

The Republic of China (Taiwan)¹
National Plan of Action for
the Management of Fishing Capacity

September 2014

¹ The official designation of the Republic of China (Taiwan) is “the Republic of China”, which is known by the international community as “Taiwan”. Sometimes, the designation of “Chinese Taipei” or “Fishing Entity of Taiwan” is used for the participation in international fisheries organizations. For the purpose of this document, and for easy expression, the term “Taiwan” is hereinafter used. It should be noted that such term does not have or intend to have any political perception or implication, and should not be regarded as a precedent for the other relevant documents.

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Abstract

Taiwan is surrounded by sea, and fishery has always been one of the important primary industries for its people. In the course of fisheries development, the industry has been facing changing fishery environment, and challenge of conservation and management, and sustainable utilization of fisheries resources. Thus, the government of Taiwan has always been playing high attention on the issue of fishing capacity, and seeking the most effective and long-term solution of the issue, in order to address the challenge brought from overcapacity. The work done in the past which includes promulgation of administrative orders restricting the increase of the tonnage of fishing vessels, and launching of a number of vessel buyback programs, can, in fact, be considered as actions required in the reduction of fishing capacity and progressive promotion of the objective as envisaged in the International Plan of Action for the Management of Fishing Capacity (IPOA-Capacity). In line with the request of the IPOA-Capacity, and in order to fulfill the international commitment in the development and implementation of a national plan of action, for formulating a feasible policy in reducing Taiwan's overcapacity in fishery, the competent fisheries authority of Taiwan, the Fisheries Agency, Council of Agriculture, the Executive Yuan, developed Taiwan's National Plan of Action for the Management of Fishing Capacity (NPOA-Capacity).

The NPOA-Capacity is divided into 5 major parts, which include the History of Taiwan's Management of Fishing Capacity; Fishing Capacity Management Plan; Management Measures on Key Fisheries; and Future Actions. It begins by introducing the past achievement of Taiwan's management of fishing capacity; continues with the introduction of the NPOA-Capacity based on the IPOA-Capacity, including its principles, policy and objectives, review of the work of Taiwan's management of fishing capacity which includes the competent fisheries authority of Taiwan, collection of information, assessment of fishing capacity, and management measures on fishing capacity, as well as international consideration and implementation of the NPOA. In addition, it also introduces Taiwan's management measures on key fisheries, which include tuna longline fishery, purse seine fishery, squid and saury fisheries, precious coral fishery, flying fish roe fishery, larval fishery, and mackerel fishery. Finally, it gives an overview of the future actions according to the NPOA.

With this document, Taiwan explicates that being an important distant water fishing country, it is willing to express its commitment on the proper management of Taiwan's fishing capacity, in accordance with the relevant international instruments on the management of fishing capacity adopted internationally, whereby progressively enabling Taiwan's fishing capacity not to exceed the level of maximum sustainable yield, in order to maintain sustainability of the fisheries resources within the waters of Taiwan's jurisdiction as well as that of the high seas.

Key words: The Republic of China (Taiwan), Fishing Capacity, NPOA, IPOA

1.INTRODUCTION

This document introduces Taiwan's National Plan of Action for the Management of Fishing Capacity (NPOA-Capacity), which is developed in accordance with the International Plan of Action for the Management of Fishing Capacity (IPOA-Capacity) adopted by the Food and Agriculture Organization of the United Nations (FAO).

The IPOA-Capacity which was adopted by the 119th FAO Council in 2000, outlines that its immediate objective is to urge States and regional fisheries management organizations (RFMOs) to achieve world-wide preferably by 2003, but not later than 2005, an effective, equitable and transparent management of fishing capacity. States and RFMOs confronted with an overcapacity problem, which undermines the objective of long-term sustainable utilization of fisheries resources, should immediately endeavor to limit at present level and progressively reduce the fishing capacity applied to affected fisheries. The preparation and implementation of a NPOA-Capacity are deemed as an important strategic achievement in the fulfillment of the objective of the IPOA-Capacity.

IPOA-Capacity requests States to develop, implement and monitor their NPOA-Capacity, and in particular, they should take into account the effect of different resource management systems on fishing capacity. In the development of NPOA-Capacity, each State should give due consideration to socio-economic requirements, including the consideration of alternative sources of employment to fishermen and livelihood of community who must bear the burden of reductions in fishing capacity. With regard to the timeframe, IPOA-Capacity requests States to develop, adopt and make public, by the end of 2002, national plans for the management of fishing capacity and, if required, immediately reduce fishing capacity in order to balance fishing capacity with available resources in a sustainable basis. In addition, for the purpose of identifying cost effective strategies for increasing effectiveness, each State should review the implementation of its national plan to manage capacity at least every four years.

FAO defines fishing capacity as: "the amount of fish that can be produced in a period of time by a fishing vessel or a fleet of fishing vessels if fully utilized". The purpose of managing fishing capacity is to ensure that fisheries resources can be utilized in a sustainable manner. Thus, measures on how to avoid overcapacity, or when there is already a problem of overdevelopment in fishing capacity how to reduce the impact on fisheries resources are matters that should be addressed urgently. When confronted with the problem of overcapacity, States and RFMOs should endeavor to limit at present level and with plans progressively to reduce the fishing capacity. Where long-term sustainability outcomes have been achieved, States and RFMOs need to exercise caution to avoid growth of fishing capacity.

According to the statistics of FAO, 82% of its member States have listed management of fishing capacity as an important issue, among which about 90% of the States use vessel buyback program as a means to reduce fishing capacity, and 25% of them apply limit on fishing license and individual transferable quota as means to control fishing capacity. The principle of management of fishing capacity is easily understandable, while in the course of promoting control and reduction of fishing capacity, such pressure as lack of funds, insufficient political determination, inadequate domestic legislation and international rules, and socio-economic requirements from fishermen, may thus slow down the process.

Taiwan is surrounded by sea, with its east facing the Pacific Ocean, its west the Taiwan Straits, its north the East China Sea and its South the Bashi Channel. The main stream of the Kuroshio Current runs through the east coast of Taiwan, which is a favorable route for migratory fish species. A branch stream of the Kuroshio Current runs through the flattened continental shelf along the east coast, merging with the coastal waters of the Chinese mainland, and waters with rich nutrients form ambient place for feeding and spawning, and habitats of bottom fishes. The excellent oceanographic conditions, and the biologically diversified environment, bring rich fisheries resources, and they have also laid the foundation for Taiwan to develop its fisheries. According to the Fisheries Statistical Yearbook of Taiwan, in 2012 there were 233,206 people engaging in the business of fishery, with a production of 908,000 metric tons, and a value of NT\$68.2 billion (approx. US\$2.3 billion).

The development of coastal and offshore fisheries in Taiwan can be traced back to 1950s. Supported by well developed fishing techniques and the encouragement from the government, Taiwan's fishery gradually developed from coastal to distant water fishery, making Taiwan to become one of the six largest high seas fishing countries in the world. Nevertheless, facing the banning of large-scale high seas drift-net fishing in 1990, and the growing stringent management measures of vessel limits and catch quota adopted by RFMOs, Taiwan confronted with the problem of overcapacity in fishing, which needed to be aggressively addressed through the application of such measures as limitation of fishing capacity, reduction of fishing vessels and fishing layoff.

In order to solve the problem of overfishing on the coastal and offshore fisheries resources, Taiwan promulgated regulations in 1989, limiting the increase of the tonnage of fishing vessels. In 1991, Taiwan launched the first vessel buyback program. Following which, Taiwan implemented the second phase of its vessel buyback program in 2000, shortly after the adoption of IPOA-Capacity by FAO, to address international requirement on reduction of fishing capacity. As of the end of 2010, the government of Taiwan bought back more than 3,000 vessels of various fishery types, and retrieved their fishing licenses and suspending the right of building replacement. They include the reduction of 215 large-scale tuna longline fishing vessels scrapped

or sunken in maritime accidents between 2005 and 2008. The programs reduced the fishing capacity of large-scale tuna longline fishing fleet by more than 30%, fulfilling the goal of reduction as required by the IPOA-Capacity.

