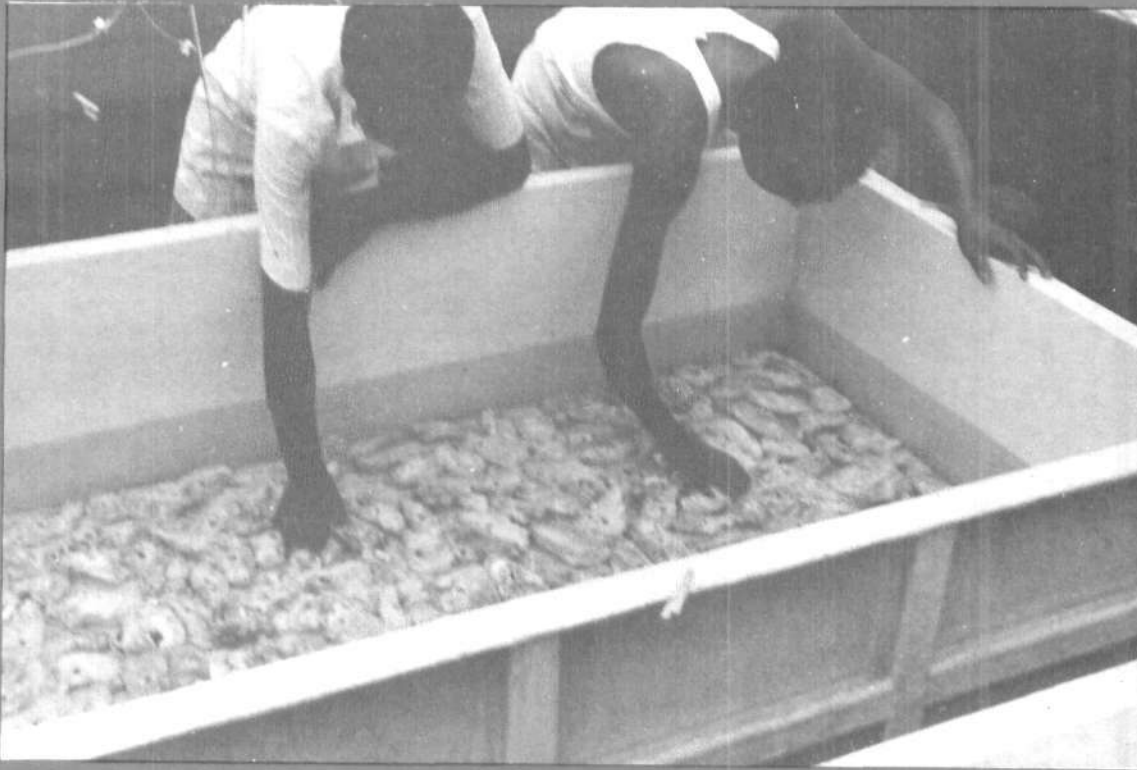




समुद्री मात्स्यकी सूचना सेवा MARINE FISHERIES INFORMATION SERVICE

No. 125

DECEMBER 1993



तकनीकी एवं
विस्तार अंकावली

TECHNICAL AND
EXTENSION SERIES

केन्द्रीय समुद्री मात्स्यकी
अनुसंधान संस्थान
कोचिन, भारत

CENTRAL MARINE FISHERIES
RESEARCH INSTITUTE
COCHIN, INDIA

भारतीय कृषि अनुसंधान परिषद
INDIAN COUNCIL OF AGRICULTURAL RESEARCH

OVERSEAS MARKET PROSPECT FOR OYSTER MEAT AND OYSTER PRODUCTS

Introduction

Among the molluscan shellfish, oysters are considered very delicious and also nutritious with appreciable amounts of glycogen, proteins, vitamins A, B and minerals. The succulent flesh of the common edible oyster has graced the tables of gourmets and gourmands alike since time immemorial. Its reputed powers range from aphrodisiac to restorative and was often prescribed by the 19th Century doctors in North America. Oysters are reportedly cultured by the ancient Romans, and old woodcuts show oyster harvesting in Japan.

The ubiquitous oyster's occurrence on practically all coasts, temperate and tropical, is undoubtedly responsible for its popularity. Even

without refrigeration it can remain alive and wholesome for several days allowing it to be transported to distant markets. While oysters are considered a luxury product in France (and in the rest of Europe), they have been quite inexpensive in the major landing countries viz. USA, Japan and Rep. of Korea.

