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THE NEW INTERNATIONAL ECONOMIC ORDER AND THE NEW  
REGIME FOR FISHERIES MANAGEMENT

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## ABSTRACT

The 200-mile exclusive economic zone for fisheries management is criticized by some as being inconsistent with demands for a New International Economic Order. This paper examines the implications of the new fisheries regime for the developing countries. While the regime is no panacea, it will improve the allocation of resources and the bargaining leverage of developing countries. Their long run success in achieving nutritional, employment and commercial benefits will depend upon availability of infrastructure and venture capital for processing and marketing of the catch, sea-orientation among the people and the pattern of economic concentration within.

## THE NEW INTERNATIONAL ECONOMIC ORDER AND THE NEW REGIME FOR FISHERIES MANAGEMENT

Manjula R. Shyam

Demands for equitable sharing of resources in the international arena have been raised for many years. They have been reflected in the call for a New International Economic Order (NIEO) at the 6<sup>th</sup> and 7<sup>th</sup> Special sessions of the UN General Assembly and at the Third United Nations Conference on the Law of the Sea (UNCLOS III). It appears paradoxical that a movement to achieve an equitable sharing of the newly found wealth of the oceans should have resulted in the extension of national jurisdiction in the form of exclusive economic zones (EEZ). In this paper I examine the compatibility of the new fisheries regime with the NIEO. After summarizing the provisions of the Draft Convention on the Law of the Sea (Draft Treaty) I discuss the implications of these provisions for the developing countries. In the next section I identify some developing countries which will gain, lose or not be affected by the new regime. I conclude by examining the validity of the criticisms that the new fisheries regime is inconsistent with the NIEO.

The Draft Treaty provides for a 200-mile EEZ in which the coastal state has exclusive rights for the exploration, exploitation, management and conservation of the living resources. The Draft Treaty places obligations corresponding to these rights on the coastal state. The coastal state is obligated to conserve the resource, to fully utilize the resource by sharing the surplus with other states, specially the landlocked and other states with special geographical

characteristics, and to consult with other states and relevant regional organizations with respect to the exploitation of anadromous and catadromous stocks, highly migratory species and transnational stocks.

#### IMPLICATIONS FOR DEVELOPING COUNTRIES

One easy way to calculate the benefits of the new regime for the developing countries is to look at their relative gain in ocean space. The 200-mile jurisdiction will benefit states selectively depending on their geographic location and configuration of the coastline. Several large developed states will gain enormous ocean space and many developing states which are landlocked will gain nothing. Even though the Draft Treaty provides for special rights of the landlocked states in the EEZs of neighboring coastal states, they are at best promises for an uncertain resource largely dependent on the willingness of the coastal state. This gain in ocean space is presented in Table 1.

[Insert TABLE 1 Here]

Those states which gain more than the average gain by coastal states under a 200-mile extension or whose gain in ocean space exceeds five times their land area are classified as having large gains. One hundred and forty-seven states on which data were available are included in these approximate calculations. About ten states have missing data but they would not greatly alter the relative proportions of the large and small gainers. Over one-fourth of all developing

TABLE 1  
NUMBER OF STATES GAINING LARGE\* AREA IN EEZ

		<u>Large Gain</u>	<u>Small Gain</u>	<u>Total</u>
Developed states	# %	12 (33)	25 (67)	37 (100)
Developing states	# %	30 (27)	80 (73)	110 (100)

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\* States gaining more than the average gain of coastal states or whose gain in ocean space exceeds five times their land area.

Source: Compiled from Tables 2 and 3 in Manjula Shyam "Rights of the Coastal States to Fisheries Resources in the Economic Zone: An Empirical Analysis of State Preferences" Ocean Management 3 (1976): 18-19.

states will benefit significantly by the extension of jurisdiction. If we exclude the 21 developing states which are landlocked from the calculations, (they lack an orientation to the sea, did not develop ocean fishing in the past and are unlikely to do so in the future) one-third of all the developing coastal states will gain from the 200 mile EEZ.