Despite this, in line with the request of the IPOA-Capacity, and in satisfying the international commitment of Taiwan in the development and implementation of a plan, as well as formulating a feasible strategy for reducing Taiwan's overcapacity in fishery, this National Plan of Action for the Management of Fishing Capacity is hereby developed by the Fisheries Agency of the Council of Agriculture, the Executive Yuan, the competent fisheries authority in Taiwan.

The NPOA-Capacity is divided into 5 major parts. They include the history of Taiwan's management of fishing capacity, the content of the NPOA-Capacity, the current fishing capacity management measures, the management measures on key fisheries, and the action plans to be taken in the future.

2. THE HISTORY OF TAIWAN'S MANAGEMENT OF FISHING CAPACITY

2.1 Taiwan's Management of Fishing Capacity and Policy on Vessel Building Restriction

In the 1970s Taiwan confronted with the problem of overcapacity in fishery, and thus measures for the adjustment of fishing capacity had since been gradually implemented. Starting from 1989, the policy of vessel building restriction was promoted, restricting the building of all types of fishing vessels, with the exception of tuna purse seine fishing vessels over 1,000 GRT, mackerel purse seine fishing vessels, factory vessels over 2,000 GRT and reefer fish carriers. In 1991, this measure was further extended to cover all types of fishing vessels, except reefer fish carriers over 2,000 GRT. Meanwhile, as from 1995, regulations were imposed providing disqualification for building of replacement vessel after the export of a fishing vessel. The following introduces some of the important policies on fishing capacity management.

2.1.1 Measures to Restrict Building of Trawl Fishing Vessels (1967)

In view of the growing number of small and medium-scale trawl fishing vessels in the 1960s, resulting depletion of resources for coastal and offshore fisheries, the government of Taiwan started freezing the number and total tonnage of small and medium-scale trawl fishing vessels as from 1967. With the exception of those small and medium-scale trawl fishing vessels with building permits already authorized, and those which were actually performing trawl fishery, the building of new trawl fishing vessels less than 300 GRT were only allowed by means of building replacement. As from 1989, all new building of large, medium or small-scale trawl fishing vessels were not allowed unless building replacement entitlement was acquired.

2.1.2 Overall Vessel Building Restriction (1991)

Regulations on overall vessel building restriction were imposed in 1991, under which with the exception of reefer fish carriers over 2,000 GRT, the system of building replacement was applied to all new vessel building, including:

- (1) Limitation on the total number of fishing vessels: Building of a new fishing vessel will only be permitted after scrapping of an old one.
- (2) Limitation on the total tonnage of fishing vessels: Building of a new fishing vessel will only be permitted after acquisition of equivalent vessel replacement tonnage.
- (3) Limitation on the type of fishery: Building of a new fishing vessel will only be permitted with vessel replacement from the same type of fishery.

2.1.3 Suspension of Fishing Capacity after the Export of a Fishing Vessel (1992)

In order to maintain the overall global fishing capacity, and to prevent the application for building a new vessel after the export of an old one, thus resulting the

increase of the number of fishing vessels, in 1992, regulations were imposed authorizing the government to retrieve the right of vessel building replacement, after export of a fishing vessel. It is observed that this is a measure rarely seen in the fishery management measures adopted by other countries.

2.1.4 Banning of Large-Scale Drift-net Fishing on the High Seas (1993)

Large-scale high seas drift-net fishing boomed in 1980s, with the use of large mesh drift-net in the North Pacific Ocean and the Indian Ocean, squid drift-net fishing in the North Pacific Ocean. In consistent with United Nations General Assembly Resolution 46/215 concerning the moratorium of large-scale high seas drift-net fishing, as from 1993 Taiwan banned totally the use of large-scale drift-nets for fishing on the high seas, and those fishing vessels in the fishery were required to change their fishery type, or accept the government's vessel buyback program for scrapping.

2.1.5 Limitation on the Number of Large-Scale Fishing Vessels (2004)

The policy of overall vessel building restriction imposed in 1991, only covered the limitation on the total number and tonnage of fishing vessels, and restriction on the fishery types, and it provided rooms for fishermen to build a large vessel in replacement of two or several scrapped smaller vessels, since large-scale fishing vessels have higher fishing efficiency. Meanwhile, measures focusing on large-scale fishing vessels adopted by RFMOs became more stringent as from 2000. Noting that continuous growth in the number of fishing vessels may cause the problem of shortage of fishing quota, in 2004, a regulation was adopted requiring scrapping of a 100-GRT vessel for the building of a new fishing vessel over 100 GRT, thus filling the loophole of combining a number of small vessels for the building of a larger vessel to increase the fishing capacity.

2.1.6 Adjustment of the Definition of "Large-Scale Fishing Vessel" (2006)

In Taiwan, vessel tonnage 100 GRT is used for differentiating small-scale and large-scale fishing vessels. Those over 100 GRT are considered as distant water fishing vessels, and under 100 GRT, coastal and offshore fishing vessels. However, following the improvement of engine power, as well as their fishing equipment, some of the vessels with tonnage less than 100 GRT ventured to the areas of the high seas beyond the exclusive economic zone of Taiwan, and they were therefore subject to the management measures adopted by the respective RFMOs.

Vessel length is used by RFMOs in defining the category of fishing vessels, with the overall vessel length above 24 meters defining as a large-scale fishing vessel. Whereas, in Taiwan vessels with tonnage less than 100 GRT, may measure more than 24 meters in length, and they would be subject to management measures for large-scale fishing vessels adopted by the respective RFMOs. In order to be consistent

with the management standard of RFMOs, in 2007 Taiwan amended its Regulations for the Issuing of Fishing Vessel Building Permit and Fishery License, requiring those vessels over 24 meters in length, should not be less than 100 GRT in tonnage, and for the building of a new vessel, replacement tonnage from the same fishery type should be acquired in advance.

2.1.7 Reduction on the Ratio of Vessel Replacement Tonnage from other Fishery Types (2007)

In the building of a new vessel from replacement tonnage of other fishery types, originally tonnage from other fishery types could make up the shortfall of replacement tonnage to the maximum of 49%. In order to prevent shifting of vessel tonnage of other fishery types to tuna fishery, causing an increase of fishing capacity, as from 2007, only a maximum tonnage shortfall of 5% from other fishery types was permitted. In order to improve the fishing efficiency of squid fishery, as well as the challenge of reducing fisheries resources faced by both the longline and trawl fisheries, the requirement of replacement tonnage for squid fishing vessels was amended in 2009, allowing the ceiling of 49% replacement tonnage from longline and trawl fishing vessels for the building of squid fishing vessels, thus shifting the fishing capacity of longline and trawl fisheries to squid fishery.

2.1.8 Restriction on Attainment of Vessel Replacement Tonnage from Fishing Vessels with License Revoked (2009)

As from 2007, Taiwan's Regulations for the Issuing of Fishing Vessel Building Permit and Fishery License provide that those vessels with their fishing license revoked due to smuggling of firearms, narcotics, human trafficking, or carrying out drift-net fishing on the high seas, would not be permitted to retain their entitlement of building replacement for reviving their business activities. In 2009, the regulations were amended to include any vessel with its fishing license revoked due to listing on the list of illegal, unreported and unregulated fishing vessels by RFMOs, would be disqualified from retaining the entitlement of building replacement for reviving their business activities.