Indian Market for oyster products

In India till recently oysters were consumed in the coastal areas only, mainly by fisherfolk and a few others to a limited extent. However, with the growing awareness for more nutritious food, demand for oyster meat has risen in the country among all classes of people. *Crassostrea madrasensis* is the common backwater oyster found in all estuaries and backwaters on the east-

coast, but confined mostly to the southern region on the west coast. It occurs in abundance particularly in Ennore and Pulikkat areas in Madras, Sonapur in Orissa and the Vembanad Lake in Kerala. *C. cucullata* is the common rock oyster of India found in all the intertidal rocks of the east coast and the west coast.

As oyster culture is practiced in many countries to meet their domestic demands, no intensive farming is practiced in India for export market. Small scale farming is practised to meet the domestic demands of the country. However, since 1981 oyster shell powder is exported to the Arab countries, as detailed below

Q : Qty in tonnes
V : Value in Rs. lakhs

Export of oyster shell powder from India						
Country	1985	1986	1987	1988	1989	1990
Bahrain	Q : 100.00 V : 0.62	618.00 4.39	947.00 6.54	— —	— —	— —
Kuwait	Q : 100.00 V : 0.62	— —	101.00 0.69	— —	— —	— —
Saudi Arabia	Q : — V : —	— —	200.00 1.28	— —	— —	— —
Oman	Q : — V : —	— —	200.00 1.22	— —	— —	— —
UAE	Q : — V : —	98.00 0.91	— —	— —	160.00 1.11	— —
Total	Q : 220.00 V : 1.23	716.00 5.30	1448.00 9.73	— —	160.00 1.11	— —

World oyster markets

Many countries harvest oysters from natural beds or culture then commercially, but the output from only four countries viz. Korea Rep., Japan, USA and France together accounts for over 78% of the total world landings, as seen below :

World Oyster Landings (in shell) (in '000 tonnes)

Country	1987	1988	1989
Korea Rep.	303.2	298.7	243.0
Japan	258.8	271.0	256.3
USA	217.6	167.7	158.4
France	138.2	137.8	139.8
China	65.5	74.0	73.2
Mexico	50.7	56.1	56.3
Taiwan (PC)	21.2	28.5	28.5
Philippines	16.3	15.9	17.3
Total	1109.9	1093.7	1020.0

The world landings of oysters have stood at one million tonnes during the past decade. Major marketwise analysis is given below :

1. Korean oyster market

The Rep. of Korea was the main oyster producing country in the world till 1988 but in 1989 Japan became the topper. Most of the production comes from culture fishery, *Crassostrea gigas* being the leading species. Though oyster culture was quite significant at the end of last century, production for exports began in the 1960s. The Rep. of Korea, helped by low labour cost, has successfully developed its exports of oysters, (Fresh/Frozen meats) to Japan and USA and canned products to N. America, Australia, Hong Kong etc. Dried (salted) oysters are also exported to some Asian countries, mostly to Hong Kong.

Canned oyster exports from Korea (in MT)

Country	1984	1985	1986	1987	1988
USA	3473	5244	8732	6683	6442
Canada	259	923	1609	842	1322
Australia	351	679	826	541	794
Hong Kong	121	13	127	34	5
Others	209	241	363	416	418
Total	4413	7100	11657	8516	8981

The Korean Government, aware of the potential challenges from the neighbouring countries, viz. China, Thailand, Philippines etc. has recently enforced minimum export prices to ensure quality of the product exported. Despite the spectacular expansion of Korean exports, domestic consumption is also growing.

2. The Japanese oyster market

The Japanese oyster landings (all from culture) have been stable for several decades, averaging 250,000 tonnes. They are mostly shucked and sold fresh. Consumption is stable at 0.30 kg meat per capita and limited to the winter period. Due to the exceptionally high productivity of Japan's intensive culture farms, oysters are not an expensive product in the domestic market — average price US \$ 1.30 - 2.50/kg and US \$ 5.00 - 8.00/kg depending on the suitability for raw consumption or for cooking.

Japan was traditionally an exporting country for canned oysters, but the industry suffered due to stiff competition from other Asian countries, especially the Rep. of Korea which managed to produce at a lower cost and export significant quantities of fresh/frozen oyster meat to Japan. Exports of fresh/frozen oysters, although limited (200-300 tonnes) have continued to the traditional markets like UK and Australia. Only a marginal trade, primarily for Japanese restaurants and shops in foreign countries is expected to continue in the future.