However, the calculation of the relative gain in ocean space gives only a partial picture. The biological productivity of the waters of the ocean varies significantly. On the basis of presently harvested catch, it is clear that most of the productive waters are off the coasts of developed countries. In 1975, 66.7 percent of the world catch came from developed countries and 33.3 percent came from the developing countries.<sup>1</sup> Rough estimates available for the location of the marine catches indicate that in 1970-75 a little less than half the catch was taken by the developed countries from coasts of other countries. Of the catches by vessels from developed countries less than half were taken off the coasts of developing countries. A few developing countries also caught a very small fraction of their total catch from the coasts of other developing countries as can be seen in Table 2. Approximately 10-15 percent of the total world catch is taken off the coasts of developing countries primarily by the developed countries. The economic significance of this catch may be greater than the tonnage suggests. Long distance fishing fleets have generally concentrated on species with wider consumer acceptance and consequently of greater economic value.

[Insert TABLE 2 Here]

Thus the immediate effect of the 200-mile EEZ will be to place developing countries in a position to derive some benefit from 10 - 15 percent of the world catch which is presently caught off their coasts from which they do not benefit at all. Obviously the establishment of the principle of control over the natural resources of the EEZ does not mean that the developing countries will be able to harvest those resources themselves immediately. But assuming that the developing countries are willing to sell the surplus catch for payment for license fees, they will be able to obtain some revenues even in the short run from this heretofore unproductive resource. The long run prospects are brighter. To the extent that a developing country not only lands but also processes and markets the catch from their EEZ the new fishing regime can contribute significantly to employment and economic value in terms of net protein for domestic consumption and earnings in foreign exchange.

There is another way to characterize the benefits from the EEZ. The potential of the oceans is unevenly realized at the present time. Certain regions of the oceans are fully exploited with several species being overexploited while others are exploited considerably below their potential. Figure 1 shows the resource potential in different oceanic regions. While 61 percent of the total catch now comes from the coasts of the developed countries, it has been estimated on the basis of rough calculations that 60 percent of the potential world fishery resources are to be found off the coasts of developing countries.<sup>2</sup> This implies that the greatest gains in

TABLE 2

## LOCATION OF MARINE CATCHES IN 1972, BY ECONOMIC GROUPINGS

Economic Category	Percent of Catch Taken by Location					
	Percent of 1972 World Catch Taken by	Off Own Coast	Off Other Coasts	=	Off Coast of Developed Countries	+ Off Coast of Developing Countries
Developed countries	61	58.3	41.7	=	31.0	+ 10.8
Developing countries	39	95.1	4.9	=	2.7	+ 2.3
Total	100					

Source: Table 24 in Sidney Holt "Marine Fisheries." Ocean Yearbook 1. University of Chicago Press, 1978.

commercial fishing catch in the next decades will come from the unexploited and underexploited stocks within the EEZs of developing countries which will reverse the ratio of the present yields from the developed and developing countries. As Figure 1 shows, these underexploited areas include South West Atlantic, Western Indian Ocean, Western Central Pacific and to a lesser degree, Western Central Atlantic, Eastern Central Pacific, Eastern Indian Ocean and North East Pacific, all of which border on developing countries.

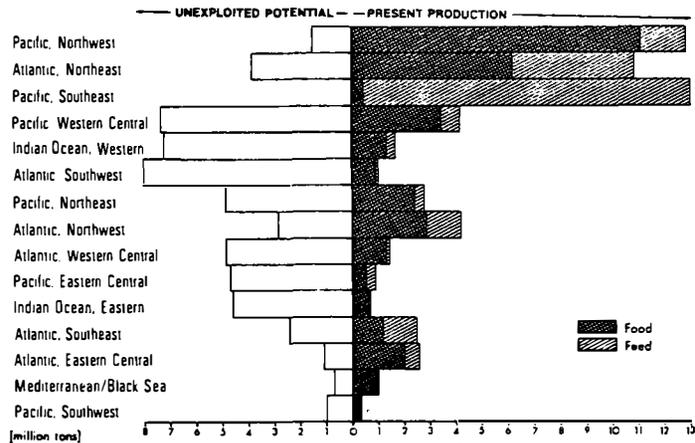
[Insert Figure 1 Here]

