Agriculture, Fisheries and Conservation Department
Hong Kong Special Administrative Region, China

Consultancy Study on Feasibility of Developing an Offshore Fishing Industry for Hong Kong

Executive Summary

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1. INTRODUCTION

Hong Kong's fishing industry has a sizable role to play in supplying fresh seafood to the community. In 2001, the fishing fleet comprised about 5,100 vessels and produced approximately 174,000 mt of fisheries produce from the continental shelf of the South and East China Seas and supplied about 30% of the marine fish consumed in Hong Kong. However, decline in the available fisheries resources in these areas has prompted fishermen to look for opportunities to venture further offshore into distant waters in search for abundant and profitable fish stocks. In order to explore the feasibility of Hong Kong fishermen venturing into offshore fishing, Hong Kong Government commissioned the Consultancy Study.

2. THE STUDY

The main objectives of the Study are to (i) examine the technical and financial feasibility of pursuing offshore fishing by Hong Kong fishermen; (ii) recommend possible options for venturing into offshore fishing by Hong Kong fishermen; and (iii) recommend practical strategies for fishermen who plan to fish in the recommended fishing grounds.

The Study is based on a review of available literature and information. Additional information is gathered through visits to Mainland China; Taiwan, China; and Thailand, and by way of consultation with the local fishing community, supporting industries and government departments, and those in foreign countries.

For the purpose of this Study, offshore fisheries is equivalent to distant-water fisheries and is referred to as fishing activities taken place outside the traditional fishing grounds.

3. OVERVIEW OF OFFSHORE FISHERIES IN THE WORLD

The global marine capture fisheries production experienced a five-fold increase over the past 40 years from 18 million mt in 1961 to 94.6 million mt in 1996. Its rate of increase was about 6% per year before 1970 but dropped to 2% during the 1970s and 1980s and to almost zero in the 1990s. About 5-15% of the marine capture fisheries production were contributed by offshore fisheries.

Offshore fisheries resources mainly comprise demersal fish (e.g. cod), small pelagic fishes (e.g. sardine), tuna, cephalopods (e.g. squid), krill and shrimps. Offshore fisheries production increased rapidly before 1972. Following a decline from 1972, offshore fisheries production increased again and reached a maximum in 1990 producing 9 million mt. However, after that, it started to decline again owing to the demise of the state-sponsored fleets of the former USSR.

In 1970s, the introduction of the United Nations Convention on the Law of the Sea grants each coastal State the sovereign right to fisheries resources within its 200 nm Exclusive Economic Zone (EEZ). As a result of this new era of resource ownership, advanced fishing nations have to choose between sending fishing fleets at high costs to exploit resources in foreign States' EEZs, and obtaining the fish at a lower cost by trading with the coastal States. As such, the advanced fishing nations reduced their fishing capacity and released it to other developing countries. Thus there was a shift of the position of fishing countries in offshore fisheries.

Depletion of and the sustainable use of fisheries resources is the major concern and most international waters or Exclusive Economic Zones (EEZs) are already subject to fishing control.

Literature review has shown that Mainland China; Taiwan, China; Japan and Korea are important countries/economies in offshore fisheries particularly for tunas and squids. A total of 174 grounds fished by these countries/economies were distributed throughout the world's oceans as shown in **Fig.** 1.

4. IDENTIFICATION OF POTENTIAL FISHERIES RESOURCES AND FISHING GROUNDS

Based on the fisheries resources and fishing grounds being exploited by offshore fishing fleets over the world, fisheries resources and fishing grounds where fish stocks may be abundant, sustainable and accessible by Hong Kong fishing vessels were identified for further analysis and comparison (**Fig.** 2). A total of three types of

fisheries resources in ten fishing grounds was identified and summarized as follows –

(a) Tuna fish resources in international waters east of Luzon Strait (T1), West Central Pacific Ocean (T2) and East Indian Ocean (T3);

(b) Demersal fish resources in Nansha (B1n), East Malaysia (B1m), Indonesian Arafura Sea (B1a), Myanmar (B2m) and Northwest Australia (B2a); and

(c) Squid resources in Southwest Atlantic Ocean off the Falkland and Argentina (S1) and Northwest Pacific Ocean (S2).

5. ISSUES RELATING TO OFFSHORE FISHING DEVELOPMENT

To assess the technical and financial feasibility for Hong Kong fishermen to venture into offshore fishing, the following related issues were identified and analysed.

5.1 Legal issues

There is no restriction under the Basic Law and the existing institutional framework for Hong Kong fishermen to venture into offshore fishing. Depending on the offshore fishing grounds where they intend to operate, Hong Kong fishing vessels will be required to observe or comply with the relevant coastal States' fisheries laws and/or a range of international instruments regulating marine fishing and fishing vessel operations. Furthermore, the Flag State with which the fishing vessels being registered also has the responsibilities to ensure their compliance with international instruments by which the Flag State is bound. It should not authorize a vessel flying its flag to fish on the high seas unless it can effectively exercise its responsibilities over such a vessel. Besides, Flag State must also take early enforcement measures and investigation to alleged violations.