2.1.9 Amendments of the Regulations on the Building of Tuna Purse Seine Fishing Vessels (2008, 2011 and 2014)

All Taiwanese tuna purse seine fishing vessels operate in the western and central Pacific Ocean. In consideration of the decision of the Parties to the Nauru Agreement (PNA) in applying the criteria of vessel lengths of purse seine fishing vessels in the calculation of vessel/days into 3 classes, namely, under 50 meters, 50 to 80 meters and over 80 meters. The criteria differ from Taiwan's pattern of restricting fishing capacity, setting in the basis of 1 GRT for replacing 1 GRT. Since Taiwanese tuna purse seine fishing vessels normally have to enter into access fishing agreement with a number of the island countries in the western and central Pacific, to assist fishery operators to

accommodate with such management trend, in 2008 the regulation on the building of purse seine fishing vessels was amended requiring the acquisition of building replacement of purse seine fishing vessels from the same length class. For the building of foreign vessels in Taiwan, the same rule is applied. In order to prevent unreasonable tonnage increase in the building replacement of foreign vessels, in 2011 the regulations were further amended to restrict the tonnage on different length classes of purse seine fishing vessels. In addition, to address the adoption of CMM 2013-01 by WCPFC in 2013, in 2014 the regulations were respectively amended, requiring that a new vessel built from replacement tonnage, the volume of its fish holds should not be larger than that of the vessel to be replaced.

2.2 Taiwan's Achievement in Reducing Fishing Capacity

After 40 years development in fisheries, the size of Taiwan's fishing fleet reached the peak of 16,000 vessels in the beginning of the 1990s, with a production of 1.45 million tons. Among which, the number of vessels in the distant water fishery accounted for 10% of the entire fleet, while its production accounted for 53% of the total. The rapid increase of fishing capacity inevitably caused overcapacity, in particular, when the coastal and offshore fisheries were facing a drastic decline in fisheries resources. Thus, Taiwan had to take more aggressive measures to reduce its fishing capacity. Such measures included reduction of the size of its fishing fleet to lower the pressure on fisheries resources, as well as its negative socio-economic impact on the community, and elimination of the less efficient old fishing vessels. As such, the government of Taiwan took the following measures, to reduce the number of fishing vessels.

2.2.1 Phase I Voluntary Vessel Buyback Program

Between 1991 and 1995, Taiwan implemented the first voluntary vessel buyback program, focusing on vessels of older than 15 years of age. Under this program, a total of 2,237 vessels (118,354 GRT) were reduced, among which, 136 were large-scale tuna longliners, and 263 large-scale trawlers. With the appropriation of NT\$2.8 billion (approx. US\$145 million) from its budget, the government managed to reduce 12% of the entire fishing capacity, contributing to mitigating the impact on fisheries resources.

2.2.2 Phase II Voluntary Vessel Buyback Program and Compulsory Vessel Buyback Program on Designated Fisheries

The number of fishing vessels reduced after the Phase I vessel buyback program, but such factors as declining number of fishermen, polluted environment in Taiwan's coastal and offshore sea areas, and unsolved problem of overlap waters with neighboring countries, prompted the government to implement the Phase II vessel buyback program between 2000 and 2006. Under the program, 614 vessels were bought back by the government, reducing 109,526 GRT in vessel tonnage. In order to

further reduce Taiwan's fishing capacity, based on the price paid in the Phase II program, the government continued to conduct the vessel buyback program.

After the Phase I vessel buyback program in 1994, Taiwan's distant water tuna longline fishing fleet maintained steadily at 620 vessels for quite some time. In view of the fact that due to improved fishing method and refrigerating equipment of fishing vessels, in the late 1990s many fishing vessels changed their fishing pattern and began fishing bigeye tuna for processing in the form of ultra-low temperature sashimi, fetching for higher market price. Meanwhile, mixed factors such as the beginning of adoption of more stringent management measures on specific species of tuna and billfish by RFMOs, and the growing interests of coastal States and developing countries in entering into tuna fishery, shrunk the availability of fishing opportunities to distant fishing countries. In view of the incommensurability between the size of fishing fleet and the available fishing opportunities, after analyzing such situations in the three major oceans and the future trend, it was decided to reduce 215 large-scale fishing vessels between 2005 and 2008, which accounted for 35% of the fleet size of 614 in 2005.

Due to the improved fishing equipment of the small-scale tuna longline fishing vessels operating in the coastal and offshore seas, they ventured to waters beyond Taiwan's EEZ fishing for tunas and billfish, causing an increase in Taiwan's fishing efforts in the Pacific Ocean. Meanwhile, WCPFC began requesting control of the fishing capacity in the western and central Pacific Ocean. In addition, the issue of shrinking fishing grounds for trawl fishery emerged since 1990. As such, between 2007 and 2009 a special buyback program was launched with full funding from the government, focusing on the reduction of small-scale tuna longline vessels and trawlers. In order to encourage fishermen's participation in the program, trawl fishing gear was included as an item for buyback, to ensure no transfer of fishing capacity to other fishery types.

Between 1991 and 2013, the government of Taiwan scrapped a total of 5,145 vessels, with a total tonnage of 285,635 GRT. Adding to the government measure on restriction of vessel building and business dissolution of fishery operators, Taiwan's entire fleet was reduced from approximately 34 thousand units (including motorized and non-motorized vessels) to some 23 thousand units, or about 33% reduction in terms of fishing capacity. Among which, large-scale tuna longline fishing vessels reduced from 614 vessels in 2005 to 365 vessels in 2014, or 41% reduction in fishing capacity.

Furthermore, the work on reducing the number of tuna purse seine vessels should also be noteworthy. Tuna purse seine fishing vessels were first introduced into Taiwan in 1982. Areas in the western and central Pacific Oceans were major fishing ground for the fishery, which targeted mainly on skipjack. The fishery developed rapidly in the decade following, and in 1992 Taiwan had a purse seine fleet of 45 vessels. Later, due to the adjustment of business strategy, the fleet size was reduced to 42 vessels,

and further reduced to 41 vessels after export of 1 vessel in 2001. In 2002 and 2003, 1 and 6 vessels were exported, respectively, and the fleet size maintained at 34 vessels to-date.

2.2.3 Fishing Layoff Program

To reduce fishing pressure on fisheries resources and to lower fishing efforts, Taiwan began implementing the program of fishing layoff measure in 2003, providing incentive to fishing vessels berthing in port for 90 days in a year. Between 2003 and 2012, there were 81,408 vessel/trips participating in the program, reducing 8,465,500 vessel/days in fishing efforts, and an average of 8,000 vessel/trips per annum, with an annual reduction of 800 thousand vessel/days in fishing efforts.

In addition, Taiwan also implemented fishing layoff programs for designated fisheries. In 2006 and 2008, 2 of the programs were launched, focusing on distant water fishing vessels targeting on squid and saury, and in 2007, 1 program on distant water trawl fishery. Fishing vessels participated in the 3 programs were required to berth in port for a consecutive period of 120 days to qualify cash incentives. A total of 53 vessels joined the 3 programs, reducing 6,360 vessel/days in fishing efforts.

3. TAIWAN'S FISHING CAPACITY MANAGEMENT PLAN

3.1 Principles

The planning of Taiwan's fishing capacity management and its future implementation under this NPOA are developed in accordance with the guidelines of IPOA-Capacity. These principles are described as follows:

- (1) Participation: In implementing fishing capacity reduction program in the past, throughout the course of the program, those involving in the fishery production and stakeholders were invited to participate in the consultations. Likewise, when there is any need of further reduction of fishing capacity in the future, during the course of the program the invitation of all stakeholders to participate in the consultations will continue. Furthermore, Taiwan will cooperate directly or through other States and international organizations (including RFMOs) to achieve the objective of fishing capacity management. Taiwan will thus share and exchange with other international organizations the management actions taken.
- (2) Phased implementation: To complete Taiwan's basic fishing capacity management plan, Taiwan will take into account the requirement of IPOA-Capacity, implement the fishing capacity management on the basis of national and regional plans, which will be achieved in 3 phases. First, the focus will be on assessment and diagnosis of Taiwan's fishing capacity. Secondly, based on the outcome of the assessment and diagnosis, take necessary conservation and management measures. Finally, the above assessment and diagnosis, and conservation and management

measures will be under periodic monitoring, and timely adjusted.

