ANNEX TO THE **WORLDWIDE FISHERIES MARKETING STUDY:** PROSPECTS TO 1985

SOUTH KOREA

Government of Canada
Fisheries and Oceans

Gouvernement du Canada
Pêches et Océans

(This Report is one of a series of country and species annexes to the main study - entitled the Overview.)

DRAFT

Annex to the
Worldwide Fisheries Marketing Study:
Prospects to 1985

SOUTH KOREA

Study team

C.W. Chong
Embassy of Canada, Seoul

M.H. Epstein
J.S. McMillan Fisheries Ltd.

J.N. Spitz
Fisheries Association of B.C.

E. Wiseman
Department of Fisheries and Oceans

February, 1982

ACKNOWLEDGEMENT

The preparation of the Worldwide Fisheries Marketing Study, of which this Report is a part, embodies many hours of work not only by the authors but also and more importantly by those who generously provided us with market information and advice.

Specifically, this Report would not have been possible without the cooperation and assistance of fishermen, processors, brokers, wholesalers, distributors, retailers, consumers and their organizations as well as government officials with whom we visited and interviewed. Though too numerous to mention separately, we would like to extend our sincere gratitude and appreciation.

The views expressed in this Study, we would like to acknowledge:

- the encouragement and guidance of G.C. Vernon and J. John, Department of Fisheries and Oceans (DFO);
- the advice of K. Campbell, Fisheries Council of Canada; and R. Bulmer, Canadian Association of Fish Exporters;
- the liaison work of M. Foubert, DFO;
- the dedication of the participants from various parts of the industry and government including officers at our diplomatic posts who formed the study teams;
- the analytical and editorial assistance of K.Hay and his staff at Economix International;
- the general assistance within DFO provided by the Headquarters word processing support services and the staff of the Marketing Services Branch.

To all of the above, we extend our thanks.

E. Wong
December, 1981.

FOREWORD

As a consequence of global extension of fisheries jurisdictions, a radical shift has taken place in the pattern of worldwide fish supply and demand. This change is still going on and will continue for many years before a new dynamic equilibrium situation is reached. However, in the midst of this re-adjustment, a new trade pattern is emerging -- some net exporting countries are now importing and vice versa. In the longer term, some countries will experience shortages of supply and others will have a surplus. Fortunately, Canada is amongst the latter group.

The implications for the marketing of Canadian fisheries products arising from the worldwide introduction of the 200-mile limit are extensive. With our vastly improved supply position relative to world demand, government and industry are understandably concerned about ensuring that the bright promise of increased market opportunities are real and can be fulfilled. One of the steps in this process is the publication of the Worldwide Fisheries Marketing Study which assesses the global potential on a country and species basis.

Specifically, the purpose of the Study is to identify the longer term market opportunities for selected traditional and non-traditional species in existing and prospective markets and to identify factors which may hinder or help Canadian fisheries trade in world markets. To date, over 40 country markets and 8 species groups have been analyzed. It should be noted that while the information contained in the Reports was up-to-date when collected, some information may now be dated given the speed with which changes are occurring in the marketplace. In this same vein, the market projections should be viewed with caution given the present and still evolving re-alignment in the pattern of international fisheries trade, keeping in mind the variability of key factors such as foreign exchange rates, energy costs, bilateral fisheries arrangements and GATT agreements which have a direct effect on trade flows.

Notwithstanding, the findings contained in these Reports represent an important consolidation of knowledge regarding market potential and implications for improvements in our existing marketing and production practices. The results of the Study should, therefore, usefully serve as a basis for planning fisheries development and marketing activities by both government and industry in order to capitalize on the identified market opportunities.

This draft report is published for discussion purposes and as such we invite your critical comments.

Ed Wong

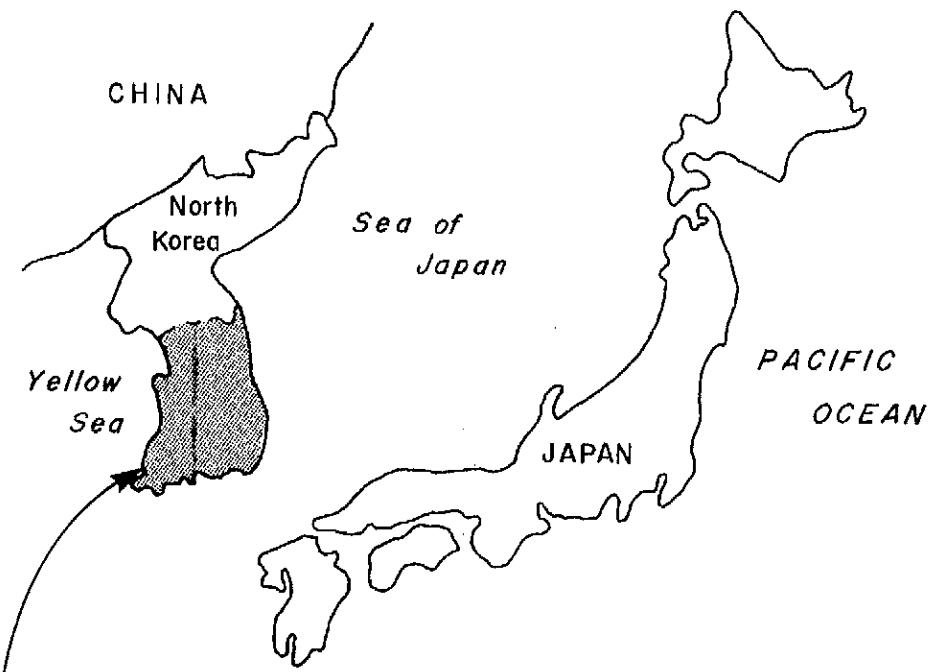
Marketing Services Branch.
Marketing Directorate.
Fisheries Economic Development and Marketing.
Department of Fisheries and Oceans.
October, 1981.
Ottawa

WORLDWIDE FISHERIES MARKETING STUDY

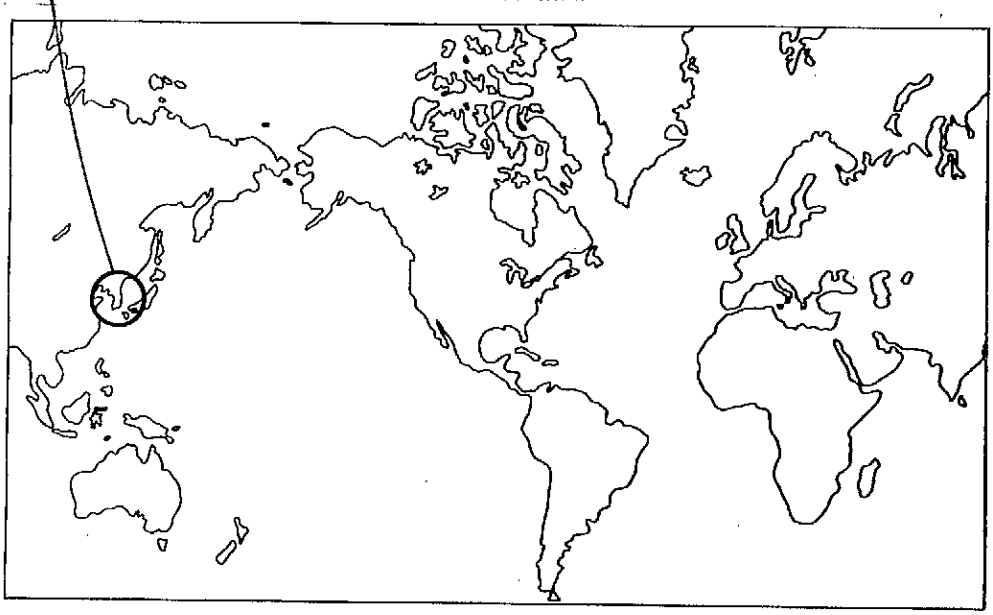
SOUTH KOREA

Table of Contents

SOUTH KOREA



INDEX MAP



A. INTRODUCTION

The Republic of Korea (South Korea), has a population of 37.6 million. Only 20% of the land is arable, although the country is self-sufficient in rice and barley. The Republic has faced great difficulties since the 1953 Korean War as the majority of natural resources are located in the north. The country has, however, been remarkably successful industrially since 1962 with an annual GNP growth of 9.3% per annum. Per capita income has risen from US$82 to US $1 624 in 1979.

South Korea maintains a domestic fishery both in national and distant waters. The world-wide expansion of territorial waters has affected the distant water fishing industry substantially, and catches are 32% below their peak in 1976.