Thus a discussion of the potential benefits that will accrue to the developing countries from the 200 mile EEZ must include not only those resources that are presently taken by other countries but also the currently unexploited resources which may be exploited in the future and which they would not have been able to benefit from without the new fisheries regime.

A third way of looking at the effect of the new fisheries regime on the developing countries is by classifying all countries into three categories; gainers, losers and states not affected.<sup>3</sup> The key variable is the presence or absence of foreign fishing vessels within 200 miles from their coasts. Gainers are those developing countries in whose waters foreign vessels used to operate, losers are those developing countries who used to fish off the coasts of other countries and the unaffected are the other developing countries. Countries of West Africa such as Senegal, Mauritania and Pacific island states such as Western Samoa and Fiji fall in the first

FIGURE 1

PRODUCTION AND POTENTIAL OF THE WORLD'S OCEANS, 1970.



Source: Figure 2 in Sidney Holt, "Marine Fisheries." Ocean Yearbook 1. University of Chicago Press, 1978.

category; Thailand, Cuba, South Korea fall in the second and India, Sri Lanka, Somalia, etc. fall in the third unaffected category.

#### GAINERS, LOSERS AND UNAFFECTED STATES

##### Gainers:

In the short run such states will have two options; joint ventures with transnational enterprises (TNEs) or licensing foreign fishermen. While there had been sales and joint ventures before, the new fisheries regime will improve the economic and political leverage of the coastal state in both these situations. The buyers will have fixed costs and idle capacity in capital and human resources as a result of the new regime. The rent that the sellers can extract will be influenced by the value and size of the stocks, distance from the major markets, the size of their infrastructure and their negotiating skill. License fees can be an important source of capital for the developing countries enabling them to increase the indigenous capacity by acquisition of motorized vessels, improved nets and processing and refrigerating equipment. There are certain advantages in an outright sale of surplus stocks. A sale is usually made for one or two years at a time and enables the coastal state to adjust the amount to its own increasing capacity. It gives the coastal state freedom and flexibility to buy the technology, fishing vessels and equipment which are most suitable to its needs and are cost competitive from anywhere in the world market.

Terms of an international joint venture can include training of local personnel at all levels, location of freezing and processing

plants in the coastal state and investment in infrastructure such as ports, roads and electricity generating plants among other things which can be useful to the coastal state in integrating fisheries with its larger development plans.<sup>4</sup> Again, the terms of the joint venture can vary significantly depending on the attitudes and policies of the host country towards foreign capital. The growing awareness of the significance of marine fisheries as a result of UNCLOS III and the rising costs of fuel in operating distant water fleets strengthen the bargaining position of the coastal state. The Food and Agriculture Organization can also provide expert assistance to the developing countries in drawing up contractual arrangements for joint ventures which protect their vital interests.

The future success of states in expanding their capacity to catch, process and market their resources in the EEZ will depend on their economic, political and demographic profiles. Idiosyncratic factors such as goals and stability of the political leadership and administrative system will undoubtedly play a role. A simplified model to predict long run outcomes is shown in Table 3.