- (3) Holistic approach: In conducting fishing capacity management, Taiwan will take into account all factors affecting capacity in both national and international waters. In other words, this NPOA will address the issues concerning the fishing capacity of Taiwan's coastal and offshore fisheries, and distant water fishery.
- (4) Conservation: Taiwan's NPOA-Capacity will be in concurrence with the policy formulated by the Fisheries Agency. It is expected to achieve the objective of conservation and sustainable utilization of marine resources, and preservation of marine environment, under such regulatory measures as precautionary approach, reduction of bycatch, use of environmentally friendly and safe fishing methods, and protection of marine biodiversity and habitats.
- (5) Priority: This NPOA will give priority to managing the fishing capacity in those fisheries in which there already unequivocally exists overfishing.
- (6) Mobility: This NPOA will encourage efficient use of fishing capacity and discourage mobility, and take restrictive measures when it negatively affects sustainability of marine resources, while take due account of socio-economic performance in other fisheries.
- (7) Transparency: This NPOA will be implemented in a transparent manner in accordance with Article 6.13 of FAO Code of Conduct for Responsible Fisheries. Likewise, it will be implemented in accordance with the applicable law of Taiwan, in ensuring transparency in decision-making, while solving urgent matters in a timely manner. Matters concerning the decision-making in development of legal and policy framework on fishery management and development will be made in joint participation and consultation of the industry sector, fishermen, environment and other interest groups.

3.2 Policies

The policy objective of Taiwan's fisheries management is set forth in Article 1 of Taiwan's Fisheries Act, that is, "to conserve and rationally utilize aquatic resources, to increase fisheries productivity, to promote sound fisheries development, to guide and assist the recreational fishery, to maintain orderly operations of the fisheries, and to improve the livelihood of fishermen." Accordingly, the policy objective of this NPOA is "to enable the level of Taiwan's fishing capacity to sufficiently achieve optimum utilization and sustainability of fisheries resources, and by resolving the problem of overcapacity in fishery to achieve the objective of sustainability of fisheries resources."

In practice, the policy of this NPOA can further be divided into two parts: domestic and international fisheries. For domestic fishery, it is expected to maintain a reasonable balance between fishing capacity and available resources, with stable stock

sizes. For international fishery, cooperation with relevant RFMOs will be strengthened, and apart from taking measures in line with those adopted by the RFMOs, management measures on fishing capacity adopted by the RFMOs will be strictly complied.

3.3 Objective

According to the requirement of IPOA-Capacity, the objective of fishing capacity management can be achieved through 4 ways as described below:

- (1) Conduct assessment of fishing capacity at national, regional and global levels, and improve the ability for the monitoring of fishing capacity.
- (2) Take immediate actions for effective management of fishing capacity in fisheries (key fisheries) where urgent measures are needed, through the preparation and implementation of a national plan.
- (3) Strengthen the cooperation with RFMO and other relevant bodies, to improve the management of fishing capacity at regional and global levels.
- (4) Take immediate actions in transboundary, straddling, highly migratory and high seas fisheries which urgent measures are needed.

In order to be consistent with the policy of the IPOA-Capacity, the objective of this NPOA is “to ensure Taiwan’s fishing capacity not exceeding the level needed to maintain the optimum utilization of fisheries resources, and to ensure the sustainability of fisheries resources within waters of Taiwan’s jurisdiction and in areas of high seas”. The Fisheries Agency, being the competent fisheries authority in Taiwan, will progressively develop management framework in accordance with this NPOA, encouraging the fishing industry to maintain a reasonable balance between fishing capacity and available fisheries resources. In order to achieve this objective, the Fisheries Agency will periodically monitor the level of Taiwan’s fishing capacity, and quantify any overcapacity. The result of quantification will be checked against each of the management objective set for the fisheries under management, to ensure overcapacity will not occur.

3.4 Management of Fishing Capacity

3.4.1 Domestic Legislation

Under the existing legal system of Taiwan, the Fisheries Act is the core legal base for the management of Taiwan’s marine fishery, and this includes regulations, directions, rules and administrative orders promulgated in accordance with the Fisheries Act. The legislative objective of the Fisheries Act includes “conserve and rationally utilize aquatic resources, to increase fisheries productivity, to promote sound fisheries development, to maintain orderly operations of the fisheries, and to

improve the livelihood of fishermen.” Meanwhile, based on the Fisheries Act, regulations and rules relating the management of fishing capacity have been enacted, such as, the Regulations for The Issuing of Fishing Vessel Building Permit and Fishery License, the Regulations on Permission for the Export of Fishing Vessels and the Regulations on the Management of Fishing Vessels and Crews in Foreign Fishing Bases, etc.

In addition, Taiwan has implemented a number of vessel buyback programs, to reduce Taiwan’s fishing capacity. For instance, “Procedure on Carrying out Buying Back and Scrapping Fishing Vessels in 2008 to Adjust Deep-sea Fishing Capacity” was promulgated in 2008. In recent years, “Directions on Buying Back and Processing Fishing Vessels and Rafts” has been announced from year to year, in order to continue controlling and reducing Taiwan’s fishing capacity by means of buybacks of fishing vessels and rafts.

Taiwan also legislated other laws and regulations to control fishing capacity. Notably, the promulgation in 2008, the Ordinance to Govern Investment in the Operation of Foreign Flag Fishing Vessels to govern the activities of investment of fishing vessels by Taiwan’s nationals in foreign countries. The Council of Agriculture, which is the competent authority for the enforcement of the Ordinance, was empowered to develop application procedures and regulations for the approval of such investments. Accordingly, 3 administrative rules were enacted, and they are, the Regulations on the Investment in the Operation of Foreign Flag Fishing Vessels by Taiwan Nationals, the Regulations on the Application Procedures for Investment in the Operation of Foreign Flag Fishing Vessels, and the Regulations on the Reporting for Data of Fishing Operation of National-invested and Operated Foreign Flag Fishing Vessels.

3.4.2 Competent Fisheries Authorities

According to the provisions of the Fisheries Act, the Fisheries Agency is the competent fisheries authority in the central government handling matters in relation to the management of fishing capacity. The governments of municipalities, and prefectures are local fisheries authorities. They are authorized to administrate the building of fishing vessels of Taiwan registry, fishing activities, as well as matter relating to investment of fishing vessels in foreign countries.

3.4.3 Information Collection

The Fisheries Agency will assess the extent of excess capacity and overcapacity in Taiwan’s existing commercial fisheries, including coastal and offshore fisheries, and distant water fishery. Excess capacity means fishing capacity has exceeded the amount of fish actually caught, while overcapacity means fishing capacity has exceeded management target. Management target can be itemized to total allowable catch (TAC), maximum sustainable yield (MSY), and maximum economic yield

(MEY). Since management target in Taiwan's fishing capacity management is to achieve the sustainable utilization of fishery resources, therefore it is considered that overcapacity will be a more important issue to be addressed.

For the purpose as stipulated above, for the coastal and offshore fishing vessels operating within the waters of jurisdiction of Taiwan, and the distant water fishing vessels operating on the high seas and in the exclusive economic zones of countries with whom they have access fishing agreement, the Fisheries Agency has established database to collect information relating to their fishing activities in order to have effective fleet management. The information collection system on fishery management already completed includes information of every fishing vessel and its vessel owner. In addition, for high seas fishery, a system for access, maintenance and provision of information for the purpose of monitoring, control and surveillance has been established. Information collected includes information on vessel registration, information on vessel port entry and exit, catch report, vessel monitoring system, observer program, transshipment and catch landing, etc. The information collected is described as follows.