The future of Canada's fisheries trade with South Korea will depend on several political and economical factors. South Korea is presently undergoing political changes which may affect its trade relations. At present, South Korea has strict import controls on a great range of products but this may change with increasing family incomes and consumer demand. With a high proportion of its budget going to defence, Korean policy has been to maintain economic independence by securing its own market for domestic producers.

SOUTH KOREA

MAJOR FISHING GROUNDS BY TYPE OF FISHING AND BY SPECIES

B. SUPPLY

1. Domestic harvest from national waters

Domestic catches can be divided into two categories: Coastal and offshore catches. Korean statistics show that domestic catches increased up to 1976, and then remained stable over the last three years. But Korean industry officials reveal some concern about the methods used to gather this information. They indicate that domestic catches have, in fact, declined overall since 1976. This is certainly the case with coastal water catches which have declined 9.7% from a 1974 peak. However, this has been offset by better results in some offshore domestic fisheries.

The major species caught are shown in Table 1. As can be seen, catches of certain species such as Alaska Pollock and Mackerel increased up to 1973, and some, such as Corvenia, have fluctuated, but most species show an overall decline in the last three years. Domestic production and the Korean fishing fleet are described in more detail in Appendix I.

The domestic industry includes some sea culture, but Korea's cold climate is not conducive to extensive aquaculture. Some fish are raised to fingerling size, then shipped to a warmer climate such as that found in Taiwan. Attempts to raise eels from eggs purchased from the United States and Japan have not been successful and overall, aquaculture production has been declining. However longer-term policies emphasize a revived role for aquaculture, especially in oysters.

2. Domestic harvest from distant waters

South Korea began developing its distant water fleet in 1965 but large catches were not made until 1974. Trends in deep sea fisheries growth are shown in Table 2. Catches peaked in 1976 but have since dropped by 31% due to the declaration of 200 mile economic zones by numerous nations in 1977. Particularly serious for the Koreans were the declarations of such zones by the US and the USSR. South Korea previously fished extensively in both US and USSR waters, taking 62% of their total deep sea catch in these maritime zones.

TABLE 1

South Korea: major species caught in domestic waters, 1975-1978

('000' tonnes)

	1975	1976	1977	1978
Flounder	22	26	23	20
Alaska Pollock	60	88	123	104
Sea Breams Pomfret	24	19	13	11
Yellow Corvenia	40	45	26	25
Corvenia	4	51	30	29
Hairtail	120	76	72	86
Anchovy	175	126	140	183
Mackerel	70	107	113	100
Saury	32	42	23	22
File Fish	81	115	128	120
Squids	37	45	18	18
Cuttle Fish	11	16	15	30
Oysters	143	155	151	143
Short Neck Clam	15	19	23	20
Total	834	930	898	911

Source: Republic of Korea, Ministry of Agriculture & Fishery, Yearbook of Fisheries Statistics, 1979.

South Korea and the USSR have not established diplomatic relations so all access to Soviet waters has been stopped and there is no opportunity for negotiation. The US does however allocate some Alaskan pollock to South Korea; 100 000 tonnes in 1978 and 140 000 tonnes in 1979, but these quotas are expected to be reduced.

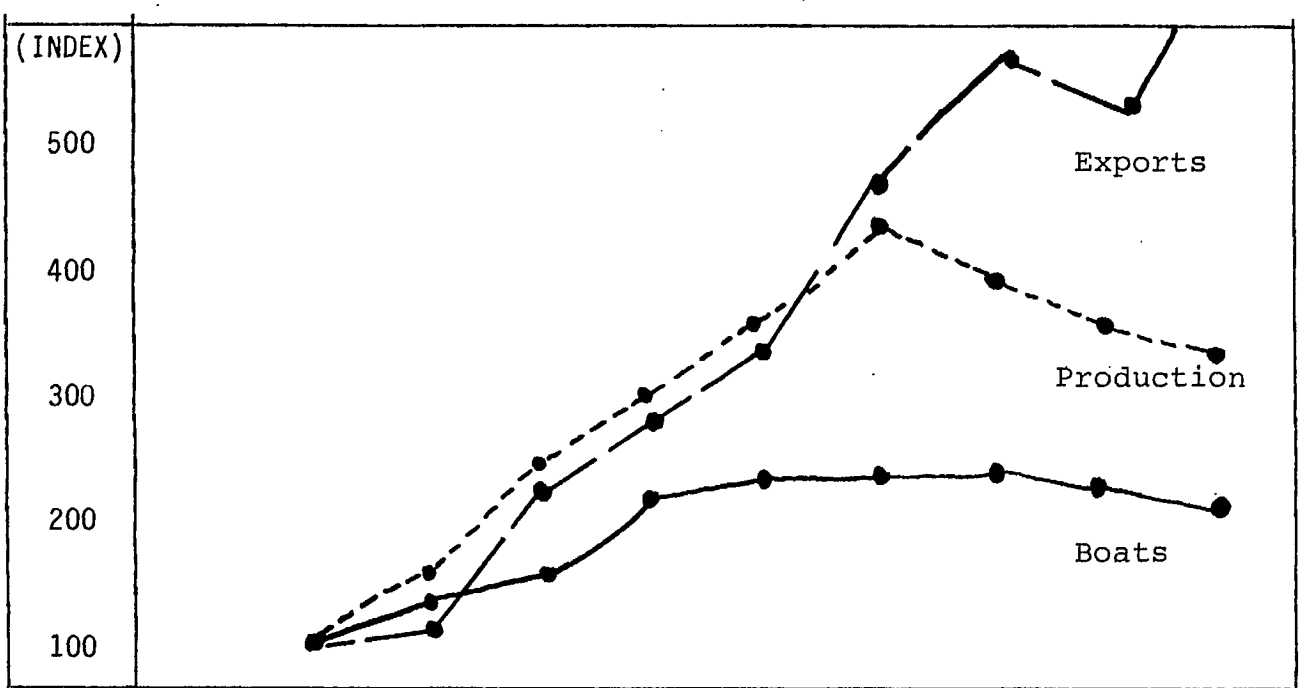
By 1980 Korea had signed bilateral fisheries agreements with six countries Gambia, Japan, US, Spain, Iran and New Zealand. Interim agreements have been arranged with Australia and Morocco and there has been an exchange of memoranda with nineteen other countries.

Catches by tuna long liners have increased 25% since 1976 but the catch rates of trawlers have declined. Between 1976 and 1979 their catch was down in volume by 42% in the North Pacific and 29% in the Atlantic.

Table 3 shows the major species caught by the distant water fleet. The importance of Alaskan pollock is clear from this table. By 1976, the peak year for distant water harvesting , more than 70% of the Korean catch was in this species. Two years later the Alaskan pollock catch was almost halved, and the total catch had slumped 42% to 432 000 tonnes. Only the yellow fin and skipjack catches have held up.

TABLE 2

South Korea: Trends of deep sea fisheries growth



category \ year	1971	1972	1973	1974	1975	1976	1977	1978	1979
Boats	351 (100)	455 (130)	552 (157)	757 (216)	833 (237)	849 (242)	850 (242)	816 (232)	779 (222)
Production 1 000 (tonnes)	159 (100)	224 (141)	361 (227)	418 (263)	566 (356)	724 (455)	596 (375)	566 (356)	496 (308)
Export $million (US)	55 (100)	68 (124)	119 (216)	136 (247)	183 (333)	263 (478)	313 (561)	295 (536)	457 (831)

Source: Republic of Korea,
Ministry of Agriculture & Fishery
(bracketed numbers are index numbers)

TABLE 3

South Korea: major species caught by distant water fleets, 1975-1978

('000' tonnes)

	1975	1976	1977	1978
Abalone	18	23	23	21
Yellow Fin	39	40	65	52
Bigeye	52	50	51	51
Skipjack	9	9	9	17
Alaska Pollock	328	445	268	258
Octopus	11	19	10	12
Squid	22	28	20	21
Total	479	614	446	432

Source: R.O. Korea, Ministry of Agriculture & Fishery.

3. Joint Ventures

In 1980 South Korean joint venture operations were being carried out in fourteen countries including Mexico, Singapore, Malaysia, Morocco, New Zealand, US, Panama, Spain and Chile. The total amount invested in these ventures by Korean firms amounted to US$8 million.

One unusual joint venture operation is planned in Argentina where up to 350 Korean families are expected to emigrate. This area of Argentina is south of the 40th parallel, in a windy, inhospitable area, where most Argentines will not live. One 1 500 tonne stern trawler will be manned initially by these Korean families and it will be used to fish swordfish for paste and sausage-type products. It will also conduct research on the potential for the development of other fisheries in the Southern Atlantic waters of Argentina.

There are numerous other joint venture options which the Koreans are negotiating which they proposed, particularly in the South Pacific. In one North American project they bid in 1979 to buy hake on Canada's Pacific coast from the Hake Consortium, but the bid was not negotiated successfully.