The Hong Kong Special Administrative Region (HKSAR) does not have a local registry for fishing vessels at present. Although HKSAR may assume the role of a "flag administration" to register its own offshore fishing vessels subject to the agreement of the Central People's Government, establishment of a registry for offshore fishing vessels and assuming "flag administration" responsibilities is not recommended for the HKSAR because –

(a) The legislative process for setting up such a system would be very complicated and lengthy as it will require introducing and amending legislation governing areas of ship safety, registration of vessels and seafarers, and immigration control of crew members, etc. It would, therefore, not be possible for the legislative process to meet the aspirations of the fishermen who would like to pursue offshore fishing in the near future. Interested local fishermen/fishing vessels may choose to register their vessels with other jurisdictions/authorities;

(b) Hong Kong is lack of attraction as a "flag administration" as no fishing quota/access to fish in coastal States' EEZs or international waters would be offered to fishing vessels which choose to register in Hong Kong; and

(c) The staff resources and operational cost for discharging the responsibilities of the "flag administration" such as ensuring vessel safety; ship/seafarer registration; monitoring, surveillance and enforcement would be very high. In the light of the above two reasons, it is thus doubtful as to whether any local offshore fishing vessel would choose to register in Hong Kong even if resources are allocated for the establishment of local registry for fishing vessels.

In this regard, Hong Kong fishing vessels may either be registered in the Mainland and operate under an identity of the People's Republic of China (PRC), or be registered as local fishing vessels of a coastal State to start off offshore fishing early and to gain access to fishing grounds. Under the circumstances, Hong Kong fishing vessels will be required to observe or comply with a range of international instruments insofar as these instruments are in force and applicable to the PRC (under PRC registration) or the coastal State concerned (under foreign State registration). For fishing vessels flying PRC flag, both the vessel and crew would receive consular protection from PRC whereas for those fishing vessels flying foreign state flags, only the crew of Chinese

nationality would receive consular protection from the PRC.

5.2 Ways to secure fisheries access

The various forms of common fisheries access arrangement and the general terms of conditions of the fisheries access agreements are examined in the study. Since HKSAR is not a sovereign state, it cannot enter into access agreements involving diplomatic and sovereign elements with foreign states. The most realistic and desirable ways for Hong Kong fishermen and fishing companies to gain fisheries access to waters within EEZs of foreign States and international waters are through joint venture with foreign or Mainland companies which already have access to fishing grounds in Mainland, foreign or international waters. In some cases, Hong Kong fishermen may also gain fisheries access through establishment of local companies in foreign State. Hong Kong fishermen may also gain access to PRC's EEZ waters and international waters in which no quota system has been in place by way of obtaining authorization directly from the Mainland authorities. In the case of applying for direct authorization to fish in international waters where no quota system is in place, the Mainland authorities would only consider proposals and applications from fishing companies set up in the Mainland. Thus Hong Kong fishermen will have to first set up fishing companies in the Mainland before making such applications. In the case of fishing in the EEZs of foreign states, it is likely that Hong Kong fishermen will have to pay access fees.

5.3 Fishing vessels and gear requirements

In accordance with the characteristics of identified potential fisheries resources and fishing grounds, possible fishing vessels and gear for each type of resources include-

(a) Tuna: Large ultra-low-temperature longliner (ult), small fresh-chilled longliner (sml), and purse seiner (ps);

(b) Squid: Small squid jigging vessel (ssj), and large squid jigging vessel (lsj);

(c) Demersal mud/sand-ground fish: Bottom trawler (trl); and

(d) Demersal coral-ground fish: Bottom longliner (sml) (coupled with handlining gear while vessel is anchored and/or adrift).

These fishing vessels can be acquired in the following three ways –

(a) Using existing large vessels without modification (ex) being technically feasible when switching from demersal trawling on the South China shelf to demersal trawling in offshore waters;

(b) Upgrading and/or modifying (md) existing vessels within required technical specifications for switching to small tuna or demersal fish longlining (sml); or

(c) Buying second-hand vessel that satisfies technical specifications, or buying/constructing new vessel (nw) according to technical specifications.

5.4 Vocational training requirements

Offshore fishermen operating in offshore fishing grounds are required to meet the certificate requirements in compliance with international guidelines and standards for fishing operation, navigation and safety of fishing vessels. To attain the status of qualified crew, Hong Kong fishermen will be required to attend internationally recognised certificated training courses for certificates of competence. Alternatively, qualified and skillful master and crew can be recruited from the Mainland or Taiwan.

5.5 Logistic support

The provision of logistic support including shipyards, fishing ports, provisions such as fuel and water supply, marketing, fish transport and distribution services and facilities are vital for offshore fishing operations. It is necessary to identify suitable fishing ports with adequate logistic support as bases for offshore fishing vessels. For offshore fishing grounds close to Hong Kong, fishing vessels may use Hong Kong as a base as there are currently adequate supporting services and facilities in Hong Kong. For those fishing grounds far away from Hong Kong, overseas bases at coastal States with

necessary supporting facilities are needed. The Mainland has established bases in some foreign coastal states. Hong Kong fishermen may negotiate for use of these bases. As these bases are commercial establishments, the use of the facilities thereat is subject to the payment of fees.

5.6 Marketing

It is of vital importance to identify suitable markets for the fish catch in order to ensure the viability of the potential fisheries options. Japan has been the largest buyer of tunas. Quality tunas may be targeted at the sashimi market in Japan whereas lower quality tunas may be targeted at foreign canneries. As regards demersal fish and squid catches, they may be targeted at markets in Hong Kong, the Mainland, Japan or other coastal States that offer good prices.