(1) Information on Vessel Registration

In accordance with the provisions of the Enforcement Rules of the Fisheries Act, vessel owners who intend to operate marine fishery, are required to fill in an application form with attachment of required documents and apply to the fisheries authority for fishing license. Based on the applicable rules, the fisheries authority should record information of the owner, vessel name, serial number, fishery types, vessel captain, vessel tonnage, and other relevant information. The Fisheries Agency has now established a fishery management information system, the information on vessel registration and fishing license so collected, including the information on the fishing licenses issued by the competent authority of local governments will be keyed into the database. Different levels of administrative staff will be authorized to access the database system in accordance with the respective authority given, for inquiring, storage and retrieval, updating and deleting information, if deem appropriate.

(2) Information on Vessels' Port Entry and Exit

Taiwanese fishing vessels entering into and departing from domestic ports are required to complete reporting procedure. Personnel of Coast Guard Administration posted at domestic ports will record information on vessels' port entries and exits, and the information entered will be linked to the database of the fishery management information system established by the Fisheries Agency, for accurate monitoring the information of vessels' port entries and exits.

(3) Catch Reporting Information

In accordance with relevant regulations of Taiwan, key fisheries in coastal and

offshore fisheries are required to regularly report their catch information. Captains of distant water fishing vessels are required to fill in daily their fishing logbooks, and submit to the Fisheries Agency for perusal, within a required timeframe after completion of their transshipment or landing of catch. The Fisheries Agency will pass the information to fisheries resources research center for data filing, crosschecking and storage in the database for follow-up stock assessments and other scientific research. To control the quota usage in specific fisheries, as well as to obtain real time catch information, the Fisheries Agency will request the respective fishing fleet to submit regularly (weekly or monthly) rapid catch report to the fishery organizations, for compilation and submission to the Fisheries Agency. After reviewing of the information provided, it will be stored in the fisheries management information system.

(4) VMS and Observer Program Information

Those fishing vessels which are required to install VMS, have to transmit their VMS data to the National Vessel Monitoring Center to have the data stored in the database for real-time monitoring. A certain percentage of Taiwan's fishing vessels, are required to receive observers on board to observe their fishing activities, and the collection of scientific data. Relevant data reports will be submitted and stored in the database of the Fisheries Agency.

(5) Information on at-sea Boarding and Inspection

Taiwan's enforcement personnel conducting boarding and inspection on the high seas, will transmit the preliminary inspection report upon completion of the inspection mission, and provide an official inspection report upon return to the domestic port, accompanying record of inspection and other relevant information. In case violation is found, the Fisheries Agency will take actions against the vessel and its captain, in accordance with the aforementioned report and related evidence. Such case of violation will be duly filed.

(6) Transshipment Information

Any fishing vessel which intends to conduct at-sea transshipment or in-port transshipment of catch, prior to the transshipment the vessel owner are required to apply to the Fisheries Agency for permission with provision of related documents, and no transshipment will be allowed before obtaining such permission. After completion of the transshipment, the owner should provide a written copy of the transshipment confirmation to the Fisheries Agency, who will enter the information into the data system, including dates of port entry and exit, period of fishing operation, intended and confirmed date of transshipment, fish species and weight intended to transship and that have been transshipped. The information submitted by the owner will be reviewed, as a source of information for the application of catch document and fishing license.

(7) Catch Landing Information

Catches of Taiwanese fishing vessels carried by the vessels themselves, or consigned to reefer carriers or containers, which intend to enter into domestic or foreign ports for landing, and follow-up sales or storage, landing of catches should be applied to the Fisheries Agency with submission of relevant documents, 3 days before the arrival of the catches. Information on landing of catch will be collected, for storage in database by the fish market where the landing takes place. The Fisheries Agency will randomly send personnel to domestic ports to monitor the landing of catch. Where the landing is taken place in a foreign port, the Fisheries Agency will also request the owner of the fishing vessel to submit, upon completion of the customs clearance, a copy of the catch sales and landing note to the Fisheries Agency for perusal. Such information will be entered into the fishery information system.

3.4.4 Assessment of Fishing Capacity

Based on information collected and the result of the assessment of fishing capacity, in the future the Fisheries Agency will plan to convene fishery conference at an appropriate time, to comprehensively address the issue of fishing capacity management policy, in a long-term basis, and continue the convening of fishing capacity management technical workshops, to further discuss the technical aspects of fishing capacity, the target and priority of the fishing sector in addressing overcapacity, management measures, progress and challenges faced. Before such development, management of fishing capacity will be conducted by means of management measures, as necessary, in particular on key fisheries where there are signs of degradation and urgent management needs. The following briefly introduces the management measures on fishing capacity.

3.4.5 Management Measures on Fishing Capacity

In the management of fishing capacity, “entry limits or catch limits” is the management measure mainly applied in Taiwan. It includes the system of vessel building replacement, fishing layoff, closed areas, limits on the number of fishing permits and fishing licenses, catch limits or catch quota; vessel buybacks, including such measures as vessel reduction and retrieval of fishing licenses; and “fisheries enforcement”, such as implementation of MCS measures, installation of VMS, and imposition of appropriate penalty on violations.

With respect to entry limits or catch limits, apart from the implementation of overall vessel building restriction as from 1989, in controlling the total number of vessels and total vessel tonnage, currently such management measures as fishing layoff and closed areas are applicable to specific fisheries. For instance, in 1999, “Regulations for Prohibited Fishing Area Location of Taiwanese Trawlers and the Relevant Restrictions”, prohibiting trawl fishing within 3 nautical miles from the coast, and trawlers under 50 GRT are restricted to fish within the waters between 3

and 12 nautical miles from the coast.

For high seas fishery, in the past or currently, Taiwan applied or is still applying appropriate measures for fishing layoff and closed season to squid fishery in the southwest Atlantic Ocean, saury fishery in the northwest Pacific Ocean, and tuna fishery in the Indian Ocean.

In the buybacks of vessels, a number of vessel buyback programs were implemented to reduce overcapacity in Taiwan's fishery. As for domestic fishery, "Directions on Buying Back and Processing Fishing Vessels and Rafts" has been announced since 2009, for buying back fishing vessels and fishing rafts in the coastal and offshore fisheries. For high seas fishery, in line with the international trend, to fulfill Taiwan's fishing capacity management and readjust the structure of the fishery, in 2007, "Directions for Structural Adjustment of Trawlers over 100 Tons or Longliners over 20 Tons but under 100 Tons" were promulgated, focusing on buybacks of trawlers over 100 GRT and longliners over 20 GRT but under 100 GRT. The "Procedure on Carrying out Buybacks and Scrapping Fishing Vessels in 2008 to Adjust Deep-sea Fishing Capacity" was promulgated for further buybacks of distant water fishing vessels.

With respect to fisheries enforcement, Taiwan has adopted many MCS measures, to monitor the fishing activities of its fishing vessels. For instance, for high seas fishery, Taiwanese fishing vessels are required to obtain prior authorization before proceeding to specific high seas areas or the jurisdiction of foreign countries with whom they have access arrangement, for conducting the fishery types so authorized. In addition, during the time of their operations, vessels are required to install automatic position transmitters, and transmit their positions via VMS. They are also required to accept boarding of observers to carry out scientific observation, and at-sea boarding and inspection. Landing or transshipment of catch may only be carried out with prior authorization from the Fisheries Agency. They may only enter into or depart from designated domestic and foreign ports, and accept inspection.