Unless Korea can negotiate sustained access to distant waters, principally through the technique of joint venture operations it has little hope of retaining its one time key role as the world's fourth (1977) most important volume fisheries exporter. Without distant water supplies, Korea is destined to become far less important a producer and a much reduced competitive threat in the world fish market.

C. DEMAND

Koreans consume large quantities of fish. Their consumption was 47.4 kilograms per capita in 1979. They are extremely conscious of quality and prefer to eat fish to meat. Most fish is purchased fresh from retail markets, although some is bought at supermarkets or from local peddlers. Koreans do not show much willingness to try either new products or even familiar products from foreign sources. They prefer fresh products over frozen. For details of preferred species see Appendix II.

Government sources predict an increase in fish consumption per capita during the next five years. It is expected that this will occur with increased family incomes. The possibility of future Canadian fisheries trade with Korea rests strongly on the premise of increased fish demand, increased family income, decreased domestic catch and a stable political situation.

The Office of Fisheries in South Korea has predicted marine products demand in:-

1980	to be	2.246	million	tonnes
1981	"	"	2.435	"	"
1982	"	"	2.491	"	"
1983	"	"	2.548	"	"
1984	"	"	2.607	"	"
1985	"	"	2.667	"	"

Although the Office of Fisheries expected a sharp increase in demand for marine products in 1980 to be followed by more gradual growth to 1985, the 1980 estimate was revised downwards. If demand in later years increases at the original predicted level of approximately 2%, the level of domestic demand will grow from about 2.2 million tonnes in 1980 to some 2.4 million tonnes in 1985. An important factor constraining demand is the rapid recent rise in fish prices.

D. DEMAND-SUPPLY BALANCE

1. Exports

In the recent past South Korea exported about one-third of her total fish catch. In 1976, 770 000 tonnes out of a total of 2 420 000 tonnes produced were exported. In 1978, South Korea ranked sixth in the world in terms of the value of its fish exports.

Exports by category are shown in Table 4. Tuna was the most valuable export in 1979, with sales worth US$465 million, surpassing even the Korean Department of Fisheries projections (see Appendix III). In 1980, Korean planners hoped to maintain their tuna trade, and bolster it with increased exports of fresh and frozen fish, plus seaweeds. These objectives may become increasingly difficult to realize over the next five years. At best, exports are likely to remain stable as access for the Korean fishing fleet to foreign fishing grounds is restricted.

2. Imports

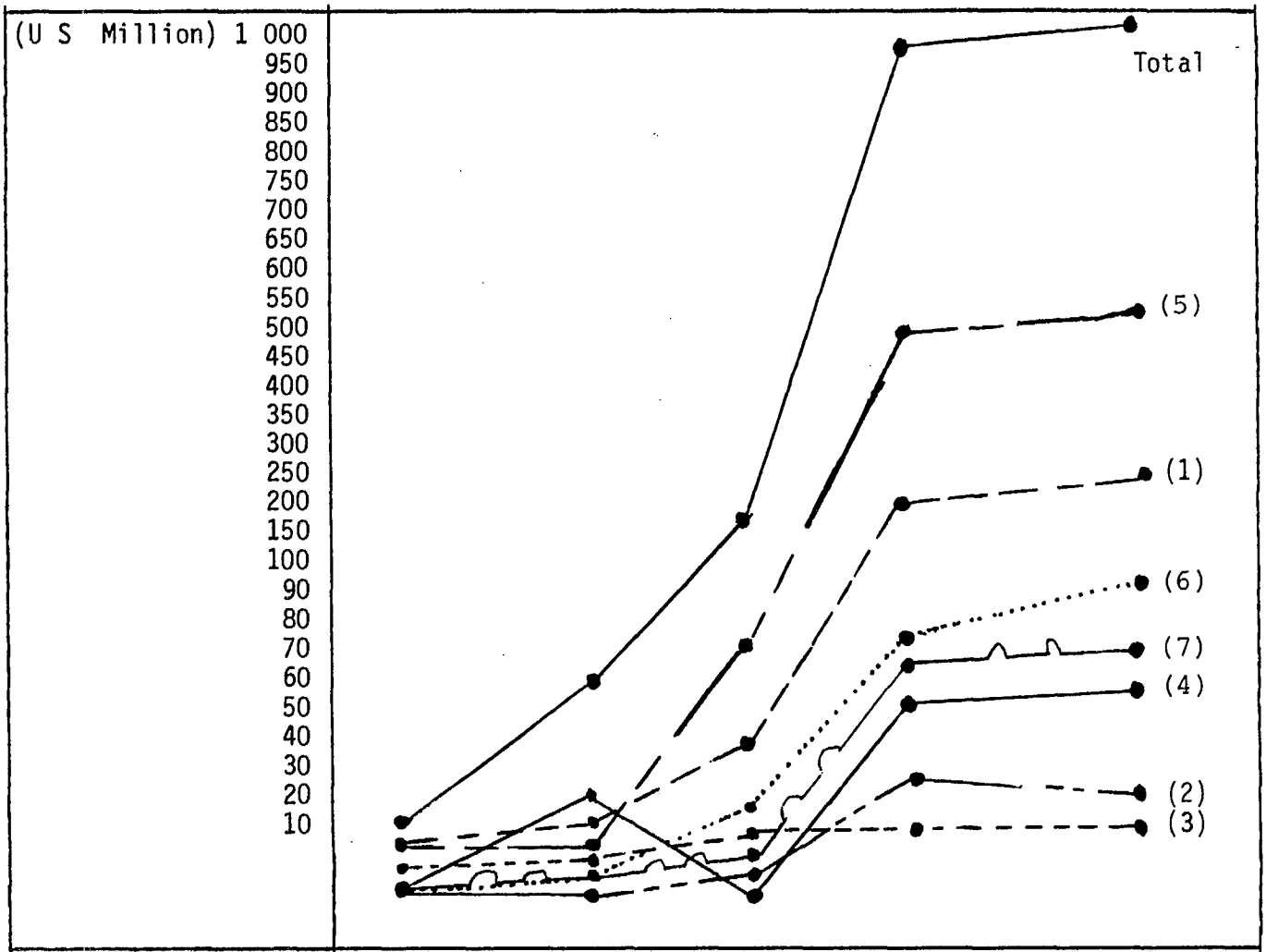
Korean imports of fisheries products doubled from 10 000 tonnes in 1978 to 20 190 tonnes in 1979 and will probably continue to climb in the future. Imports by species are shown in Table 5. The most valuable imports are croaker, squid, herring and pollock roe, herring and pollock. In the past, South Korea has bought frozen whole dressed herring, squid, roe, and cod from Canada. Although Koreans prefer larger squid varieties with a taste closer to those caught domestically, they nevertheless bought squid valued at nearly C$1 million in 1979 from Canada. This is shown in Table 6.

3. Demand-Supply Balance

The current demand-supply balance is shown in Table 7. As can be seen, production is only partly keeping up with increases in demand, so requirements for imports are likely to increase. The extent of these purchases depends on Korean access to distant waters and their governments stance on future imports.

TABLE 4

South Korea: Exports of fisheries products
(US$ million)



Item \ Year	1962	1967	1972	1979	1980 (Target)
Total	12.3	57.5	152.5	936.0	1 000.0
1) Live, Fresh and Frozen	5.7	12.8	39.9	242.6	250.0
2) Canned	0.2	0.5	5.0	25.9	25.0
3) Squid	2.4	4.6	11.4	9.1	9.0
4) Sea Weeds	1.3	14.4	3.2	40.7	44.0
5) Tunas	--	12.0	68.0	456.5	500.0
6) Others	2.7	2.1	14.9	80.7	92.0
7) Fishing Net	--	4.1	10.1	80.5	80.0

* Demersal species caught by deep-sea trawlers are included in tunas.

Source: Korean Fisheries, 1980.

TABLE 5

South Korea: Imports of frozen fish for domestic consumption, 1979.