[Insert TABLE 3 Here]

Infrastructure here refers to the rate of capital formation and the amount of trained human capital even though they may not currently be invested in fisheries. The argument is that if the country has the capital and technology they can be diverted into expansion or ports, fishing fleets and processing facilities. Small island states are at a disadvantage by virtue of their limited

TABLE 3  
LONG RUN PROSPECTS OF EXPANDING FISHING CAPACITY (With Examples)

		Sea Orientation	
		High	Low
Availability of Venture Capital & Infrastructure	High	High (Brazil) Mexico	Moderate: directed towards foreign markets (Angola)
	Low	Moderate: directed towards domestic consumption (Fiji)	Low (Mauritania)

resources. The second independent variable which is often overlooked is the orientation to the ocean; that is, development of consumer preferences and domestic markets and existence of seafaring traditions. A large scale vigorous fishing industry almost always presupposes high consumer acceptance of seafood in the domestic market. The presence of rich fishing grounds off the coast, however, does not mean that fish is an acceptable food to the coastal inhabitants. There are wide areas of fish avoidance in Africa and in Asia which are not explained by unavailability of fish in the coastal waters. Dietary preference is a complex socio-cultural phenomena which is not understood very well. Little is known about how a change in dietary habits of a population can be brought about. The point that I am making is that states with equally rich fishing grounds may have varying levels of success in achieving self-sufficiency in exploiting their EEZs themselves and perhaps two critical factors are the size of the infrastructure and the place of salt water fish in the diet of the local inhabitants.

Brazil may be seen as one example of a gainer. Brazil declared a 200 mile territorial sea in 1970. The rich shrimp grounds off its coast were then dominated by U.S. shrimp boats. Since the 200-mile EEZ secures to a coastal state similar rights over the living resources, Brazil's experience can be seen as a likely effect of the new fisheries regime for other states. A U.S.-Brazilian shrimp agreement was first concluded in 1972 and has been renewed periodically. Each renewal reduced the permitted number of U.S. vessels and increased the license fees. After 1977 U.S. participation

in shrimp fishing is allowed only in the form of joint ventures. Thus foreign involvement in Brazilian fisheries continues but is on Brazilian terms and has diminished over time.<sup>5</sup>

Mauritania is another example of a gainer.<sup>6</sup> It is a poor coastal desert country. The Canary current leads to upwelling in this region making the coastal waters of Mauritania among the most biologically productive in the world. A recent French report assessed the value of the annual catch off Mauritania at about \$2 billion. Vessels from 20 countries fished in this upwelling region with only minor economic benefits accruing to Mauritania.

The new fisheries regime may change the situation. Mauritanian officials have increased the license fees they are charging foreign factory ships, they are seeking international fund to buy trawlers, expand the port and storage facilities at Nouadhibou and for training their own crews. Mauritania is also seeking joint ventures with TNEs. The extent to which Mauritania will benefit from perhaps its only resource is yet to be seen.

#### Losers:

There are only a few developing states which fish off the distant coasts of other states. Countries such as Cuba, Thailand, South Korea and Taiwan will experience disruptions and higher costs as they lose their free access to fishing grounds with the extension of national limits.

These countries have the same options as the developed distant water fishing countries. They will have to seek bilateral

arrangements with coastal states. They may be at a disadvantage in competition with developed distant water fishing states because they do not have as much to offer in terms of sophisticated technology and because of limits to their overseas investment capacity. However their outlook is not all dismal. There are four reasons why developing countries may prefer bilateral arrangements with other developing countries instead of developed countries. First, the technology most relevant for developing countries is the technology used by other developing countries since they have common characteristics of lack of capital specially foreign exchange and a surplus of labor. The factory trawlers of Poland or Spain may be less useful to a developing country than the middle-water fishery built by Thailand. Secondly, developing countries may be more suspicious of large fleets of the Soviet Union or Japan than they would be of South Korea or Cuba. Thirdly, most developing countries are in the tropical regions while the developed countries have built their fishery on the resources of the temperate zones. This has important implications. In tropical waters there is a great intermixture of species and the harvesting, storing and processing techniques that are used by the developed countries for a single specie fishery are not very useful for developing countries. The management concepts of the temperate zones based on maximum sustainable yield of a single stock also have limited applications for multiple species fisheries. The approach to management evolved by developing countries would have greater relevance for other developing countries. Fourthly, even though the "losers" will no longer enjoy open access, and have to pay sizeable

license fees, their economic loss may not be as great. Common property fisheries are marked by over-capitalization. The economic rents that were being dissipated through excessive amounts of capital and labor may be captured under the new regime.