In addition, a National Vessel Monitoring Center has been established for receiving and compilation of position information reported from vessels. All Taiwanese vessels fishing within the EEZ of foreign countries under fishing access arrangement or on the high seas, and specific fishing vessels operating within the waters of Taiwan's jurisdiction (creational fishing vessels and live fish carriers), are required to install at least one set of automatic position transmitter, and report their positions to the monitoring center at such intervals as requested by the Fisheries Agency, or where appropriate, the RFMO. To avoid malfunction of the transmitting device, in 2005 the Fisheries Agency required all tuna longliners over 100 GRT and tuna purse seiners to install 2 sets of automatic transmitters, while encouraging tuna longliners under 100 GRT to follow suit. Moreover, squid vessels, and bigeye targeting longliners operating in the Atlantic Ocean are required to report their catch via VMS, apart from reporting of vessel positions.

With respect to sanctions, in accordance with the Fisheries Act, any fishing vessel which violates the provisions of the Act or regulations promulgated under the Act, may be subject to restriction or suspension of its fishing operation, or suspension of its fishing license, the professional certificates of its officers or seamen books of its crewmembers, for not more than 1 year. In case of serious violations, the permit for fishery operation, the fishing license of the vessels, the professional certificate of its officers or seamen books of its crewmembers will be subject to revocation. In addition, according to the provisions of the Ordinance to Govern Investment in the Operation of Foreign Flag Fishing Vessels, any Taiwanese national who intends to operate foreign fisheries is required to obtain permission, otherwise penalties will be implied. Once permission is given, fishing activities shall abide by relevant conservation and management measures, otherwise, in particular fish laundering, penalties will be implied as well.

3.5 International Consideration

Due to special political consideration of the international community, Taiwan has been denied from ratifying or acceding the majority of the international fisheries legal instruments with binding power, so-called hard laws, notably the 1982 United Nations Convention on the Law of the Sea, the 1993 FAO Agreement to Promote Compliance with Conservation and Management Measures by Fishing Vessels on the High Seas, and the 1995 United Nations Fish Stocks Agreement. Being a responsible fishing nation, in consideration of the sustainable utilization of marine fisheries resources, in 1998, the President of Taiwan promulgated, following the adoption by Taiwan's Legislative Yuan (Taiwan's legislative body), two basic pieces of maritime zone legislation, "Law on the Territorial Sea and Contiguous Zone of the Republic of China", and "Law on the Exclusive Economic Zone and Continental Shelf of the Republic of China", and the spirits and regulations of abovementioned international instrument were incorporated in the legislation of these two laws, including those relating to the conservation and management of fisheries resources.

With respect to international fisheries instrument with no binding power, so-called soft laws, for the sake of conservation of sharks, reduction of incidental catch of seabirds in longline fishery, Taiwan has followed the request of FAO Code of Conduct for Responsible Fisheries (CCRF), and the four International Plans of Action (IPOAs) under CCRF, adopted Taiwan's National Plan of Action (NPOA) for the Conservation of Sharks, and National Plan of Action for the Reduction of Incidental Catch of Seabirds in Longline Fisheries. In March 2013, Taiwan also adopted the National Plan of Action to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing (NPOA-IUU) to fulfill the requests from the IPOA-IUU relating to States.

Taiwan has long been cooperating with various RFMOs. Presently, Taiwan is a member of the Western and Central Pacific Fisheries Commission (WCPFC), the Inter-American Tropic Tuna Commission (IATTC), and the South Pacific Regional

Fisheries Management Organization (SPRFMO), and will become a member of the North Pacific Fisheries Commission (NPFC), upon its establishment. Taiwan is a member of the Extended Commission for the Conservation of Southern Bluefin Tuna (CCSBT), and a cooperating non-member of the International Commission for the Conservation of Atlantic Tunas (ICCAT).

Despite the fact that Taiwan is not able to participate in the capacity of a member or even an observer, in the work of the Indian Ocean Tuna Commission (IOTC), which is an RFMO established in accordance with the constitution of FAO, as an important fishing power in the Indian Ocean, Taiwan still extend its cooperation with IOTC. At present, Taiwan participates in IOTC meetings as “Invited Experts”. Such abnormal status of lacking legal linkage between Taiwan and IOTC is not consistent with the existing international practice, and has to be addressed in the near future.

For years, not only has Taiwan been actively participating in the work of relevant RFMOs, but has also fully complied with the conservation and management measures they adopted, in achieving the goals set for the management of fishing capacity. For example, annually Taiwan provides relevant information to RFMOs within the required timeframes, including information on fishing vessels authorized to fish in their respective waters, information on catch by species, and other information relating to fishing capacity. In addition, based on the Fisheries Act, regulations and rules have been promulgated, incorporating the conservation and management measures adopted by these RFMOs in the domestic legal regime. These include relevant management measures on fishing capacity, such as closed time and areas for tuna fishing in the major oceans, catch limits on specific fish species (e.g. catch limits on bigeye tuna in ICCAT and IOTC).

3.6 Implementation of the NPOA

FAO Code of Conduct for Responsible Fisheries calls upon States to take measures to prevent and eliminate overcapacity, and IPOA-Capacity requests States to develop, implement and monitor their NPOAs for the management of fishing capacity, taking into account, *inter alia*, the effect of different resources management systems on fishing capacity. In response to such requests, Taiwan develops and adopts this NPOA-Capacity. In addition to introducing efforts made by Taiwan on the management of fishing capacity, this document also presents measures to be adopted in the future for the management of its fishing capacity. Through the adoption of this NPOA, Taiwan, as an important distant water fishing nation, declares to the world its willingness to manage its fishing capacity in accordance with the relevant international instruments, to gradually take steps so that its fishing capacity does not exceed the level necessary for the optimal utilizations of fisheries resources, and to maintain sustainability of fisheries resources in waters of Taiwan’s jurisdiction and that of the high seas areas.

The process of managing fishing capacity is evolutionary, and for this reason Taiwan will regularly monitor the process and implementation of this NPOA, review and amend, where necessary, to ensure the management of fishing capacity will be conducted in such a way that has taken account the relevant conditions and legal mandates, to achieve the goals set forth in the NPOA. In case of such events as the decisions of the Legislative Yuan (Taiwan's legislative body), outputs of the future national fisheries conference and new issues confronted by Taiwan's fisheries, where appropriate, the aforementioned monitoring, review and amendment will be conducted when needed.

4.TAIWAN'S CURRENT MANAGEMENT OF FISHING CAPACITY ON KEY FISHERIES

Fisheries resources are renewable resources. Under proper management, they are able to reproduce continuously, for sustainable utilization. However, improvement of fishing gear and fishing methods, and expansion of fishing capacity, impact the sustainable reproduction of fisheries resources. Taiwan Fisheries Agency has initiated a series of dynamic management mechanisms, to mitigate the impact of overfishing on resources in the coastal and offshore fisheries. Such mechanisms which are described in the preceding section, include vessel building restriction, buybacks and fishing layoff incentives, tracking of vessel navigation by means of Voyage Data Recorder (VDR), installation of VMS on specific types of fishing vessels to access real-time activities of vessels. For specific fisheries which have confronted with the impact of overcapacity, and for key fisheries which will affect the entire marine ecosystem in the event of depletion of resources, the Fisheries Agency has exercised comprehensive management measures. The management of key fisheries is described below:

4.1 Tuna Longline Fishery

Taiwan tuna fishery plays a leading role the world's tuna production. Taiwan's tuna longline fishery operates in the major oceans, with a peak production once surpassing 350 thousand metric tons. Due to decline of tuna stocks, and lowering of fishing limits by international organizations in recent years, Taiwan's longline fishery saw an excessive fishing capacity, and there was the need to adjust accordingly the scale of the fishery. Following the drastic reduction of tuna longline fishing vessels since 2005, the annual production of tuna longline fishery maintains at about 220 thousand metric tons in recent years, reflecting a significant reduction in fishing pressure on the resources of tunas and billfish. Described below are some of the regulations promulgated by the Council of Agriculture on the MCS measures for tuna longline fishery.