ITEM	QUANTITY (tonnes)	VALUE US$
Croaker	2 938	3 197 603
Ainame	480	114 000
Squid	2 542	2 884 235
Aji-Horse Mackerel	1 322	462 500
Hokke	1 394	738 008
Akauo-Red Snapper	480	319 804
Sawara	210	102 297
Lenko-Dai	100	50 000
Lizard Fish	100	40 000
Isaki	100	50 000
A-Roe Pollock	2 574	945 172
Pollock	5 236	1 829 715
Cod (Dressed)	333	31 840
Roe Herring	1 200	1 940 000
Chile Hake	110	122 760
Seaperchtray	41	20 608
Mebaru	50	2 000
Red Pongy	34	20 148
Monk Fish	100	45 000
Flat Fish	394	206 250
Turbot	93	83 250
Red Fish	372	225 477
Other Fish Products	--	556 626
Total	20 203	13 987 293

Source: I.C.C. International

TABLE 6

South Korea: Imports from Canada of frozen, whole or dressed food herring

Year	Volume (t)	(C$000)	$ per kg
1972	4 886	1 145	0.234
1974	1 666	939	0.563
1976	5 820	4 520	0.776
1977	250	519	2.076
1978	1 265	3 697	2.92
1979	1 354	2 082	1.537

Source: Statistics Canada, Exports by Commodity, Catalogue No. 65206, Ottawa

TABLE 7

South Korea: demand for marine products

(10 000 tonnes)

	Demand		Total	Supply		per capita
Year	Domestic	Export		Produced	Imported	Consumption
1975	156	58	214	214	--	44 kg
1976	164	77	241	241	--	45 kg
1977	165	77	242	242	--	45 kg
1978	161	75	236	235	1	45 kg
1979 EST.	178	79	257	252	5	54 kg
1980 PLANNED	197	76	273	270	3	(eg. JAP 67 kg)

Source: Republic of Korea, Korean Fisheries, 1980.

E. POTENTIAL TRADE

1. Market Potential for Canadian Exports

South Korea is Canada's third largest trading partner in Asia and the fourth largest export market in the region. At present, the Koreans show interest in the following Canadian fisheries products:-
squid, food herring, and cod.

a) Squid - Canadian Illex is considered inferior to Korean caught squid. It is slightly smaller in overall size and in thickness. The desired size is 400 grams per piece. In 1979, the Koreans supplemented the locally caught squid with New Zealand squid caught by their own boats. The Koreans stated they prefer Argentine squid to Canadian Illex as it is larger than the Canadian product and has a taste closer to the local product. The market for squid is considerable and offers the greatest potential of all Canadian fishery trade possibilities with Korea.

b) Food Herring - Koreans were paying US$1.00 per kg F.O.B., for food herring in 1979. Size requirements are 300 gram/piece I.Q.F.*, or a lower price offered for bulk frozen herring. Food herring has a good potential market in Korea.

c) Cod - Koreans require small amounts of frozen round cod 800 grams or larger, over 35 centimetres long, packed 30 kg per box. The cod is sold to domestic consumers.

* Instant quick freeze (I.Q.F.)

e) Other Potential Products - Korean wages in the fishing industry are one fifth of those in Canada. Koreans earn approximately US$356 per month, for working 6 days per week, 10 hours per day. Because of these relatively low rates, and because there are no tariffs on imported products which are destined to be re-exported, South Korean processors are seeking frozen unprocessed fish which can be processed cheaply for export re-sale, mainly to Japan, at higher prices. There is an excellent potential market for round fish, if Canadians are willing to give up a share of the final export market for these processed products. Korea's most important customer for fresh, frozen and processed fish products continues to be Japan.

In summary, the potential for developing greater trade with South Korea depends on:-

- the stability of the Korean government,
- the continuity of its position on imports and exports,
- the state of Korean domestic fisheries resource stocks,
- the accessibility of foreign fishing grounds,
- the cost of producing finished products, and
- the desireability and feasibility of entering joint venture operations overseas.

2. Market Entry Requirements and Barriers

a) Market Organizations

The National Federation of Fisheries Co-operatives was set up by the government to protect fishermen and fishing companies. The two methods of selling fisheries products through this organization are described in Appendix IV.

b) Market Entry

South Korea imposes both tariffs and import quotas. Present government policy is to import only products in short supply which have a high domestic demand (i.e. squid) or are produced from joint venture operations.

There are two main government agencies that determine which imports will be permitted. These are the Ministry of Agriculture, Office of Fisheries, and the Economic Planning Board. Their policies should be checked by intending Canadian exporters, by enquiry through the Trade Commissioner serving in Seoul. The criteria for determining imports are described in Appendix IV.

A list of fishing companies, and government agencies and industry associations is given in Appendix V.

c) Market Requirements

Koreans are consumers of large quantities of fish. Their palates are refined, their tastes sophisticated, and their selection fastidious. Therefore, Canadian suppliers of consumer fish products (not raw fish for processing) must be prepared to meet high quality requirements. If such standards are attained, acceptance of Canadian products in the Korean market could be slowly cultivated. The rewards will be high in terms of the price that could be earned. However, any deviations from high quality standards would quickly tarnish the reputation of Canadian fish products and sour the market for future import development.

3. Import Policy Outlook

The concensus in the Korean fish industry is that the present Korean government decision to restrict imports by high tariffs and import quotas will gradually be changed over a period of years. Increased buying power combined with greater government response to the populace will add pressure to ease these restrictions. It is expected that industry will convince the government to allow products to move to these markets which offer the best price rather than insisting that the product be sold domestically for lower prices. Korean

dried squid could then be exported to higher priced markets in Asia and replaced domestically by lower priced Canadian products or products from our competitors such as Argentina.

If the Korean catch continues to decline then imports will be needed to meet the unsatisfied demand.

Low cost labour allows Koreans to produce cheaper finished fish products. With the rising demand for protein, South Korea may be able to produce products from underutilized fish species, including some available to Canadian fishermen, but not presently being processed in Canada.

As noted above, South Korea is continuing efforts to gain accessibility to fish in foreign controlled waters, but this is becoming progressively more difficult, meaning that pressure will mount for a liberalised fish import policy.

SUMMARY AND CONCLUSIONS

In spite of serious difficulties since the Korean War, South Korea has experienced remarkable industrial development, as reflected in a gross national product that has grown by 9.3% annually since 1962, and an increase in per capita income from US$82 in 1962 to US $1 624 in 1979.

Fish is a popular staple in the diet of the nation's 37.6 million inhabitants. Per capita consumption was 47.4 kilograms in 1979, and it is estimated that total consumption will increase from 2.2 million tonnes in 1980 to 2.4 million tonnes or more in 1985. Koreans are also extremely knowledgeable and sophisticated consumers, who demand high quality in fish products. As well, they have a strong preference for their own domestic products, and in fact are wary of foreign imports.

South Korea is an important fishing nation and has been a major exporter, but the industry is facing problems. In 1972, the nation was 13th in terms of volume and 14th in value among fish exporting countries, and by 1977 it had moved into fourth and sixth place respectively. This spectacular increase was based largely on the Korean fleet's catch of Alaska pollock (mainly in the North Pacific) which was processed in Korea and sold mostly to Japan as fish balls and other products. Because of relatively low labour costs, the Koreans have been able to offer the Japanese an attractive product at very competitive prices.

The industry encountered problems when the US, the USSR and other countries declared 200-mile economic zones. Overnight, the South Koreans lost access to Russian pollock. They can still fish in the US waters, but quotas are being reduced. As a result, feedstock for processing is down drastically, as are exports to Japan, and Korea is rapidly losing its position as an exporting nation.

To meet the shortfall, South Korea is urgently seeking agreements with other countries for access to waters in the South Pacific and South Atlantic, mainly through joint ventures. Such arrangements would yield not pollock but tuna and hake, which would require some restructuring of the processing industry.

There is the possibility also that opportunities may open up for some Canadian imports to fill the gap, especially if Canadian suppliers are willing to sell for processing and resale, and thus forego a share of the final export market for finished products.

As a consumer over the years, Korea has purchased quantities of Canadian roe herring, cod, squid and whole or dressed frozen herring. South Korea wants frozen fish it can process and resell at a profit, and there is an excellent potential market for Canadian round fish if the price is right.

The potential for expanding trade with South Korea depends on a number of factors, including the stability of the Korean government, policies on tariffs and import quotas, level of demand, volume of the domestic catch, and local production costs. Korea at present imposes strict import controls, but there is reason to believe these may be relaxed with increasing incomes and consumer demand.

Canadian suppliers of finished products must be prepared to meet very high quality standards if they want to penetrate the Korean consumer market. If these standards can be attained, acceptance of Canadian seafoods might be cultivated gradually, and the rewards could be rich. But Canadian exporters must understand that any deviation from quality levels would quickly tarnish the reputation of Canadian products and seriously retard the development of a lasting market.

Due to the presence of American troops in Korea during the War (1953), and strong American support and aid since, anyone selling into Korea faces competition from American sellers, and a strong orientation to the United States by Korean institutions.