5.7 Acceptability to Hong Kong fishermen

Fishermen's acceptability to the development of offshore fishing and their views on the potential fisheries resources and fishing grounds are important factors in determining the feasibility of Hong Kong fishermen venturing into offshore fishing and the selection of preferred development options. In general, most fishermen are supportive of this initiative and their views and preference on the identified potential fisheries resources and fishing grounds were taken into account in the subsequent evaluation of development options. It should, however, be noted that commercial fishing in Hong Kong has hitherto been traditional family-based operations in the main. Offshore fishing, on the other hand, is, in essence, a commercial operation that requires comprehensive business planning involving the drawing up of investment, marketing, operational and financing strategies. In some cases, the entire operation takes place outside Hong Kong therefore the fishermen involved have to be familiar with the commercial rules of the foreign states involved as well. Local fishermen have to adopt a commercial approach to manage any offshore fishing operation well.

5.8 Financial issues

Cost-benefit analysis was carried out to determine the financial viability of various options of offshore fishing development. A financial criterion, namely the Internal Rate of Return (IRR), is used for the measurement of the financial return. As IRR rules, an investment is considered acceptable if the IRR exceeds the rate at which funds are borrowed. Furthermore, possible financial sources were identified and discussed.

6. OPTIONS GENERATION AND EVALUATION

The results of the above analyses show that it is feasible for Hong Kong fishermen venturing into offshore fishing. To further identify possible options for offshore fishing development by Hong Kong fishermen, a long-list of 29 development options were generated by combining identified fishing grounds, fishing methods and ways for fishing vessel acquisition. These options were shortlisted by screening out those options failing to meet any one of the following criteria –

(a) There are readily accessible markets for selling of fish catch with viable economic return;

(b) The internal rate of return (IRR) exceeds the loan interest rate;

(c) There are no insurmountable technical and financing difficulties.

The shortlisted options were further evaluated and compared using a multi-criteria decision process in which systematic criteria covering sustainability and accessibility of fisheries resources and fishing grounds, technical, marketing, financial, socio-economic and environmental aspects were adopted (**Fig.**3).

7. RECOMMENDED DEVELOPMENT OPTIONS

Based on the results of the above option evaluation process, fisheries resources and fishing grounds recommended for development by Hong Kong fishermen are shown in **Fig.** 4. Options recommended for immediate, medium-term and long-term developments are summarized below.

7.1 Options for immediate development

Development options that can be immediately implemented by Hong Kong fishermen are those

that the target resources are accessible right away without insurmountable problems. These options include –

Option 1 - tuna longlining in Thai EEZ and adjacent international waters of East Indian Ocean (T3) using small ice-chilled tuna longlining vessels

This option is recommended for the following reasons: tuna stocks of various species sustainable with favourable Catch Per Unit Effort (CPUE); convenient access to local and international canned and sashimi markets; low capital investment costs; high capital investment return rate; and adequate infrastructural support.

Fisheries access to Thai's EEZ waters can be obtained through joint venture with Thai fishing companies. Fisheries access to the international waters of East Indian Ocean may be obtained through joint venture with Thai or Mainland fishing companies or through direct authorization by the Mainland authorities to fish in international waters as no catch quota system is in place yet. For the latter option, Hong Kong fishermen would need to set up fishing companies in the Mainland first before seeking authorization from the Mainland authorities. Hong Kong offshore fishing vessels may use Phuket as a base at which supporting and marketing facilities are adequate. Catch can be sold through Phuket agents appointed by Hong Kong fishermen for direct air sashimi shipment to Japan and/or to local canneries.

Option 2 - Tuna longlining in Palau EEZ and adjacent international waters of West Central Pacific Ocean [1] (T2) using small ice-chilled tuna longlining vessels

This option is recommended for the following reasons: tuna stocks of various species sustainable with favourable CPUE; ready access to sashimi market in Japan; quick return of capital investment costs; and adequate infrastructural support.

Fisheries access can be obtained by way of joint venture with Palau or Mainland fishing companies or establishment of local company in Palau. Hong Kong offshore fishing vessels may use Oreor (Koror) (in case of joint venture with Palau companies) or Mainland China's fishing base at Melekeok (in case of joint venture with Mainland companies) as a base at which supporting and marketing facilities are adequate. Catch can be sold through Palauan tuna market at Oreor or Melekeok to Japanese tuna market either direct or through Guam to Japan. Hong Kong fishermen who intend to venture into tuna longlining fisheries in fishing grounds to the south of West Central Pacific Ocean may joint venture with other coastal States' fishing companies and select suitable fishing ports of these coastal States (e.g. Marshall Islands, Fiji, Samoa) as bases.

Option 3 - Tuna longlining in international waters east of Luzon Strait (T1) using small ice-chilled tuna longlining vessels

This option is recommended for the following reasons: tuna stocks of various species sustainable with favourable CPUE; ready access to sashimi market in Japan, quick return of capital investment costs; and adequate infrastructural support.

Fisheries access can be obtained through joint venture with Mainland China fishing companies. Hong Kong offshore fishing vessels may use Melekeok, Palau or Hong Kong as a base at which supporting and marketing facilities are adequate. Catch can be sold through Melekeok agents for direct air sashimi shipment to Japan and/or to nearby canneries. Alternatively, marketing of catch can be carried out in Hong Kong.