4.1.1 Monitoring

- (1) Based on the fishery types, vessel captains are required to fill in fishing logbooks and rapid catch reports, and maintain a copy on board. Submission of rapid catch reports may be waived in case a vessel has already sent information of catch by electronic means or by facsimile.
- (2) The fishery operators are required to submit annually to the Fisheries Agency statistics and related documents on the sales of catch of his/her fishing vessel.
- (3) When the catch shipped under consignment arrives in port, or when the fishing vessel enters into a port or when it has completed its transshipment, the fishery operator is required to submit fishing logbooks to the Fisheries Agency for perusal.
- (4) No transshipment will be permitted without prior authorization.
- (5) The fishery operators are required to apply for catch documents according to the applicable regulations, in case of need in the sales of the catch of his/her fishing vessel.

4.1.2 Control

- (1) In case of limits imposed by RFMOs or management need, where necessary, the Council of Agriculture may limit the number of vessels operating in the 3 major oceans, as well as limiting the catch allowed of individual fishing vessels.
- (2) No fishing will be permitted in areas and waters where authorization has not been granted.
- (3) No transshipment of fish not caught by the vessel itself, or fish not authorized to fish will be permitted.
- (4) The certificate for operations in foreign bases must be kept on board, and the names and identification marks of the fishing vessel must not be concealed or altered.
- (5) Fishing vessels may not overuse catch limits on species where limit is applied, and overuse of catch limits is subject to penalty.

4.1.3 Surveillance

- (1) Vessels are required to install VMS, which should be functional at all time according to the relevant regulations.
- (2) Vessels are required to accept observers dispatched by the Council of Agriculture for observing their fishing operations, and port inspectors for conducting inspection. Vessels are required to keep in communication with the patrol vessels dispatched by the Council of Agriculture, and accept boarding and inspection at sea.

4.2 Purse Seine Fishery

The fishing grounds of purse seine fishery cover the waters of jurisdiction of the

Parties to the Nauru Agreement (PNA). The annual production of the fishery is approximately 200 thousand metric tons, with skipjack as the target species. Management measures are currently applied to Taiwan's purse seine fishery, as well as those vessels fish in PNA waters under access arrangement. They are described below:

4.2.1 Monitoring

- (1) Purse seiners are required to report hourly their positions via VMS. They are required to comply with the conservation and measures (CMM) adopted by WCPFC on fish aggregating device (FAD) closure, during which time position reports on a half-hourly basis are required, and in case of malfunction of VMS, manual reporting of positions is not allowed during fishing operations.
- (2) Purse seiners must report weekly their catches and areas of fishing, and provide their fishing logbooks for perusal every three months to the Fisheries Agency and the competent authorities of the countries where they have fishing access arrangement.
- (3) During fishing operations within the waters of coastal States, the competent authorities of the respective countries are authorized to access the positions and control the vessel/days of every vessel.
- (4) Effective from 1 October 2014, purse seiners are required to report their catch via VMS in the form of e-logbook.

4.2.2 Control

- (1) Purse seiners are prohibited to use FAD in the closed period in the year.
- (2) To control the entire fishing capacity in the region, building permit for purse seiners not granted before 1 March 2014 and duly notified the WCPFC Secretariat, the carrying capacity of the fish holds of the new purse seiners should not be larger than that of the vessels being replaced.
- (3) Fishing is restricted to areas of the Pacific Ocean, west of 150 degrees W, and fishing in areas north and south of 20 degrees N and 20 degrees S, respectively is prohibited.
- (4) At sea transshipment of catch is prohibited.
- (5) Purse seiners are required to accept on board one observer under the regional observer program before departure from port for fishing. During fishing operations in the waters of jurisdiction of coastal States, observers to be embarked should be subject to the approval of the concerned coastal States.

4.2.3 Surveillance

Vessels operating in high seas areas in the Convention Area of WCPFC are required to accept boarding and inspection by authorized vessels of those countries with whom

Taiwan has mutual boarding and inspection right.

4.3 Squid and Saury Fisheries

Squid fishery is one of the important distant water fisheries in Taiwan, with Argentine shortfin squid in the southwest Atlantic Ocean and giant squid in the southeast Pacific Ocean as targeted species. The fishing season for Argentine shortfin squid is from December to the following May, and giant squid is caught all the year round, with abundance between June and September. In addition, most squid jigging vessels operate torch light seine saury fishery in a part-time basis in the northwest Pacific Ocean between June and November every year. For managing these fisheries, Regulations for the Application of the Certificate for Operation by Squid Jigging Vessels and Fish Carrier Vessels Proceeding to the Southwestern Atlantic Ocean, Directions for Squid Jigging Vessels Operating in the East Pacific Ocean, and Directions for Fishing Vessels and Carrier Vessels Authorized to Operate for Squid and Saury in the North Pacific Ocean, were promulgated. The following are the MCS measures imposed:

4.3.1 Monitoring

- (1) For conducting squid fishery, vessels are required to hold Certificate for Operation in Foreign Bases, and for saury fishery in the North Pacific, Certificate for Operation in the North Pacific Ocean.
- (2) During fishing operations, vessel captains are required to report daily by electronic or radio communications their fishing activities, and fill in fishing logbooks for submission to the competent authority, accompanying records of transshipment, if any, and automatic position tracking reports within 24 hours upon returning to their homeports.
- (3) When fishing vessels enter into port with catch on board, or fish carriers enter into port carrying fish on board, their fishery operators are required to submit catch reports, sales report of catch and cold storage information of catch to the Fisheries Agency for perusal.

4.3.2 Control

- (1) Vessels are prohibited from entering into the EEZ of foreign countries, without access fishing arrangements, or other closed fishing areas which have been duly announced, without authorization.
- (2) No catching, transshipping or retaining aquatic animals or plants which have been announced as prohibited for catching by the competent authority of the central government or by other public notices. Their incidental catch should be released into the sea.
- (3) Stowage of catch from different vessels on fishing vessels and fish carriers should be clearly identified, and transshipment record should be properly filled in.
- (4) Without prior authorization, no catches of Argentine shortfin squid are permitted

to be shipped by foreign carriers for hub shipments by containers in Montevideo. Without prior authorization, no catches of saury are permitted to be consigned to foreign fish carriers for offloading at foreign ports.

- (5) Fishing vessels are not permitted to carry catches from fishing vessels which have not been authorized to fish in the relevant fishing areas or catches from foreign fishing vessels.
- (6) Fishing vessels which fail to report by automatic transmitters their positions for a certain number of days, or fail to report daily their catch for a certain number of days, or enter into closed areas for fishing, catch or carry prohibited aquatic animals or plants, conceal or alter their names and identification marks, refuse or evade or obstruct inspection by patrol vessels, may be instructed to stop fishing immediately and return directly to designated ports for inspection.

4.3.3 Surveillance

- (1) Vessels are required to install automatic satellite navigating recorders and VMS, for daily automatic reporting of their positions.
- (2) Vessels are required to accept scientific observers dispatched by the competent authority to conduct observation on board during fishing operations. Vessels engaging in saury fishery in the North Pacific Ocean should comply with the work of fish sampling conducted by patrol vessels or fishery survey vessels dispatched by the Council of Agriculture, and keep in communication with such vessels.