APPENDICES

APPENDIX I

THE SOUTH KOREAN FISHING INDUSTRY (1979)

Korean Fishing Industry

Over 70 000 fishing vessels (34 000 powered and 36 000 nonpowered) totalling 756 000 gross tons, fish domestic waters. A deep sea fleet consisting of 845 vessels:

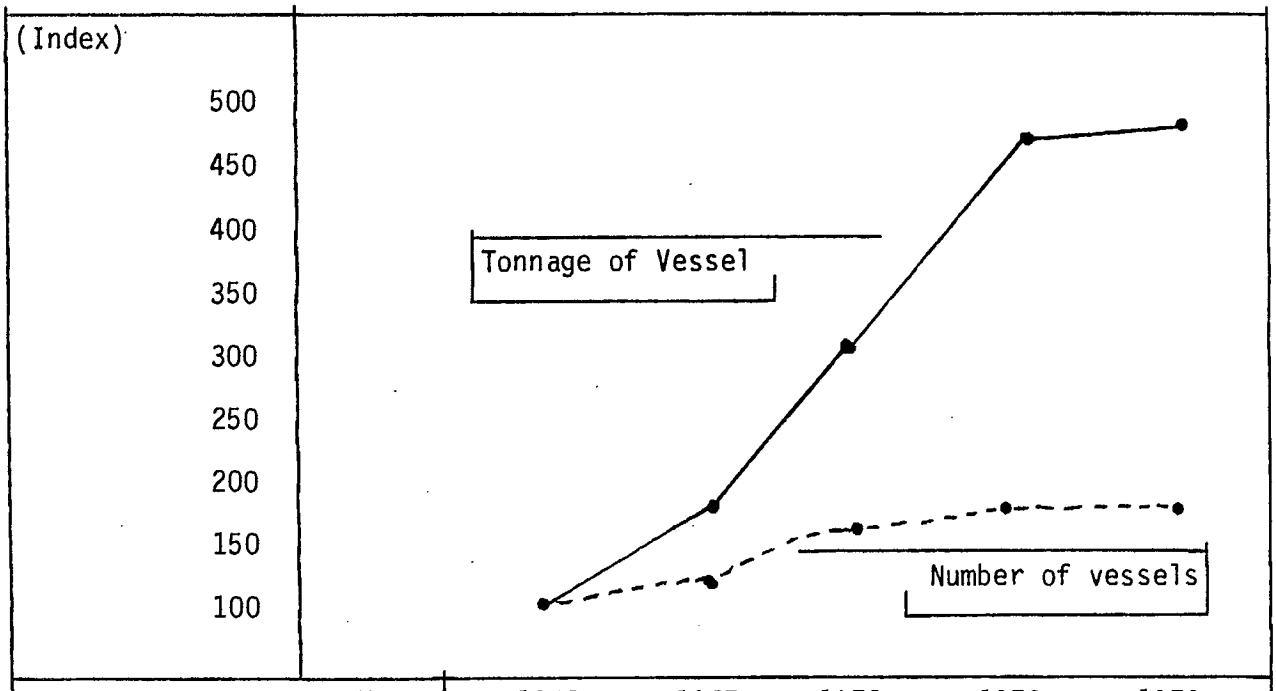
a) 497 tuna long liners (of 250-500 G/T),
b) 277 other trawls, and
c) 43 distant water trawlers

These vessels operate from 26 locations, including West Africa, Surinam, the Canary Islands, the Caribbean, Samoa and the Indian Ocean. (see TABLE A-1, next page).

Korean Processing Capabilities	1979	Planned 1985
Ice Making	6 000 tonnes per day	-- --
Freezing	4 000 tonnes per day	-- --
Storage	196 000 tonnes	263 000 tonnes
Canning	868 tonnes	1 100 tonnes

There are currently 313 cold storage facilities (with 78 more planned by 1986), and 80 canned fish plants in South Korea.

TABLE A-1
SOUTH KOREA: FISHING VESSELS



Category	Year	1962	1967	1972	1978	1979 (Estimate)
No. of Vessels (Unit: 1 000)	Total	45.5 (100)	57.1 (126)	67.7 (149)	70.3 (154)	70.4 (154)
	Powered	6.1	10.9	14.7	33.9	33.9
	Non-Powered	39.4	46.2	52.9	36.4	36.5
Tonnage of Vessel (Unit: 1 000G/T)	Total	161.7 (100)	262.0 (162)	451.8 (279)	756.1 (470)	772.2 (479)
	Powered	80.1	179.1	366.8	713.0	737.0
	Non-Powered	81.6	82.9	84.9	43.1	35.2

Source: Republic of Korea, Korean Fisheries, 1980 Ministry of Agriculture and Fisheries.

TABLE A-2

SOUTH KOREA: SUMMARY OF NOMINAL CATCHES AND TOTAL VALUES BY FISHERY SECTOR AND YEAR

(tonnes)

Year	Distant	Coastal	Offshore	Sea Culture	Inland	Aquaculture	Total	Values, (US$)
1965	8 563	430 617	122 767	73 675	314	30	635 966	19 735 744
1970	89 621	525 792	198 954	119 211	381	17	933 976	65 659 738
1974	418 380	919 198	345 661	340 169	976	155	2 024 539	225 006 290
1975	565 593	864 039	352 343	351 396	8 178	451	2 142 000	315 969 994
1976	724 260	839 414	415 681	410 670	14 516	470	2 405 011	412 079 951
1977	595 927	811 886	494 183	491 137	23 873	2 013	2 419 019	573 211 938
1978	566 223	837 114	523 548	390 997	31 065	1 831	2 350 778	742 641 814
1979	490 000	868 000	634 000	477 000*	40 000	--*	2 509 000	--
1980E	510 000	927 000	672 000	550 000*	41 000	--*	E 2 700 000	1 000 000 000

E = Estimate

* 1980 reports refers to single production figure for "agriculture"

Source: R.O. Korea, Yearbook of Fisheries Statistics, 1979

TABLE A-3
SOUTH KOREA: NOMINAL CATCHES BY SPECIES, 1975-1978

(tonnes)

	1975	1976	1977	1978
Common Carp	737	592	1 125	1 576
Cyprinids NEI	1 181	1 196	3 921	4 594
Freshwater Fishes NEI	663	1 777	5 197	7 762
Japanese Eel	200	160	320	579
Rainbow (steelhead) trout	133	57	87	79
Salmonoids NEI	1	28	43	59
Elongate Ilisha	2 263	7 177	2 882	2 732
Double-Armoured Gizzard Shad	4 945	5 866	7 850	7 159
Flatfishes NEI	2 250	2 631	1 720	2 197
Bastard Halibut	5 093	4 033	4 071	3 110
Yellow striped flounder	23 160	28 022	25 437	20 367
Tonguefishes (tonguesoles)	4 553	9 817	7 928	6 487
Atlantic Cod	882	0	22	--
Pacific Cod	11 870	22 393	7 207	3 283
Alaska Pollock	387 801	532 618	390 566	361 871
Blue Grenadier	--	--	9 865	4 942
Gadisformes NEI	--	--	1 361	11 476
Brushtcoth Lizardfish	768	415	612	223
Daggertooth Pike-Conger	8 385	6 161	8 758	9 852
Sea Eel	7 843	8 166	8 497	6 962
Conger Eels NEI	--	--	248	216
Japanese Seabass	4 193	1 338	2 285	1 433
Seabasses, Seaperches NEI	1 734	1 557	679	1 658
Sillago-Whitings	1 092	1 093	1 924	1 945
Yellow Croaker	40 056	45 456	25 156	25 084
Honnibe Croaker	1 999	1 951	1 353	1 751
Large yellow Croaker	21 147	--	--	--
Croakers, drums NEI	35 828	50 697	30 408	29 033
Silver Seabream	1 789	1 368	1 607	1 556
Porgies, Seabreams NEI	5 764	6 403	13 631	8 248
Japanese Sandfish	7 267	9 065	5 363	2 097
Korean Sandlaunce	2 597	3 232	5 098	5 303
Gobies NEI	--	1 798	2 809	3 479
Scorpionfishes NEI	5 556	4 596	6 417	4 096
Atka Mackerel	13 249	3 425	12 474	11 634
Indo-Pacific Flathead	2 893	2 211	2 707	1 652
Indo-Pacific Gurnards	132	220	219	101
Threadsail Filefish	91 394	114 671	128 098	199 920
Purple Puffer	3 971	3 429	5 431	4 268
Anglerfishes NEI	--	4 470	3 863	3 334
Pacific Saury	25 958	42 121	23 175	21 744
Japanese Halfbeak	1 140	787	827	1 253

TABLE A-3 (cont'd)

(tonnes)