Option 4 – Bottom-fish longlining on southwest grounds of Nansha (B1n)

This option is recommended for the following reasons: adequate bottom fish resources to support economic longlining for fresh and live fish species of high value in the Hong Kong market; profitable resources to support operations of large longliners and gillnetters presently seeking fishing grounds outside the South China shelf; and readily accessible by Hong Kong fishing vessels.

[1] The West Central Pacific Ocean includes the South Pacific Ocean in accordance with the fishing areas classification of Food and Agriculture Organization of the United Nations

Fisheries access can be obtained through direct authorization by the Mainland authority. Since 1999, the Fisheries Bureau of the Ministry of Agriculture has offered a quota of 150 permits to Hong Kong and Macau fishing vessels to fish in Nansha. About 130 permits have already been taken up. Hong Kong fishermen who plan to fish in Nansha may submit their applications for the remaining permits through the Hong Kong and Macau Floating Fishermen Business Office of Guangdong. Hong Kong fishing vessels may use Hong Kong as a base at which supporting and marketing facilities are adequate.

7.2 Options for medium-term development

Options for medium-term development include tuna longlining in the above-mentioned fishing grounds viz. East Indian Ocean, West Central Pacific Ocean and waters east of Luzon Strait, using ultra-low temperature (ULT) tuna longliners ranging from 100 to 800GRT. In the process of offshore fisheries development, this phase is characterized by the adoption of a higher level of fishing technology justified by proven profitability. Despite these options offering reasonable return (IRR: 16% - 34%), they require substantial capital investment and higher level of fishing technology. It is therefore suggested that these options should be pursued after the fishermen have gained tuna longlining experience and technique and when the necessary investment is available.

7.3 Options for long-term development

The long-term development options include trawling for bottom fish in the East Malaysian (B1m), Arafura Sea in Indonesia (B1a) and Myanmar (B2m) trawl grounds and fishing for squids in the Northwest Pacific Ocean squid jigging ground (S2). Although these fishing grounds appears to show some development potential to Hong Kong fishermen, they are not recommended for immediate development due to the lack of reliable and updated information on the abundance and CPUE to support their feasibility. Further investigation into the current status of fisheries resources of these fishing grounds would be required to determine their feasibility for development.

8. STRATEGY FOR IMPLEMENTATION

8.1 Immediate development options

The following implementation strategy aims to address the major development issues related to the four immediate development options. Detailed information on the implementation of the four immediate development options are provided in the Action Plan 1 – 4 of the Final Report.

8.1.1 Compliance with international conventions and other regulatory measures

Hong Kong fishermen should observe and comply with the flag State's and international fishing laws, institutional arrangements, regulations and procedures governing the management and use of fishing resources, operation and safety of fishing vessels, and the training standards and qualification requirements of the masters, engineers and crew of the fishing vessels. Fishermen engaged in offshore fishing should ensure that the fishing vessels would meet the safety standards, the masters, engineers and the crew have acquired the necessary training to meet the training standards and qualifications, and the fishing operations would be in compliance with the standards and guidelines for the conservation, management and sustainable development of fisheries as required by Mainland China or the coastal State concerned. A list of important international instruments which regulate marine fishing and fishing vessel operations is in Annex.

8.1.2 Securing fisheries access

In attempting to gain fisheries access to the four fishing grounds recommended for immediate development, Hong Kong fishermen would need to –

(a) contact foreign and/or Mainland fishing companies for negotiation of acceptable conditions of joint venture investments;

(b) contact appropriate foreign government authorities for establishing local company in the foreign State concerned; or

(c) contact appropriate Mainland authorities for application of direct authorization for fishing in Mainland's EEZ or international waters with no quota system in place.

Hong Kong fishermen should also seek technical assistances from the private sector to back up their joint-venture negotiations or establishment of companies in foreign States ranging from legal to management aspects.

8.1.3 Acquisition of fishing vessels and gear

Small ice-chilled tuna longliners of less than 100 GRT would be suitable for fishing tunas in the Indian and Pacific Oceans and may be acquired through modification of suitable existing Hong Kong fishing vessels at about HK$0.54 million, purchasing second-hand, or constructing new vessels at about HK$3.6 million. As for longlining bottom fish in Nansha, current large local wooden and steel vessels with an endurance of two weeks would be suitable. These vessels may carry motorized sampans on board for handlining bottom fish and be equipped with live fish holds capable of using closed recycling seawater system for transporting live fish catch. Modification may involve the removal of superstructures at an estimated cost of about HK$0.54 million.

Hong Kong fishermen mostly prefer to modify or construct their vessels in the Mainland that offers much lower quotation. Hong Kong fishermen should first evaluate their vessels' worthiness and employ the services of qualified ship surveyors to verify and certify suitability for modification. They should choose those shipyards with the necessary qualification and engineering expertise and preferably with ISO9001 accreditation for inquiry and comparison of quotation. To ensure compliance with the Mainland quality and/or international standard for vessel construction, a qualified vessel should be delivered with a Vessel Quality Examination Certificate issued by the State Fishing Vessel Examination Bureau, authority of the Mainland China responsible for fishing vessel quality.

8.1.4 Acquisition of vocational training

Internationally recognised certificated training courses for certificates of competence are available from the fishermen training centres in the Mainland China; Taiwan, China; Australia and Thailand. Amongst these venues, the Mainland's training facilities are considered the most suitable for the Hong Kong fishermen for qualifying tickets or upgrading existing tickets, or acquiring the necessary fishing skills for reasons such as affordable cost, workable teaching medium, and proximity to the Hong Kong.