Japan Oyster Exports (in MT)

Country	1983	1984	1985	1986	1987	1988
Live, fresh, frozen						
Australia	43	81	84	77	45	39
UK	49	37	69	75	86	61
Hong Kong	21	148	48	37	46	33
Singapore	103	26	70	12	51	21
Others	30	56	40	83	14	15
Total	246	348	311	216	242	206
Canned in oil						
USA	180	271	246	146	9	—
Others	13	83	52	18	18	44
Total	313	354	298	164	27	44
Canned in water						
USA	577	835	1081	639	530	809
Others	106	77	101	43	51	126
Total	683	912	1182	682	581	935
Salted/dried						
Hong Kong	97	88	101	96	26	na
Others	28	36	19	35	15	na
Total	125	124	120	131	41	na

Despite the fact that Japan is the second most important consuming country in the world, imports have been so far very limited, despite the successful export industry in the nearby Rep. of Korea. The demand for oysters in Japan is likely to stay fairly stable in the near future and continue to rely exclusively on domestic supplies. This outlook could change if the degradation of environmental conditions become very serious in coastal areas, affecting the oyster culture industry.

3. The US oyster industry

Despite the fact that US seafood consumption rose over the years, the oyster meat consumption declined from 0.19 kg in 1960 to 0.15 kg in the 1980s. This was reportedly due to the sharp decline in landings. About 90% of

the US domestic production is shucked for the fresh/frozen market and the remainder goes for canning. Shucked oyster price ranged from US \$ 11.00/kg for standards to US \$ 15.00/kg for selects.

Traditionally the US consumers prefer the Atlantic Oyster (*Crassostrea virginica*) to the Pacific cupped oyster (*C. gigas*). However, with the decline of the Atlantic coast industry and the expansion of the Pacific coast oyster industry, the US consumers are becoming more familiar with the Pacific cupped oyster. With the increasing desire in the US consumers to eat more natural food, market for oysters in half shell has expanded recently in USA. The oysters in half shell recently popular in USA. The oysters destined to be sold in the half-shell are usually cultured in trays or by other off-bottom techniques. These oysters are small with a clean shell and are more appealing compared to wild oysters. Most adapted strain is the Kumamoto oyster which is deep cupped and has a very delicate taste. This type of product is going mainly for restaurant trade and commands premium price in the market.

Imports of Oysters have climbed steadily since 1980, due to the decline of the domestic production and the availability of cheap imported frozen and canned product from Asian countries, especially Rep. of Korea. Now there is also a growing demand in the food service market, especially for blocks of IQF meat.

US Oyster Imports (in 1,000 MT)

Country	1983	1984	1985	1986	1987	1988
Fresh/frozen						
Korea Rep.	1.2	1.1	1.6	1.1	1.7	1.5
Canada	0.1	0.4	0.5	0.5	0.7	0.8
Japan	0.2	0.2	0.3	0.2	0.1	0.1
Others	0.1	0.1	0.0	0.1	0.1	0.1
Total	1.6	1.7	2.4	1.8	2.5	2.5
Canned in brine						
Hong Kong	1.8	4.0	5.0	5.4	5.5	4.6
Korea Rep.	3.9	2.9	3.3	4.4	4.8	3.2
Japan	0.6	0.6	1.3	0.8	0.5	0.9
Others	0.1	0.2	0.1	0.4	0.2	0.2
Total	6.3	7.7	9.7	10.9	11.0	8.9
Canned/smoked						
Korea Rep.	2.0	2.0	2.8	3.4	3.6	3.4
Japan	0.2	0.3	0.4	0.2	—	—
Others	0.0	0.0	0.0	0.1	—	—
Total	2.2	2.3	3.2	3.6	3.7	3.5
Total canned	8.5	10.0	12.9	14.5	14.7	12.4

With the US oyster market turning to more high quality products, cultured oysters because of its homogenous grading and quality, will receive a premium which may supplant the wild product in importance.

French oyster market

France is the major oyster producing country in Europe. Nearly all output is cultured; oyster farming is a small artisanal and traditional family activity. About 97% of the total production is accounted by Pacific cupped oyster (*Crassostrea gigas*).

French oyster consumers prefer to eat the product raw, on the half shell. Oyster marketing is a highly specialised business and the trade is strictly controlled by a health register which oversee packaging and distribution.

France is traditionally exporting oysters to other West European countries as part of the popular French cuisine.