	1975	1976	1977	1978
Striped Mullet	3 100	3 300	4 885	4 008
Japanese Jack Mackerel	6 563	7 088	5 431	3 948
Chilean Jack Mackerel	--	--	--	819
Jack and Horse Mackerels NEI	249	--	1 534	2 041
Jacks, trevailles	92	--	--	--
Amberjacks NEI	3 051	2 429	2 076	1 829
Silver pomfret	6 987	10 434	1 250	5 789
Butterfishes, pomfrets NEI	24 191	18 716	12 857	11 467
Pacific Herring	2 401	99	4 378	723
Japanese Pilchard (sardines)	1 555	11 154	50 299	53 829
Japanese scaled Sardine	--	2 869	6 227	9 607
Japanese Anchovy	175 451	126 202	140 842	183 211
Clupeoids NEI	--	--	4	--
Sierra	--	--	--	7
Japanese Spanish Mackerel	5 241	5 355	14 876	10 251
Skipjack Tuna	9 385	9 224	7 678	15 189
Northern Bluefin Tuna	32	256	3	21
Albacore	18 111	22 641	22 821	20 508
Southern Bluefin Tuna	253	47	2	98
Yellowfin Tuna	38 663	39 560	65 446	51 690
Bigeye Tuna	52 087	49 737	50 574	51 458
Sailfish	533	8 152	4 029	4 247
Blue Marlin	1 460	2 161	1 699	1 506
Striped Marlin	1 069	293	486	334
White Marlin	116	203	202	79
Billfishes NEI	5 987	2 152	2 468	2 552
Swordfish	695	1 889	1 955	1 808
Tuna-like fishes NEI	723	1 622	1 654	1 972
Largehead Hairtail	120 078	75 555	72 032	86 065
Silver scabbardfish	--	--	--	695
Chub (spanish) Mackerel	70 123	107 382	113 051	99 519
Dogfish Sharks NEI	425	--	--	--
Skates and Rays NEI	15 119	11 581	11 921	11 691
Sharks, Rays, Skates, etc.	6 908	7 066	5 460	6 502
Groundfishes NEI	--	56	--	--
Marine fishes NEI	162 246	155 733	204 152	176 339
Freshwater crustaceans NEI	361	163	120	246
"Gazami" Crab	13 703	11 176	16 768	16 691
King Crabs	100	9	144	228
Marine Crabs NEI	4 170	4 339	7 279	10 215
Kuruma Prawn	4 299	713	771	3 037
Fleshy Prawn	5 946	854	2 061	1 124
Shiba Shrimp	1 533	2 009	1 927	2 436
Pacific ocean Shrimp	10	--	--	--
Akiami paste Shrimp	13 524	10 734	13 269	5 952
Natantian Decapods NEI	4 966	16 168	11 518	13 614
Marine Crustaceans NEI	1 667	--	--	--

TABLE A-3 (cont'd)

(tonnes)

	1975	1976	1977	1978
Japanese clam	5 208	10 726	12 636	15 653
Freshwater Molluscs NEI	253	261	2 407	1 201
Gastropods NEI	1 290	2 129	6 561	3 692
Abalones NEI	568	622	606	496
Top-shell	3 213	5 221	5 165	4 960
Pacific cupped Oyster	3 213	5 221	5 165	4 960
Korean Mussel	25 319	44 444	74 091	44 713
Sea Mussels NEI	577	1 040	2 069	620
Japanese Scallop	44	489	41	37
Ark Clams	3 219	2 886	3 203	1 949
Blood Cockle	12 371	12 935	10 596	6 720
Cockles NEI	2 549	910	1 569	1 054
Hen Clam	16 525	24 023	18 475	26 209
Japanese hard clam	7 368	3 647	3 150	2 186
Japanese (manila) clam	38 255	35 376	37 649	31 996
Clams NEI	5 711	9 807	19 164	16 514
Cuttlefishes NEI	10 932	16 429	14 780	30 024
Japanese flying Squid	40 257	45 227	18 119	18 440
Octopuses NEI	19 686	28 028	17 010	17 448
Squids NEI	18 606	27 775	19 974	23 343
Marine Molluscs NEI	6 533	7 490	10 768	12 387
Sea-squirts NEI	4 654	5 066	3 872	2 702
Echinoderms NEI	2 321	3 497	4 119	2 969
Japanese Sea-Cucumber	1 321	2 588	2 788	2 509
Marine Worms NEI	994	829	1 146	1 207
Aquatic invertebrates NEI	929	1 033	2 441	6 354
Brown Seaweeds	166 435	190 884	229 349	184 919
Red Seaweeds	53 153	54 987	64 920	34 677
Green Seaweeds	1 844	2 763	2 112	2 107
Aquatic plants NEI	35 164	38 824	37 212	37 154
Total	2 002 172	2 245 275	2 256 547	2 197 660

Source: FAO, Yearbook of Fisheries Statistics, Fisheries Commodities, Volume 4, 1978, Rome, Italy.

APPENDIX II

SOUTH KOREA: DEMAND FOR MAJOR MARINE PRODUCTS

INCLUDING PER CAPITA CONSUMPTION

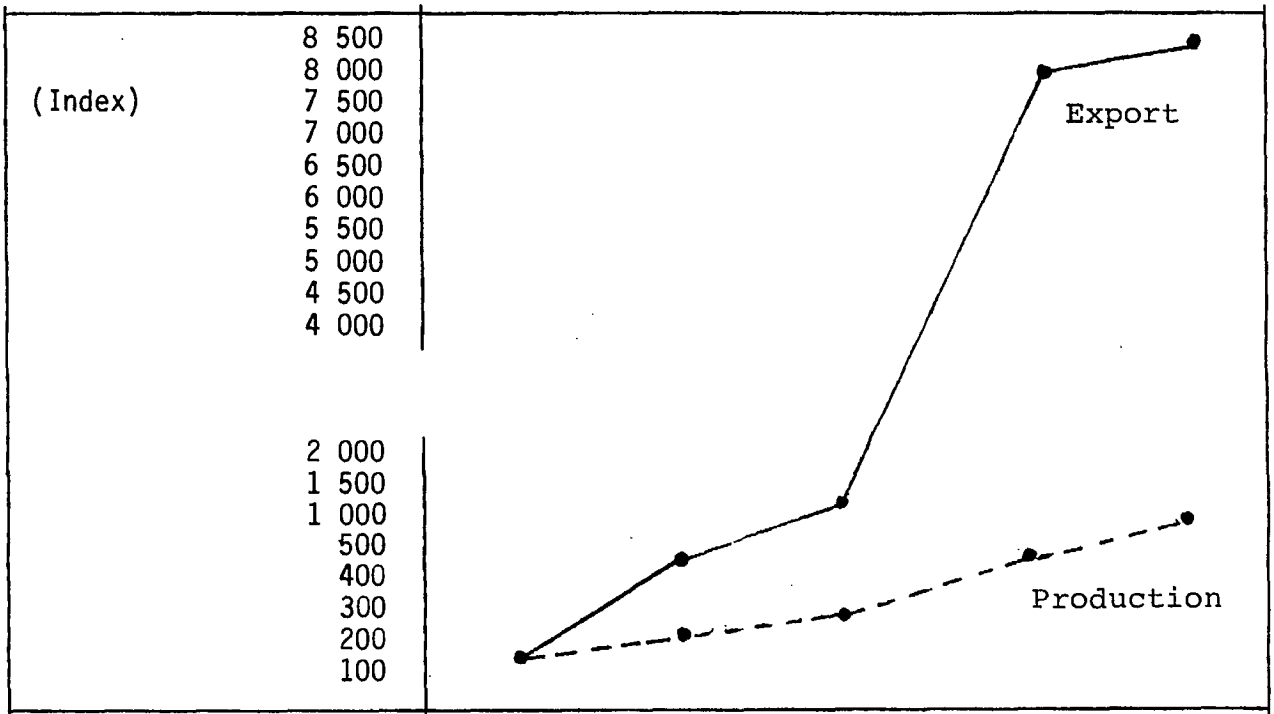
('000 tonnes, except per capita consumption in kilograms)

SPECIES	1976	1977	1978	1979	1980
Corvenia	45	26	25	32	24
Hairtail	75	72	86	78	72
Mackerel	97	107	96	100	141
Squid	24	22	27	24	26
Alaska Pollock	224	191	226	213	224
Saury	39	20	21	27	20
Pompret	17	12	11	13	12
Anchovy	126	141	182	150	153
Flounder	28	25	21	25	24
Oyster	100	60	55	71	104
Sea Mustard	91	127	101	106	122
Kelp	9	3	6	6	7
Laver	44	56	29	43	61
Puffer	11	9	17	12	13
Total	930	871	903	900	1 003
Per capita Consumption	45.8 Kg	45.6 Kg	46.1 Kg	47.4 Kg	51.5 Kg
Per Capita/GNP (US$)	765	965	1 279	1 624	N.A.