The Shanghai Training Centre of Distant-Water Fisheries provides the required certificates for fishing masters, mates, engineers, fishermen and deck hands for all fishing vessels, covering various required aspects in navigation, engineering, fishing technique, international fishery regulation, vessel, gear, radar, telecommunication, English, seamen's four certificates, Global Maritime Distress and Safety System (GMDSS), and other subjects. Upon request, it is willing to provide a training programme tailored for the need of Hong Kong fishermen to be given in Putonghua or Cantonese in Shanghai or any one of the Centre's 22 sub-centres distributed in coastal provinces of Mainland. Of these stations two are located in Guangdong, including one in the Guangzhou Marine Fishing Company and the other in Zhanjiang Marine University. The training may last from 2 weeks up to 3 months, involving both classroom and shipboard training at about HK$6,000 per trainee (exclusive of travel and accommodation).

Skill training for tuna longlining is available in the Aquatic College of the Qingdao Marine University, Ad hoc training requests are acceptable. Cost varies case by case. For example, an 11-day session with 30 participants may cost RMB 110,000, exclusive of cost of travel and accommodation. This is equivalent to HK$ 3700 per trainee.

Alternative way of acquiring tuna fishing and preservation skills is to hire from Taiwan or Mainland a consultant tuna-longlining master, who can conveniently help train not only the skipper but also the fishing crew in all aspects of tuna fishing operation. This may be a practical and cost-effective approach.

8.1.5 Availability of logistic support

Since most of the offshore fishing grounds are located far away from Hong Kong, it is anticipated that, instead of Hong Kong, the majority of offshore fishing vessels would have to use foreign fishing ports which are closer to the fishing grounds for logistic support and services.

It is therefore important to locate a suitable fishing port with the required logistic support available at reasonable costs. For offshore tuna longlining, Hong Kong fishing vessels should select fishing ports which have already established distribution channel with Japanese sashimi market or local or foreign canneries. Fishermen should check the costs for using the services and facilities before selecting suitable overseas base for their fishing vessels.

8.1.6 Financing

Prior to investment, fishermen should assess whether the selected fisheries development option is financially viable taking into account the capital investment, operational costs and income and the financial return. Fishermen may need to borrow loans to finance their fishing vessels, equipment and training, and to pay the access fees for gaining access to foreign fish stocks. Commercial banks and finance companies are potential sources for loans and they usually require collateral such as immobile property to guarantee loan repayment. Fishermen may also apply for loans from the Fisheries Development Loan Fund or the Fish Marketing Organization subject to fulfillment of the eligibility criteria of the loan fund and the availability of funds.

8.2 Medium-term development options

The implementation strategy for these options would be similar to that for the immediate development options except that ultra-low temperature (ULT) tuna longliners would be used instead of ice-chilled tuna longliners. After ice-chilled tuna longlining has been field-operated and viability proven, fishermen would gain technical experience and confidence in tuna fishery investment. They might consider investing on a much bigger scale to introduce ULT (preservation at $-60^{o}C$) or low-temperature (preservation at $-35^{o}C$) longliners after the return of the initial capital investment in 2 to 3 years, subject to the availability of funds or loans. The ULT longliners may be acquired through purchasing second-hand or construction of new vessels at a cost of HK$13.5-23.5 million per vessel. In addition, fishermen are advised to consider the arrangements at sea to offload catches to ultra-low temperature (ULT) fish-collecting reefer carriers and to receive fuel/oil, water and food from supply vessels, as these arrangements would significantly affect ULT tuna longliner's endurance at sea.

8.3 Long-term development options

It is necessary to conduct further investigation into the feasibility of four other fishing grounds viz. the East Malaysian (B1m), Arafura Sea in Indonesia (B1a) and Myanmar (B2m) trawl grounds and Northwest Pacific Ocean Squid jigging ground (S2). Investigation shall include site visits with government officials and commercial enterprises for the clarification of investment details, the calculation of potential costs and earnings, the collection of reliable and updated information on the abundance and sustainability of the fishable stocks, and the logistics of marketing fish catches.