Live/fresh oyster exports from France (in MT)

Country	1983	1984	1985	1986	1987	1988
Flat oyster						
Spain	103	—	—	—	363	303
Germany FR	44	—	—	50	133	169
Switzerland	113	110	135	163	163	33
Others	181	0	132	113	190	60
Total	441	110	267	326	849	565
Cupped oyster						
Italy	284	501	646	1008	1846	2725
Belgium	290	329	325	468	437	436
Germany FR	77	86	182	511	234	217
Switzerland	85	79	102	72	126	209
Spain	—	162	338	317	110	76
Others	164	108	194	153	252	230
Total	900	1265	1787	2529	3005	3893

Overstocking of oysters is often considered as a major reason for the decrease in the French oyster production. Due to expansion of urbanization, tourism and industry, less unpolluted sites remain for shellfish culture. The prospects are thus not very prospective for oyster culture in France. Also demand for oyster seems to stagnate and younger consumers prefer to buy easy to prepare food like smoked salmon, foie-gras etc. In addition, other European countries have begun to develop their own oyster culture and will probably import less in the near future.

Canadian oyster market

The Canadian Oyster landings were somewhat steady at about 6,000 tonnes in the recent years.

Distribution and consumption patterns in Canada are quite similar to that of USA. Consumption of frozen shucked oyster is limited and occurs mainly during summer months when the fresh product is in short supply or of poor quality. For the half shell, the restaurant trade represented over 80% of the sales and 15% for the retail market.

Canada also imports about 1500 tonnes of canned oyster from Asia, mainly from Rep. of Korea.

Canadian oyster Imports (in MT)

Country	1983	1984	1985	1986	1987	1988
Fresh/frozen						
USA	707	619	624	872	720	490
Korea Rep.	*	*	*	*	108	*
Others	13	25	86	53	10	109
Total	720	644	710	925	838	599
Canned						
Korea Rep.	1125	1361	1395	1547	1108	1696
Others	89	60	32	67	38	50
Total	1214	1421	1427	1614	1146	1746

*Included under "Others"

With the development of oyster farming in Canada there are good prospects for exporting *Crassostrea virginica* to USA where there is a growing deficit of the product and *Ostrea edulis* to Western Europe where this species is very popular and fetches a high price because of the present low availability (disease problems).

The Hong Kong oyster market

Almost all oysters cultured in Hong Kong are marketed fresh and shucked, and consumed half in restaurants and the other half at home. Wholesale prices of fresh shucked oysters averaged to US \$ 6.30 (1988). Hong Kong is the world's most important market for dried and salted oysters because of the high demand by the cantonese community which forms the majority of the population.

About 500 MT of fresh/frozen oysters and about 1500 MT of dried oysters are annually imported in Hong Kong to satisfy the domestic market. Significant processed quantities are re-

exported world-wide for the Chinese ethnic food trade.

Hong Kong is expected to remain the key market for salted/dried oysters. Hong Kong exports every year over 13,000 MT of oyster sauce worldwide. The exports of salted/dried oysters are expected to expand further as no difficulties are foreseen since landings in major supplying countries (Japan, Rep. of Korea and China) are stable or increasing.

Other minor markets

Other markets where the oyster industry is progressing are New Zealand and West European countries like Netherlands, UK, Ireland, Spain, Italy and Greece. While the European Countries trade each other, New Zealand oysters are exported mainly to Australia.

Export prospects for oyster meat from India

Oysters are mainly consumed by populations which have been familiar with the product for a long time, often because they produce it. Because the main oyster producing countries are at the same time the major consuming countries, the international trade of oysters is rather limited, about US \$ 150 million.

Oyster Consumption in selected countries (in MT)

Country	Domestic	Imports	Exports	Supply	Consumption (per capita)
Hong Kong	0.2	3.0	1.0	2.2	0.40
France	18.0	—	1.0	17.0	0.30
Japan	40.0	—	3.0	37.0	0.30
USA	18.0	22.0	0.5	39.5	0.17
Korea Rep.	40.0	—	25.0	15.0	0.35

International oyster trade (byproduct form)

Q : in '000MT

V : in Million US\$

Product	Quantity	Value	Markets
Live, in shell	7.0	20	West Europe,
Fresh shucked	2.0	20	USA, Canada, Australia,
Frozen shucked	6.0	30	Japan, USA, Hong Kong,
Canned	14.0	65	USA, Canada, Australia,
Salted/dried	1.5	15	Hong Kong
Total	300.0	150	
(equivalent live weight)			

Most of the international trade is for frozen or canned meat products, which takes place predominantly between South East Asian countries and North America, where imports are substituting for the declining domestic output.

USA, Canada, Japan and Hong Kong are all potential markets for oysters. USA, due to the decline in production (pollution problems) is in high demand for quality cultured oysters. Though Japan and USA are the two important markets for Indian marine products, Indian oysters may not find a steady market here because of the easy availability of fresh oysters from the neighbouring countries viz. China, Korea Rep., Mexico etc.