Source: Republic of Korea, Office of Fisheries

APPENDIX III
SOUTH KOREA: FISHERIES TREND

TABLE A-4
SOUTH KOREA: FISHERIES GROWTH



Category	Unit	Year 1962	1967	1972	1979 (Estimate)	1980 (target)
Production	1 000Tonnes	470 (100)	750 (160)	1 344 (286)	2 520 (536)	2 700 (574)
Export	$ million	12 (100)	57 (475)	153 (1 275)	936 (7 783)	1 000 (8 333)

Source: Republic of Korea, Korean Fisheries, 1980.

TABLE A-5

SOUTH KOREA EXPORT TRENDS

Year / Item	1980 (Plan)	1979 Plan (A)	1979 Performance (B)	B/A %
Total	1 000 000	770 000	935 994	112
Live & Fresh	120 000	110 000	119 126	108
Frozen	130 000	120 000	123 479	103
Squid	9 000	10 000	9 040	90
Canned	25 000	45 000	25 940	58
Sea Weeds	44 000	30 000	40 724	145
* Tunas	500 000	310 000	456 509	147
Others	70 000	53 000	61 370	112
Fishing Net	80 000	70 000	80 455	115

* Demersal species caught by deep-sea trawlers are included in tunas.

Source: Republic of Korea, Korean Fisheries, 1980

APPENDIX IV

SOUTH KOREA
MARKET ENTRY REQUIREMENTS AND BARRIERS

a. Trade Practices

1) Market Organization

The National Federation of Fisheries Co-operatives was set up by the government to protect fishermen and fishing companies. The current system is under review since it has been criticized for causing high retail prices.

At present there are two possible methods of selling product. (Table A-6, Page 31).

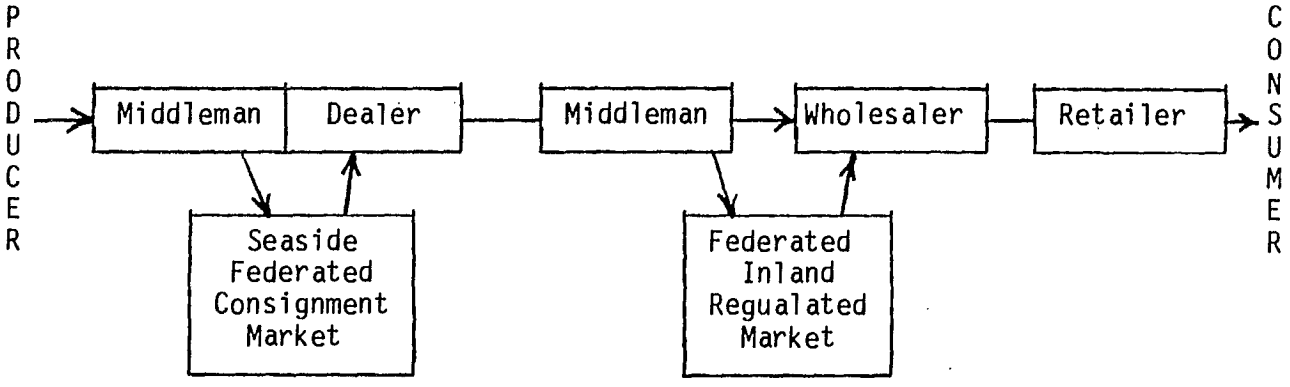
A fisherman may sell his catch direct to a wholesaler, consumer or exporting processor, or to a buyer for a federation co-operative market. These consignment markets are located throughout the country where the fish is landed. From there the product is either sold to a processor or through a dealer to a buyer for an inland market (e.g. in Seoul) (50% coming from private wholesalers and 50% from the Federation Consignment Market). The product is then sold to retail merchants for sale to the public. This system is regulated.

b. Market Entry

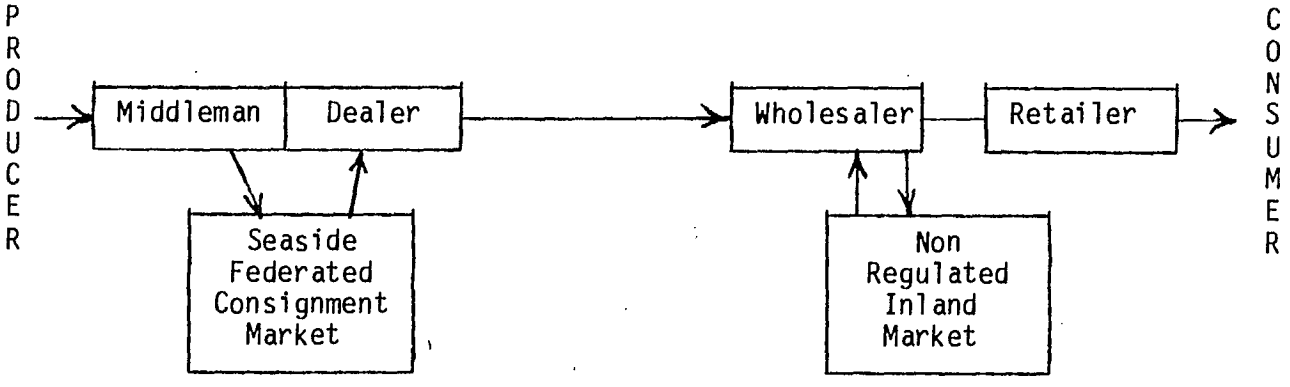
South Korea imposes both tariffs and import quotas. A Korean importer must apply to the government for an import licence. The importer applies for a specified tonnage. If he receives the licence he then may import the product. Government policy at present is to import only products which at a specific time have a high domestic demand, or produced from joint venture operations.

TABLE A-6
SOUTH KOREA
FISHERIES MARKETING CHANNELS & MARGINS

Model 1 Marketing Through Systematical Market



Model 2 Marketing Throguh Non-Regulated Market



Source: Republic of Korea, National Federation of Fisheries Co-operatives.

TABLE A-7
SOUTH KOREA
MARKET MARGIN ISSUE BY
THE FEDERATION OF FISHERIES CO-OPERATIVES

Species	Total Margin%	Expense%	Net Margin%
Croaker	42.3	4.9	37.4
Mackerel	51.9	10.2	41.7
Hairtale	49.5	4.3	45.1
Dried Alaska Pollock	42.3	18.2	24.1
Dried Anchovy	32.9	4.4	28.5
Sea Laver	28.3	4.8	23.5

All products sold to the military are purchased through the Federation.

Source: FEDERATION OF FISHERIES CO-OPERATIVES, SEOUL

There are two main government agencies which determine which imports will be permitted:

(i) The Ministry of Agriculture and Fishery, Office of Fisheries.

This Department receives strong lobbies from Korean fishermen opposing removal of trade barriers, and

(ii) the Economic Planning Board

This agency will review tariffs if they are too high and has as a mandate the maintenance of the lowest possible consumer prices.

At present, only companies which have had a good record of previously importing products may get a licence. Each applicaton is screened independently. If successful, the usual duty rate applied is 25% of the C.I.F. commodity value.

Aside from its role in the establishment of Import Quotas, the Office of Fisheries has the following major policies as its mandate for 1980. These policies cover:

a) Conservation of marine resources and maintenance of fishing orderliners.

b) Development of aquaculture and inland fisheries.

c) Promotion of off-shore and deep sea fisheries.

d) Guidance of safety fishing operation and productive techniques.

e) Expansion of infra-structure of fisheries.

f) Improvement of the marketing system.

g) Intensive assistance of deserted fishing villages.

h) Extension of fisheries fund.

APPENDIX V

SOUTH KOREA: COMPANIES CONTACTED

ICC Corporation

- C.P.O. Box 747, Seoul, Korea
- Telex - ICCCO K27251, K26548, K23702
- Tal-Chun Hong, Managing Director, Agricultural & Fishing Department, Food Division
- G.D. Lee, General Manager, Food Import Department
- K.J. Cho, Assistant Manager, Food Import Department
- Park Chang, Food Import Department
- A large multifaceted company with subsidiary companies in manufacturing, construction, finance, transportaton, chemicals, etc.
- assets over 1 billion dollars
- sales in 1979 - 1.3 billion dollars - 500 million in domestic sales, 800 million in export sales
- employ 50 000 persons in 22 companies
- imported previously from Canada
- interested in squid, herring and cod for domestic market only

---

Kooil Industries

- C.P.O. Box 558, Seoul, Korea
- Telex - KOOIL K27447
- M.K. Kim, Assistant Manager
- one of the largest fishing companies
- 70% of business from deep sea plant
- 2 freezing plants, 40 fishing ports
- sold shipbuilding interests recently
- catch, import and export
- imported cuttlefish and squid, food herring, black cod, cod and herring roe. Possible interest in pollock roe.