A few remarks about Thailand may be pertinent here.<sup>7</sup> Thai marine landings increased by 760 percent between 1958 and 1976. Trawl fishing was first introduced as a result of a Thai-German project in 1961 and grew rapidly so that demersal species now comprise four-fifths of the total catch. The ready availability of venture capital, the introduction of effective gear that could be used on indigenous boats and the sea-going traditions of the Thai people made this bilateral project one of the most successful ever undertaken. There is a tremendous proliferation of fish species in Southeast Asia with individual trawl hauls containing two hundred species not uncommon. The Thai experience in exploiting multiple species is of great relevance to other developing countries. The shrimp and other acceptable species are sorted out from the mixed catch. The "trash" fish or fish for which there is not a ready market which constitute one third of the catch are not discarded dead at sea but are used for duck food, catfish food or for the production of fishmeal. Likewise, the overcapitalization and overfishing in the Gulf of Thailand that resulted from the failure to limit entry of new vessels in the Gulf is also instructive for developing countries that are making ambitious plans to modernize their fishing industry.

Unaffected States:

Most states will not be affected by the new fisheries regime in the sense that there was no significant foreign fishing in their waters and they will not lose access to waters in which they used to operate before the extension of national jurisdiction. Countries of South Asia like India, Bangladesh, Sri Lanka and of East Africa like Somalia, Kenya fall in this category. However even the "unaffected" states will benefit from the salience of marine fishing as a result of the new fisheries regime.<sup>8</sup> Indeed, in many countries new administrative departments for fisheries have been set up or given a more prominent place in the list of national priorities.

Somalia is another interesting case.<sup>9</sup> Somalia has the longest coastline of any African state. The presence of the Somali current and coastal upwelling makes the EEZ of Somalia highly productive. Somalia has a high proportion of nomadic people in its population. Perhaps as a result of the contempt that pastoral nomads have for a sedentary life, there is widespread traditional cultural deterrence to eating fish.<sup>10</sup> Consequently the rich fishery resources of the Somali coast are largely unexploited.

In 1972 while there was no fishing industry to speak of, a Ministry of Fishery was formed by the Somali government and under its aegis four fishing villages were set up as the first phase of a long-term economic and social development program to utilize the coastal marine resources of Somalia. Negotiations for joint ventures are under way with Japan, Italy and Yugoslavia.<sup>11</sup> Whether this major social experiment of change from nomadic pastoralism to sedentary

fishing will succeed is yet to be seen but it is certainly a dramatic example of the increased emphasis on development of marine resources in developing countries.

CRITICISMS OF THE NEW FISHERIES REGIME

While the old fisheries regime based on common property and open access has few supporters, the new regime resulting from UNCLOS III too has met with its share of criticisms. The idea of national sovereignty, which is the basic principle underlying the new fisheries regime is seen by critics as being inconsistent with the NIEO. Four major weaknesses are seen in the new regime.

Many developing states including some of the least developed state who are landlocked will not gain any benefits from the new regime. This criticism can be answered at three levels:

a. Many of the least developed states such as Bangladesh, Somalia, Mauritania, Senegal and Maldives, to name a few, will benefit from the extension of national jurisdiction, control over foreign fishing, and the inclusion of plans for development of marine fisheries in the overall development plans and priorities as a result of the new regime.

b. Even though the Draft Treaty provides for equitable rights for the landlocked in the EEZs of coastal neighboring states, their enjoyment of those rights will surely depend on the willingness of the coastal states. However a case can be made that in most situations the limited resources of developing states are best reserved developing inland fisheries that are closer and

more accessible. This strategy will not require modification of consumer tastes which is usually quite difficult. Even under the best of circumstances, Nepal and Afghanistan are unlikely to develop large scale marine fisheries.

c. To criticise the new fisheries regime because it leaves out some states does not seem fair. The NIEO contains many elements that will benefit far fewer states. The demand for debt writeoff for example would benefit those who borrowed heavily in the past. The integrated program of commodities with fixed ceiling and floor prices or the indexing of the price of raw materials would largely benefit the few producer states among the developing countries. Even though most developing countries are not major consumers of these raw materials, indexing could add significantly to their bills specially if we take their foreign exchange earnings into account. The new fisheries regime in contrast will benefit a much larger number of developing countries and hurt only a very small number of developing countries.

