and prices in the international market—particularly for crustacea —were sufficiently high so that the cooperativistas enjoyed greatly enhanced personal

incomes, and thus an immediate improvement in their living standards. Furthermore, the rural fishermen-because of their dispersion, low level of education, and lack of experience with complex economic enterprise-seemed grateful to the central government for organizing the cooperatives, realizing they could not have organized such organizations on their own. Everyone-from the rural cooperativistas to the reform-minded organizers in the central government-was optimistic that the organizations would bring prosperity to the rural-coastal peoples. In tribute, south Sinaloa's first and most productive inshore cooperative was named Sociedad Cooperativa General Lazaro Cardenas, after the revolutionary hero and reform-era president of that name.

From the time of their inception in the early 1930's through the middle 1960's, the inshore cooperatives seemed fairly successful. During the second World War, 1939-1945, Mexico succeeded in driving the foreign shrimp trawlers from its coast, and began to develop offshore shrimp-producing cooperatives, but these would not economically overshadow the inshore cooperatives until the middle 1960's (Ferreira 1965). However, as early as the late 1940's serious problems began to plague the inshore cooperatives.

The most serious early problems were corruption and *caciquismo* (political-economic bossism). Because the cooperatives' well-being depended upon an ongoing commitment to them at the highest levels of government, should such commitment fail they would flounder, and that is what happened.

The administration of President Miguel Aleman, 1946-1952, was noteworthy for the extent to which corrupt government officials infiltrated Mexico's collectives. The rise of caciquismo in the nation's ejidos, particularly those producing export items, is now well documented (cf. Durán 1967; Chevalier 1967; Eckstein 1970; Stavenhagen 1967; Paz 1972, and Pi-Sunyer 1973). Less well known is the rise of caciquismo in the Pacific inshore fishing cooperatives during Aleman's administration, although works discussing the problem have been published in Mexico (cf. Chavez 1971; Delgado and Gomez 1971 and 1972, and Murua Beltran 1968 and 1970).

Venal politicians began to run the cooperatives for personal gain, relegating the cooperativistas to mere shift laborers, denying them participation in the management of the cooperatives' internal affairsa right presumably guaranteed in the organizations' charters. Violent reprisals often befell cooperativistas who attempted to resist. By and large the caciques were ruthless men, who recruited armed gunmen to help them "administer" the cooperatives. Caciquismo remains a problem in south Sinaloa today, as does another, related problem-changuerismo (smuggling). Largescale contraband-particularly of crustacea -is common in south Sinaloa, and in many organizations, members of the vigilancia (elected officers charged with enforcing the various provisions of the organizations' charters) appear helpless, or seem to look the other way.

Aggravated by certain central-governmental policies and actions, another serious problem-namely, the rapid growth of the rural-coastal population-became evident by the late 1950's. First, as part of the government's ongoing program of land appropriation and redistribution, new ejidos were formed-often to accomodate impoverished campesinos (peasants) who were moved into Sinaloa from other parts of the nation. As the rural population swelled, many of these campesinos turned to subsistence fishing and poached in the territories set aside for the cooperatives. Furthermore, groups of impoverished campesinos occasionally petitioned the federal government to establish new fishing cooperatives, and wherever these came into existence they

а. На competed with the older organizations for the region's increasingly pressured marine resources.

Physical changes in the coastline confounded these problems. In lowland Sinaloa, coastal lagoons are forever drying up while others are being formed. Within a period of only two to three years, one cooperative may lose nearly all of its most productive aquatic territory, while another's is doubled (Mendoza von Borstel 1972).

The cooperatives also suffered the effects of population growth from within, since their membership rights could be inherited by succeeding generations; thus, today, south Sinaloa's cooperatives must distribute their dwindling incomes among many marginally productive members.

At present, the inshore cooperatives are entrenched economic entities, serving only a minority of the rural-coastal population. In the municipio of Escuinapa fewer than 600 persons—only 2 percent of the municipio's population—are members of the inshore cooperatives or find work in the region's packing plant, and even their incomes from fishing rarely exceed \$600.00 (U. S.) per year (Centro de Estudios Políticos Económicos 1973).

In recent years conflicts over rights to marine resources have intensified. Campesinos in south Sinaloa sometimes shoot at the cooperatives' trucks as they pass through the rural countryside, and the occasional presence of the *Infanteria Marina* (the Navy's infantry) in the coastal zone-deployed to discourage poachingonly heightens their ire.

Two other factors have contributed to the economic decline of south Sinaloa's inshore cooperatives—one a technological innovation, the other a natural catastrophe. The technological innovation was the introduction of outboard motors and nylon nets into the fisheries in the 1950's. Finfishes snappers, snooks, drumfishes, mullets, etc. —which existed in the lagoons in great abundance, were a minor part of the cooperatives' production, representing only 2 to 4 percent of its total value. Because the fish were of no export interest, they were sold in regional seafood markets, and although the volume was small compared to that of shrimp, the trade was lucrative. In the disposition of this resource the cooperatives were autonomous. However, employment of outboard motors on large dugout canoes greatly eased the transport of very large nets, while the nylon netsbecause they are nearly invisible underwater-proved disastrously effective in catching fish, and soon decimated the inshore fish stocks. While the cooperativistas lamented the loss of this source of income -the only one over which they had unencumbered marketing freedom-federal managers seemed somewhat ambivalent, perhaps because the fishes were the major predators (other than man) upon the inshore shrimp stocks.