APPENDIX V (cont'd)

Daewoo

- C.P.O. Box 2810, Seoul, Korea
- Telex - DAEWOO K23341/5, K24295
- Bong-Soo Son, Agriculture and Fisheries Sec., Import Department
- a very large company, but with few imports from Canada
- establishing office in Vancouver and Montreal
- joint venture operation with Joint Trawlers
- interested in food herring, squid and cod

Don Jin Industrial Incorporated

- Kae San Bldg., #19 - 29, 5-KA, Eulchi-Ro, Chung-Ku, Seoul, Korea
- Telex - UNIAHN K26286
- Kyo S. Ahn, President
- Telex - UNIAHN K26286
- Dae R. Ahn, President of subsidiary fishing company, UNICO Industrial Inc.
- owns fourth largest coal mine in Korea
- into ranching, crude oil and real estate
- have shrimp and tuna trawlers
- interested in joint venture opration on tuna with Canadian company

---

Seoul Fisheries

- Noryangjin Fish Market
- Jae Kil Ro, Director
- private wholesale market
- 60 private companies are shareholders
- fish brought from coast and sold
- imported fish brought into market
- imported cod from Canada last year

APPENDIX V (cont'd)

Government Agencies and Industrial Associations

National Federation of Fisheries Cooperatives
9th Floor, Sooeun Bldg.
Jung Kwon Kim, Director, Marketing Department

Function is to protect fishermen

- regulate sale of fish and maintain fish prices
- lobby for government support
- plays role in guidance, production, marketing, financing and safety.

Bureau of Fisheries Promotion

- Chong Hui, Lee, Director General
- Mean Jhong, Kim, Assistant Director
- Sung Chae, Kim, Chief of Statistics
- interest is to protect fishermen
- trying to restrict trade to joint venture operations
- licence offshore boats
- conservation
- enforcement

Korean Deep Sea Fisheries Association

- Chang Myeng Byen, Chief, Department of the Planning & Research
- Yoon Ho Roh, Manager, Department of International Cooperation
- negotiates with union members on Deep Sea Fishing Boats
- 75 member companies
  - tuna
  - deep sea trawlers
  - shrimp trawlers
  - cold storages
  - canning
  - fish meal
  - charge fishing fee

APPENDIX V (cont'd)

Northern Pacific Fisheries Development Association

- Room 821, Deawang Bldg.
- Tel. 22-9650, 22-1637
- Hon Suk, Cho, Executive Director
- Woo Sun Hong, Vice Chairman
- Kwong Yul Lee, Manager
  - involved in joint venture fishing operation in North Pacific
  - interest in Pacific hake allocaiton
  - represents 54 vessels with a gross tonnage of 87489.85.

APPENDIX VI
TRENDS IN THE KOREAN FISHING INDUSTRY

Much has been made of "the miracle on the Han" as the industrialization of Korea over the last twenty years has come to be known. An important but little noted aspect of the development of modern Korea is the development of the Korean fishing industry. Like many other facets of the Korean economy, it has grown spectacularly (in fact the growth of the industry has exceeded the growth of the economy). Like many other sectors, exports have been extremely important (while fish production (by volume) has multiplied six times since 1961, exports have multiplied 80 times (by value and over 20 times by volume). Moreover, the net foreign exchange rates of the fishing industry has been considerably higher than most forms of manufacturing. When it is noted that employment in the industry has increased by only 25% over the last twenty years and the percentage of the working population employed in fishing has actually fallen, the contribution of the fisheries to development becomes quite clear.

2. To extend the parallels further, the fishing sector is, like many other sectors, facing fundamental adjustments in the coming years. The pattern of recent production and export both indicates the problems and illustrates how the industry reacts to them. It remains to be seen what impact these changes will have on Canada but the trends give some ground for the suspicion that the Korean industry will compete more directly with ours in the future in export markets.

3. The spectacular growth in both production and export over the last 20 years should not be allowed to mask a number of changes that took place within that period. From 1963 to 1976 production grew from 532,000 tonnes to 2.4 million tonnes. The growth of the distant water fishery accounted for 35% of this growth. Since 1976 production (in volume terms) has remained static, the distant water fishery has fallen by over 30% and the shortfall has been made up by increases in the adjacent water fisheries. (The distant water fisheries includes both tuna long line and otter trawl).

4. What this means is a reversal of a traditional pattern of production. In 1961 the coastal and offshore fishery accounted for over 96% of production, distant water fishery less than ¼ of 1% and aquaculture almost 4%. In 1972 the share of the coastal and offshore fishery had fallen to 71% while the share of the distant water fishery had risen to 17% and that of aquaculture to 12%. In 1976, the highpoint of the Korean distant water fishery, the share of that fishery in total production had risen to 30%. By 1979 it had fallen back to 20% and by 1980 to 18%.

5. These abrupt changes in pattern reflect of course the effect of the declaration of the 200 mile economic zone as well as the priority the Government attached, in earlier years, to helping the adjacent water fishery. As we have noted previously this policy was altered last year when the Government somewhat belatedly recognized that the deepsea fishery would require more help.

6. Future production projections are also interesting. In 1986, production is expected to be 3 million tonnes (in contrast to 2.4 million tonnes in 1980). However, domestic demand in 1986 is forecast to be 2.1 million tonnes (in contrast to 1.6 million tonnes in 1980). Since imports are relatively negligible and are likely to remain so, this means that almost all the projected increase in production will be swallowed up (literally and figuratively!) by domestic consumption. Since exports over the same period are projected to increase from $1 billion to $1.5 billion (in 1981 dollars), the increase is expected to come from increased value-added rather than volume increases.

7. The export pattern also shows some interesting trends. The first thing to note is that while the quality of fish exported has fallen significantly from the highpoint of 1977, receipts continued to rise quite dramatically until 1979 and, more erratically and moderately since then. Significantly this is not quite true for the deep sea fisheries where quantity of exports have steadily dropped since/receipts continued upwards until 1979 and then dropped steeply. This anomoly which was the result of world tuna prices indicated that as was the case for total production, the export share of the distant waters fishery is diminishing and are becoming relatively less important to Korean fisheries exports.

8. This judgment is born out by the statistics. By value the share of the deep sea fisheries exports in total exports was in 1977, 44.6%. In 1978 the figure was 39.2%. In 1979 it was 48.7%. In 1981 it was 40.4%. For the first eight months of 1981 the percentage was 32.4%. There is a good degree of volitality in these figures especially in 1979 when there was a huge increase in value of deep sea fisheries exports and a slight decrease in volume. However, the general tendency is downwards. As was noted above deepsea fishery exports were only 32% of total fishery exports by value during the first eight months of 1981. Indeed receipts for the whole year from this sector look like being $100 million off the planned target of $410 million and $50 million off 1980 receipts. With total fisheries exports (by value) increasing by 15% for 1981, exports of canned fish, live and fresh fish and salted fish are doing much better than projected and are assuming relatively greater importance in the pattern of fishery exports. (As if to confound the points made above, distant water fishery exports in January of 1982 rose 33.6% over the corresponding period of 1981. Moreover, notwithstanding the fact the deepseas fishery product exports in 1981 were probably in the neighbourhood of $330 million, the Deep Seas Fisheries Association has set its goal for 1982 at $451 million).

9. As far as the market side is concerned, the tendency towards the decline of deepsea fishery exports is also discernible. About 66% of all fishery exports by value go to Japan and about half of this is pelagic fishery products. (Another 11% of fishery exports go to the USA and the only other market which is faintly significant is Spain which in 1979 imported $40 million, 92% of which represented the sale of tuna). During 1981 the Japanese quota of 60,000 tonnes for the importation of tuna from Korea will not be filled while Korean sales of adjacent and inshore fishery products (especially cuttlefish) have boomed. Moreover, there has been sharp increase in the export of canned oysters to the USA and Australia (among others). Indeed export of canned fish products (which consist of 58% oysters, 12% mussels, 8% mackerel, 8% clams and 14% varied other species) were in 1981 up 40% over 1980. Significantly, letters of credit for canned fish products were up over 200%.

10. It is difficult in the final analysis to determine the exact import of all these changes. Despite the declining importance of the deepsea fishery, the 200 mile economic zone and the outmoded nature of the Korean fishing fleet, the Koreans are continuing to put priority on the deepsea fishery and are providing considerable aid to it. Despite all the problems Korea might yet bring about a recovery of this sector but it is too early to tell. However, the problems themselves have led to: a) increasing efforts to market the products of the inshore and adjacent waters fishery (and of aquaculture); b) imaginative new efforts to form joint ventures with U.S. West Coast fishing firms and with Alaskan firms for salmon and crab; c) discussions with a number of South American countries concerning joint ventures for shrimp cultivation projects; and d) considerable interest in the potential of the Antarctic fisheries. What this means in the medium and long term is that the pattern of Korean fisheries exports are going to become considerably more diversified. This itself could mean that the Korean export industry could eventually compete more directly with our industry than it does now.