A second criticism of the new fisheries regime is that it will not make much difference in the status quo. The TNEs of the developed countries have been harvesting the resources and will continue doing so, albeit with the payment of nominal fees or under the guise of joint ventures.

This is a more serious criticism to which two responses can be given:

a. The mechanized fishing vessels of the developed countries dominate world fish catch. The discrepancy in the catch by

developed and developing countries is a result of technological disparities between them. This gap between the abilities of the developed and developing countries can be narrowed if there is a general realization that a world that suffers from gross economic disparities engenders stress and conflict. Furthermore, these disparities can be reduced not so much by means of aid as by the transfer of technology that will enable the recipient nations to develop the marine resources adjacent to their coasts. The new fisheries regime is quite compatible with such considerations. It establishes the principle of coastal state control over marine resources.

b. The sale of surplus stocks or international joint ventures in fisheries are not inherently incompatible with the NIEO. The terms of the arrangements are the critical variable. For example, some developing countries may choose to rely upon extraction of revenues from users than to invest in fairly capital intensive technology for harvesting the catch beyond 50 miles from their coast themselves. The high fuel costs may make it impractical for a developing country to exploit the resources beyond a certain distance in the EEZ.<sup>12</sup> Revenues from the sale of resources in the deeper waters of the EEZ can be used to acquire medium depth trawlers or to build up roads and electricity generating plants that would benefit local fishermen operating closer to the coast where the richer fishing grounds may be located. Similarly in an international joint venture the terms of equity sharing are important. They can be oriented towards increasing the self-

sufficiency of the coastal state and decreasing the share of the distant water fishing operators. Some joint ventures between Japan and Taiwan were quite successful in improving the fishing capacity of Taiwan. Most joint ventures require processing plants to be located in the coastal state and the hiring and training of local people at all levels of the operations. The new fisheries regime has the potential of improving the bargaining leverage of the coastal countries in setting the terms of the joint venture.

A third criticism of the new fisheries regime is that it will merely graft the technology of the developed countries to the developing countries. Artisanal fisheries will suffer from neglect or destruction and capital intensive large vessels will be acquired which will concentrate wealth and power in the hands of a small wealthy group of people increasing unemployment and malnourishment in the country.

This argument is just the reverse of that mentioned above. The fear is not that there will not be a transfer of technology but that there will be too much of it. The superimposition of expensive technology from the developed countries combined with existing economic imbalances will increase economic inequity within the developing countries leaving the large majority of people worse off. The validity of this charge is borne out in Mexico and Brazil.<sup>13</sup> However two responses can be made in defense of the new regime.

a. Borrowing inappropriate technology is not an inevitable consequence of the new fisheries regime. Nor is there any guarantee that it would have been avoided if the entire area of

ocean space beyond the territorial sea had been placed under the managerial authority of an international body. The positive gains from the marine resources in the EEZ can be squandered by wrong decisions but such decisions do not necessarily follow from, nor are peculiar to the fisheries regime.

b. The socio-economic structure within a country is a key variable in the diffusion of the benefits from marine resources. The pattern of economic concentration in each country will determine whether the resources will be exploited for greater profits for the few or to meet the nutritional and employment needs of larger numbers of people. The domestic structure will be largely responsible for the success or failure of the new fisheries regime rather than any inherent inconsistency with the NIEO.