Of far greater economic consequence for the cooperatives, however, was the loss of regional oyster stocks following a natural catastrophe. The severe flood of 1967, which buried the oyster beds under tons of silt, resulted in an almost total loss of that resource. Prior to the flood, oysters-also an export item-represented over 20 percent of the income of the cooperatives, and in the early years their production had constituted nearly 50 percent of the income of some of the producers' organizations (Centro de Estudios Politicos Económicos 1973). Before the flood in 1967, oyster stocks had already been declining. Rural campesinos had subjected them to heavy illegal harvesting pressure, while contaminants being used in the region's agricultural sector-chemical pesticides and fertilizerswashed into the lagoons and estuaries, reducing the oyster stocks. As a result of the flood, the federal government imposed a moratorium on oyster harvesting. Although it has repeatedly attempted to re-establish the beds, illegal harvesting by campesinos and continuing contamination have hampered the recovery of this resource.

Overshadowing all the foregoing factors which contributed to the decline of south Sinaloa's inshore cooperatives was the Mexican government's development of offshore shrimp-trawling cooperatives. In order to understand the government's action it is necessary to comprehend the life cycle of Pacific Mexico's commercially important species of shrimp, and its fishery-management implications.

The commercially important species-all members of the *Penaeid* family-are hatched from fertilized eggs in the open sea, and then, while barely visible larvae, they migrate up coastal estuaries and into inshore lagoons. In those environments they spend some months, growing to sub-adult shrimps. Eventually they migrate back to the open sea, reach their maximal size, and then spawn-thus completing their life cycle. Their seaward migration is particularly intense during the fall rainy season, when decreasing salinity drives them from the lagoons, and it is this movement which the inshore cooperativistas intercept at their estuaral weirs (see Mendoza von Borstel 1972).

However, harvesting shrimp while they inhabit the inshore waters is regarded as poor practice. Inshore harvesting takes the shrimp out of the ecosystem before they have a chance to spawn, which threatens the resource's ability to recover rapidly. Also, inshore harvesting takes shrimp before they reach adult size, with the result that the ecosystem's maximum potential shrimp biomass is not produced. Furthermore, the large adult shrimp caught offshore bring much higher prices per unit of weight in the international marketplace than the smaller shrimp caught inshore. Finally, harvesting shrimp with capitalintensive mechanized trawlers is less costly and more productive than the low-yield and labor-intensive methods employed by the inshore cooperatives (cf. Arnold and Bromley 1970; Gales, Buss, and Bledsoe 1977; Gulland 1969; Lackey 1975, and Schaaf 1975).

Thus as Mexico continued to develop its shrimp-export trade, it proved necessary to curtail progressively the inshore shrimp harvest. Today, the inshore cooperatives of south Sinaloa are permitted to harvest shrimp for up to 10 to 12 weeks per year (and not at all in some years), whereas the offshore cooperatives are permitted 35 to 40 weeks of production annually. From 1950 to 1970, annual production for south Sinaloa's major shrimp-producing inshore cooperative declined from about 2,000 metric tons to less than 500 (cf. Mendoza von Borstel 1972:417).

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Various methods for increasing inshore shrimp stocks were tried in the late 1960's, under the joint auspicies of Mexico's General Directorate of Water Resources and the Food and Agriculture Organization of the United Nations. The most important entailed dredging projects to facilitate shrimp migrations between offshore and inshore waters. While these projects did increase shrimp production for some of the inshore cooperatives, their overall impact was insignificant compared to the preeminent needs of the offshore sector, which urge progressive curtailment of the inshore harvest (Mendoza von Borstel 1972).

Other factors have also worked against the inshore cooperatives' interests, for example, the whole shrimp industry's dependence upon an unstable international market. When world prices for shrimp fall, the Mexican government has to pass the price reduction down to its producers. From the government's point of view, cutting prices paid to the inshore cooperatives is less problematic than cutting those paid to its offshore cooperatives. Cutting prices paid to the inshore cooperatives results mostly in income losses for their members, whereas cutting prices paid to the offshore cooperatives seriously jeopardizes the latter's ability to repay long-term loans made to them by the government's National Bank for Promoting Cooperatives. Such loans constitute a considerable capital commitment on the part of the government for

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financing the construction of offshore trawlers as well as modern freezing and packing plants. Thus, when a price squeeze comes it is the inshore cooperatives which usually suffer the most.

Conclusion

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Beset by so many problems, it is easy to understand why Mexico's central government turned its attention away from the inshore Pacific cooperatives. Economically marginal, inefficient in today's modern export industry, and in conflict with the majority of the population in their regions, they are seen by the central government as more problematic than beneficial.

However, their lot could be improved by giving them more autonomy over the disposition of their production, and by ridding them of corrupt officialdom. On the one hand, the existence of a lively black market in crustacea indicates that there is a great potential domestic market for their production. On the other hand, a revitalization of the nation's domestic seafood markets would also help to alleviate the food shortages that the nation's rural poor are now experiencing. Undoubtedly, a sincere commitment on the part of the federal government to rid the cooperatives of caciques would result in a more equitable distribution of income among the cooperatives' members.

Yet, unless the central government changes its policy of maximizing shrimp exports and allows a larger inshore shrimp harvest, the survival of inshore cooperatives will remain in doubt. Such a change in policy may not be as radical as it seems. Mexico now anticipates great increases in foreign revenue from the future exploitation of petroleum resources on its Campeche Banks. This means that the nation should not have to depend as greatly as it has in the past upon shrimp exports as a source of foreign capital. Moreover, the nation is currently experiencing severe food shortages and rising infant mortality, so future government administrations may find it advisable to breathe new life into the nation's rural food-producing collectives.

Such a shift in policy would undoubtedly improve the plight of the Pacific inshore cooperatives, but these organizations will never again see the propitious circumstances that attended their beginnings in the 1930's. Their revival—if there is ever to be one—is more in the hands of the central government than in their own. Lacking the ability to respond autonomously to social, demographic, political, environmental, and economic change, they will continue to survive at the sufferance of the apparatus which created them.

NOTES

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