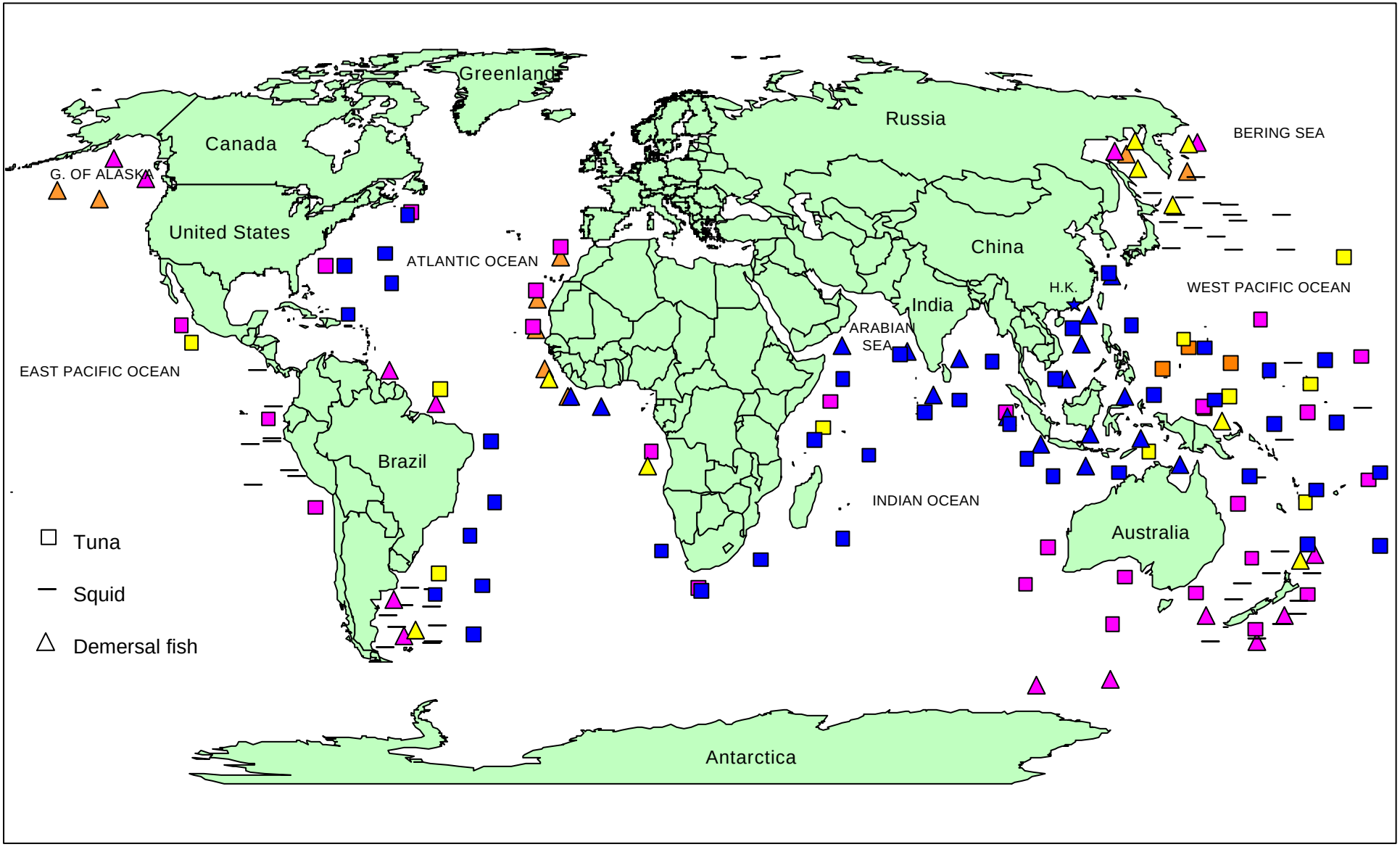

Figure 1. Offshore Fishing Grounds of the Four Most Developed Fishing Countries/Economies (Orange-Mainland China; Blue-Taiwan, China; Purple-Japan; and Yellow-Korea)