4.4 Taiwan's Important Coastal and Offshore Fisheries

Since 2007, the government of Taiwan has been strengthening the management of fisheries resources of important coastal and offshore fisheries, such as precious coral fishery, flying fish roe fishery, larval fishery, and mackerel fishery, by establishing from time to time management regulations, as appropriate, in order to ensure every vessel are under strict monitoring (e.g. collection of fisheries information, verification of catch landing and sales), control (e.g. issuance of fishing license, closed time and areas, catch limits) and surveillance (e.g. positions reporting via VMS, dispatching of observers and boarding and inspection at sea). The following are the MCS measures taken:

4.4.1 Monitoring

- (1) Vessel owners or captains must fill in fishing logbooks, for delivery to the Fisheries Agency via the local fishermen's associations, within the required timeframe upon the port return of their fishing vessels.
- (2) The trade of coral must be conducted in public, by auction, price negotiations, bidding or tendering at the Su-Au District Fishermen's Association.
- (3) All catches landed by mackerel fishery at designated ports must be weighed, and traded in public, by auction, price negotiations, bidding or tendering.

- (4) Catches from flying fish roe fishery must be weighed by the respective local district fishermen's associations, and verified by the personnel dispatched by the Fisheries Agency.
- (5) Catches from larval fishery must be placed in containers designated by the local competent authorities for calculation of weight.
- (6) After completion of sales of catches in port, the fishing vessels of the fisheries as mentioned in the preceding paragraphs, must submit their catch and sales records per trip via the respective district fishermen's associations, to the Fisheries Agency for perusal.

4.4.2 Control

- (1) Fishing vessels must hold fishing licenses for the respective fisheries.
- (2) Precious coral fishery must only be conducted in designated fishing areas during the time authorized, for a maximum of not over 220 days, with catch limit of 200 kilograms per year, and their landings are restricted to be performed at the fishing port of Nan Fan Au in Yilan, the 3rd Fishing Port of Makung in Peng-Hu and fishing port of Chi-Jing in Kaohsiung.
- (3) Landing of catches from flying fish roe fishery is restricted to designated areas in designated fishing ports. The allowable fishing days and catch limits must be authorized by the competent authority, based on the available information of fishing season and fishing conditions.
- (4) Larval fishery must be conducted in accordance with terms and conditions prescribed by the local competent authorities, with fishing closure for 3 consecutive months between 1 May and 15 September every year in their respective areas of jurisdiction, with prohibition of fishing in areas 1,000 meters from the coast. The local competent authorities have the option of reducing the sea area under their respective jurisdiction, but in any event it should not be narrower than 500 meters in width from the coast.
- (5) Fishing vessels for mackerel fishery are prohibited to operate within the waters 6 nautical miles from the coast of the Taiwan's main island, while those vessels over 100 GRT for such fishery are prohibited to operate within the waters 12 nautical miles from the coast of the Taiwan's main island. Furthermore, fishing is not permitted in the northeastern fishing zone between June 1 and 30 every year. Landings of catches are only permitted in designated ports.

4.4.3 Surveillance

- (1) Vessels for precious coral fishery and mackerel fishery are required to install VMS, and they may only be permitted to depart from port for fishing after confirming that their transmitters on board are switched on and functioning in normal condition, for transmitting hourly their positions to the VMS center. Vessels for precious coral fishery must keep in communication with fishery patrol vessels and coast guard surveillance vessels, and accept boarding and inspection

- without denial.
- (2) During their fishing operations at sea, vessels for the respective fisheries should accept boarding of observers dispatched by the Fisheries Agency for conducting observation on board.
 - (3) Vessels should accept boarding of personnel from the Fisheries Agency or coast guard authority for inspection, without denial.

5. TAIWAN'S FUTURE ACTIONS

Since 1967, Taiwan has been taking measures to gradually adjust the fishing capacity in various fisheries, taking into account the fishing opportunities for tunas and tuna-like species available from the 3 major oceans, and the future management trend. In order to maintain the commensurability between the fleet size in the respective oceans and the fishing opportunities available, since 2005 drastic reduction of tuna longline fishing vessels has been undergoing. Taiwan will continue to meet in line with conservation and management measures adopted by respective RFMOs, adjusting its domestic fisheries management policy, and reinforcing its management measures on fisheries resources, whereby ensuring their sustainable utilization. Directions of Taiwan's future actions are described as below:

5.1 Tuna Longline Fishery

It is obvious the work of conservation and management of tunas and tuna-like species in the 3 major oceans, will be the responsibilities of the respective RFMOs. As such, Taiwan's vessels engaging in tuna fishery in the 3 major oceans have all been placed under the management of the respective RFMOs. Every year RFMOs will adopt new management measures or amend the existing management measures, taking into account the work of stock assessments and the scientific recommendations from the respective scientific committees, in respect to the status of stocks, whether they are overfishing or have been overfished. Members and cooperating non-members of the respective RFMOs will adjust their domestic fisheries management measures accordingly, and likewise adjust their management policies.

In the future, for the sake of sharing of available resources and long-term stock recovery plans, RFMOs may adopt more stringent control measures by reducing the fishing capacities of members (e.g. reduction of fleet size, reduction of fishing days), and reducing their catch limits, to mitigate the pressure on fisheries resources. Apart from the existing vessel building restriction measures to prevent the growth of fishing vessels, Taiwan will aggressively follow the management mechanism of the RFMOs, and adequately adjust its domestic fishing capacity in a timely manner. In addition, the competent authority will gradually establish a proper industry guidance and responsive measures, through the adjustment of the industry structure to achieve the control of fishing capacity, whereby safeguarding the sustainable development of fisheries resources.

5.2 Purse Seine Fishery

Taiwan's tuna purse seine fishery only operates in the Convention Area of the WCPFC. As from 2009, the vessel day scheme has been used as one of the mechanisms to control the fishing capacity of purse seine fishery in the Convention Area of WCPFC. Presently, vessel days are applied to areas of high seas and EEZs of coastal members, controlling the days fishing vessels may operate in high seas areas, while that of the EEZs is to be decided by the respective coastal members. Taiwan's purse seine fleet will comply with the vessel day control measure, and in addition to meeting the prevailing trend, timely adjusting its policy in order to maintain the mutual collaborative relationship, and to acquire commensurable fishing days, for the stability of long-term fishery operations.

5.3 Squid and Saury Fisheries

Taiwan's main target squid species are: Argentine shortfin squid in the Southwest Atlantic Ocean, and giant squid in the Southeast Pacific Ocean. With respect to the fishery in the Southwest Atlantic, most fishing vessels fish in the fishery conservation zone of the Falkland Islands, and for the fishery in the Southeast Pacific, in recent years, fishing vessels only operate in the areas of the high seas targeting on giant squid, which is one of the fish species under the conservation and management of the South Pacific Regional Fisheries Management Organization (SPRFMO) established in 2012. Taiwan will work with other members of SPRFMO in developing conservation and management measures for giant squid.

Taiwan's fishing grounds for saury is in areas of high seas in the Northwest Pacific Ocean, which is within the area of competence of the North Pacific Fisheries Commission under establishment. Saury resources are utilized by Japan, Russia, Mainland China, South Korea and Taiwan, and when the Commission is established, Taiwan will discuss with other members under the multilateral framework of NPFC, in developing conservation and management measures on saury fishery, including the control of fishing capacity.

5.4 Taiwan's Important Coastal and Offshore Fisheries

In the future, Taiwan will continue to promote responsible coastal and offshore fisheries that will ensure commensurability between fishing efforts and available fishery resources; implement measures such as vessel buybacks and fishing layoff measures; establish closed areas and time, restricted fishing gear and methods, size limitation of catch, and control of total catch, and catch reporting scheme to reinforce the management of important fisheries. Traditional fisheries will be guided to the development of tourism, pastime and recreation based activities, and the promotion of ecotourism. Management and scientific research on fisheries resources will be strengthened, for the development of fisheries resources management measures, in order to ensure sustainable utilization of these resources.