A fourth criticism of the new fisheries regime is that it will render management of resources more difficult. Fish are mobile and swim inshore, offshore and alongshore. Additionally, as a result of interrelationships among stocks, the harvesting of one stock affects the yields of others. Exclusive control is inappropriate for shared stocks.

The new fisheries regime is an improvement upon the common property regime based on open access which led to overcapitalization and overfishing. The management of stocks which lie totally within the EEZ of a single coastal state will become easier. By limiting users the new regime can prevent overfishing and also lead to greater efficiency in operations.

But it cannot be denied that in many regions of the world, in Southeast Asia or West Africa for example, the splintering and parcelling of the ocean will make management quite complicated. Regional arrangement will be necessary for the management of transnational stocks or stocks which swim both within and beyond the 200 mile EEZs. It is true that such arrangements would be needed even if there were a single international authority to regulate the ocean space beyond 12 miles. Nevertheless, by reinforcing national autonomy and national sovereignty over the marine resources, the new fisheries regime makes it harder for nations to recognize the interdependent nature of the fish stocks and the need for regional management.

#### CONCLUSION

The Draft Treaty provides for a universally agreed new fisheries regime to replace the old regime based on unrestricted access which, it is generally accepted, led to overexploitation and economic waste. The new regime will provide for greater equity in allocation of catch and has the potential of giving greater control over the processing and marketing of the marine fisheries to the developing countries. However, the new regime is not a panacea. The technological and economic capacities of the developed and developing countries differ and even if we assume that some technology could be transferred it is not clear that such transfer would always serve the interests of the developing countries. The new regime will nevertheless improve the bargaining position of the developing countries. The Food and Agriculture Organization and the regional

commissions can provide useful services of expert advice and evaluation of options. However, nutritional and commercial benefits accruing to individual countries will vary considerably. While the jury is still out, it is safe to conclude that the new fisheries regime is not inconsistent with the NIEO.

## FOOTNOTES

1. See Table 17 in Sidney Holt, "Marine Fisheries," Ocean Yearbook 1. University of Chicago Press. 1978.
2. Frederick Bell, "World-Wide Economic Aspects of Extended Fishery Jurisdiction Management," in Lee Anderson ed. Economic Impacts of Extended Fisheries Jurisdiction. Ann Arbor Science Publishing, 1977: 14-15. All European countries are considered developed countries for purposes of marine fisheries in my study.
3. This classification is used by John Gulland in "Developing Countries and the New Law of the Sea," in Oceanus 22, No. 1, Spring 1979: 60.
4. For a detailed discussion of international joint ventures in fisheries see Manjula Shyam "Decentralized Enclosure and International Joint Ventures in Fisheries," presented at the 21<sup>st</sup> Annual Convention of the International Studies Association, Los Angeles, March 20, 1980.
5. Michael Morris, International Politics and the Sea: The Case of Brazil, Westview Press, 1979: 259-263.
6. Michael H. Glantz, "El Niño: Lessons for Coastal Fisheries in Africa?" in Oceanus 23, No. 2, Summer 1980: 13.
7. See John Marr. Fishery and Resource Management in Southeast Asia, RFF/PISFA Paper 7. Resources for the Future, Washington, D.C. 1976.

8. For comments on one "unaffected" developing country see Manjula Shyam "The Emerging Fisheries Regime: Implications for India." Ocean Development and International Law Journal 8, No. 1, 1980: 35-55.
9. Glantz. "El Niño." pp. 13-17.
10. Frederick Simoons et. al., "Cultural Deterrents to Use of Fish as Human Food," in Oceanus 22. No. 1, Spring 1979: 67-71.
11. Personal communication by a Somali official from the Ministry of Foreign Affairs.
12. Personal communication by a high Indian Official from the Department of Fisheries, Government of India.
13. James McGoodwin, "The Decline of Mexico's Pacific Inshore Fisheries," in Oceanus 22, No. 2, Summer 1979: 51-59; John Cordell, "Modernization and Marginality" in Oceanus 17, Summer 1973: 28-33.