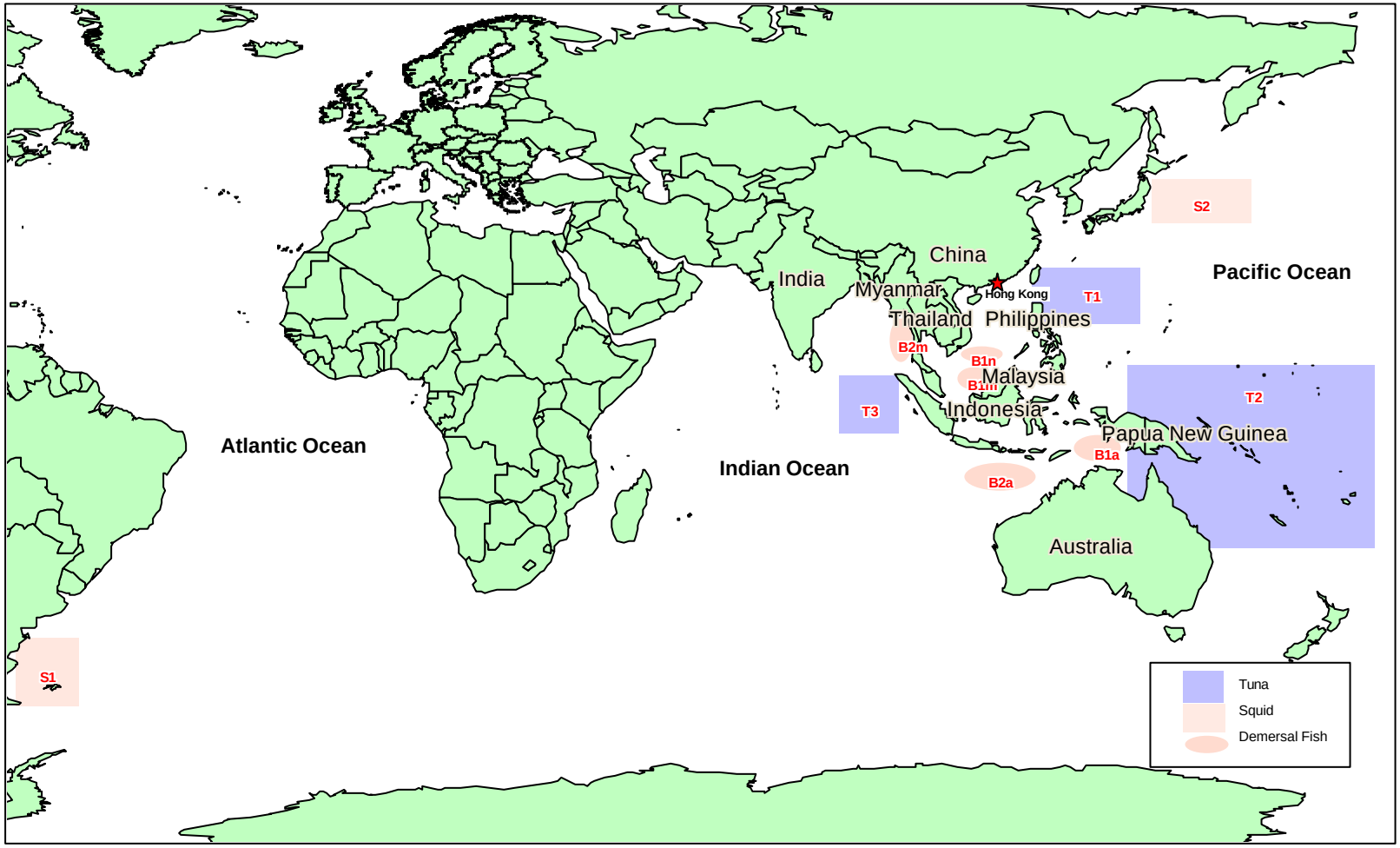

Figure 2. Potential Fishing Grounds for Hong Kong Fishermen

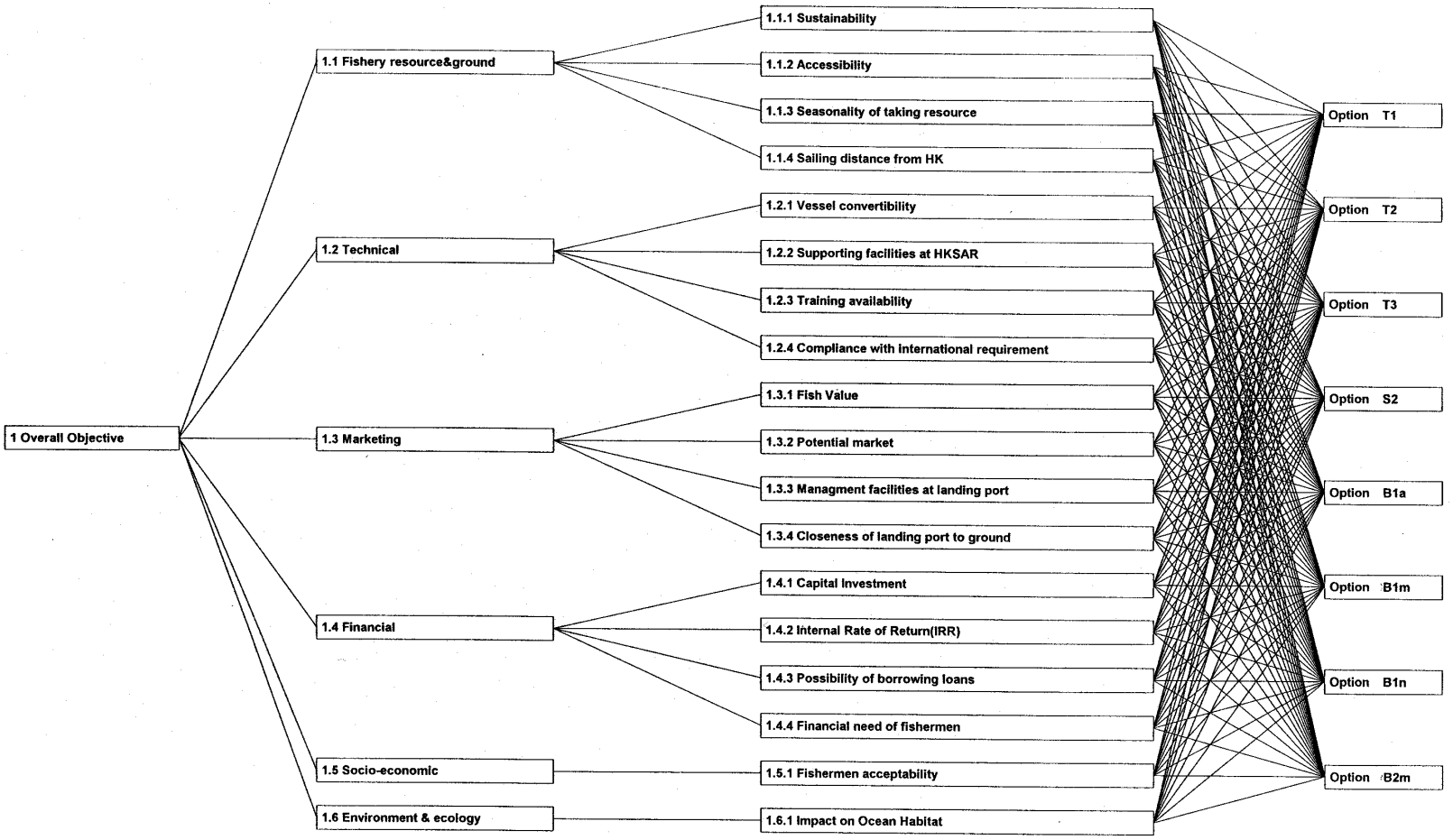

Fig. 3 Hierarchy of Criteria and Attributes

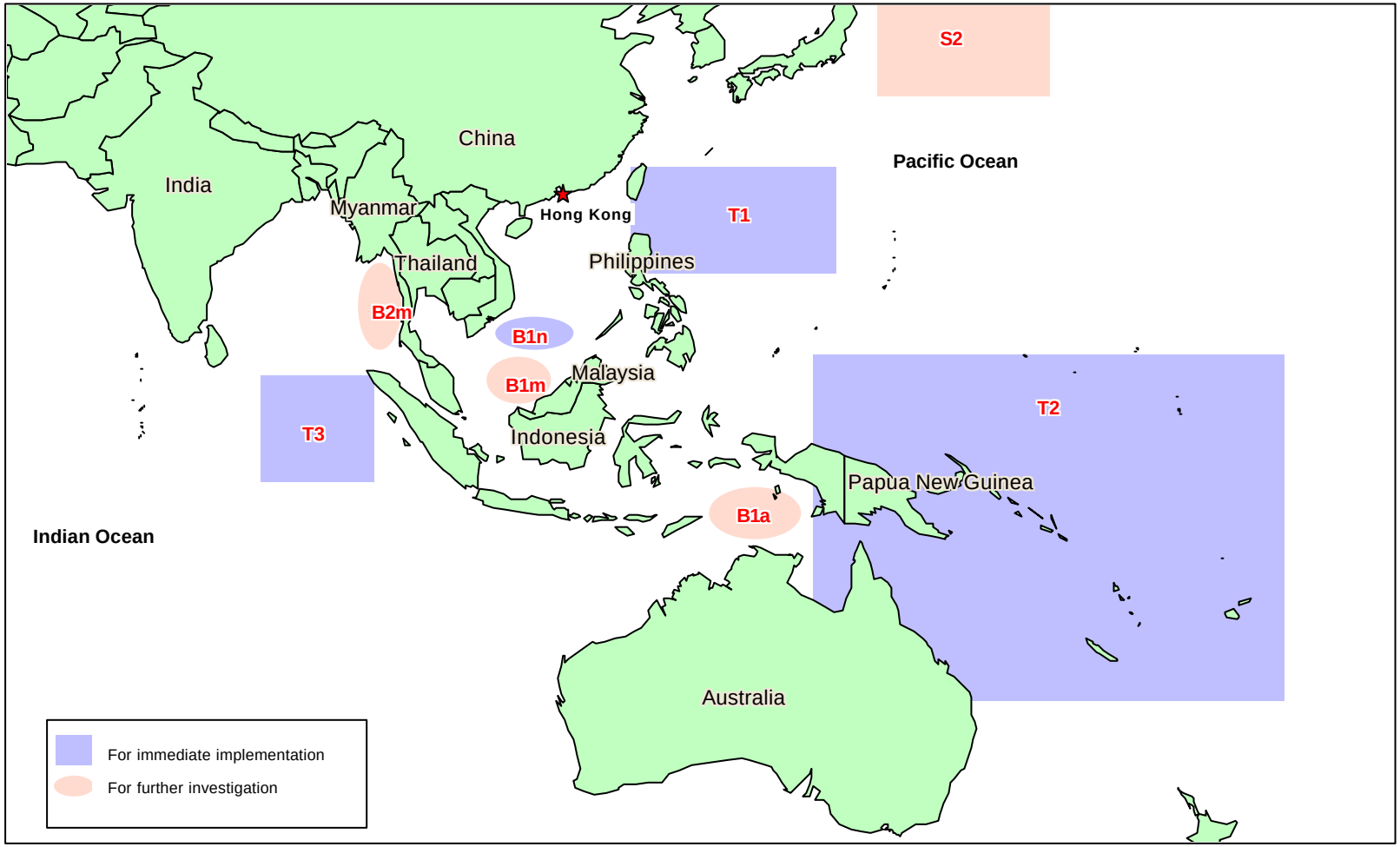

Figure 4. Recommended Fishing Grounds for Hong Kong Fishermen

ANNEX

LIST OF IMPORTANT INTERNATIONAL INSTRUMENTS REGULATING MARINE FISHING AND FISHING VESSEL OPERATIONS

(a) **The United Nations Convention on the Law of the Sea, 1982 (UNCLOS)** - Establish legal order for the seas and oceans, e.g. the establishment of EEZs;

(b) **Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks, 1995 (UN Fish Stocks Agreement)** - Establish guidelines for the sustainable use of straddling & highly migratory fish stocks;

(c) **The Agreement to Promote Compliance with International Conservation and Management Measures by Fishing Vessels on the High Seas 1993 (FAO Compliance Agreement)** - Prescribe standards for the responsibility of flag States in respect of vessels flying their flags and fishing on the high seas;

(d) **The Food and Agriculture Organization's (FAO) Code of Conduct for Responsible Fisheries** - Provide principles & standards for the conservation, management & development of fisheries;

(e) **The International Maritime Organization (IMO) Torremolinos International Convention for the Safety of Fishing Vessels 1977 (amended protocol of 1993)** - Establish safety standards for fishing vessels; and

(f) **The IMO International Convention on Standards of Training Certification and Watchkeeping for Fishing Vessel Personnel (STCW-F) 1995** - Establish training standards and qualification requirements for the master, engineer and crew of fishing vessels.