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**RESEARCH ON THE SOUTH CHINA SEA  
MARITIME CONTROL**

BY

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Fulfillment of the requirements for the award of the degree of

**MASTER OF SCIENCE  
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## **Declaration**

I certify that all the materials in this paper that are not my own work has been identified, and that no materials are included for which a degree has previously been conferred on me.

The contents of this research paper reflect my own personal views, and are not necessarily endorsed by the University.

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August 5<sup>th</sup> 2016

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## ABSTRACT

Title of Dissertation: **Research on the South China Sea Maritime Control**

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Since 20th century, the world's oceans national general increase in awareness, awareness of the importance of ocean has reached an unprecedented level of development of marine resources so that some countries get a huge ocean report. With the continuous development of ocean development, the coastal marine management, marine environmental protection, maritime traffic order and maintenance work has also been strengthened, but due to various circumstances and history of the different characteristics of ocean management is not the same.

In the 21st century, people believe that the 21st century is the century of the ocean. Therefore, each country is how to further refine and improve the country's efforts to explore marine management, searching for their own marine management system.

2010 Sansha MSA was established, which opened a new chapter in marine management of history of Sansha City. Due to late start, institutional settings, and the construction ,law enforcement, and personnel and equipment configuration is still not perfect,the relevant laws and regulations are not sound enough, with the situation in the South China Sea and the particularity of the geographical location, maritime administration of Sansha still faces some problems and deficiencies

In this paper, the author has collected and accessed to lots of historical documents, international Conventions, and laws and regulations. On the basis of research and analysis of maritime regulatory status of South China Sea, the author has analyzed

deep-seated reasons of problems, and put forward proposals and views on maritime regulatory status of South China Sea, as well as strategies for strengthening supervision and regulatory.

**KEY WORDS:** South China Sea, maritime interests, Sansha MSA, maritime management

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## **LIST OF ABBREVIATIONS**

AIS	Automatic Identification System
ASEAN	Association of Southeast Asian Nations
CCTV	Closed Circuit Television
CNOOC	China National Offshore Oil Corporation
COSPAS-SARSAT	Satellite-based search and rescue (SAR) distress alert detection and information distribution system
DGPS	Differential Global Positioning System
GMDSS	Global Maritime Distress and Safety System
HF	High Frequency
IMO	International Maritime Organization
LRIT	Long Range Identification and Tracking of Ships
MARPOL	International Convention for the Prevention of Pollution From Ships
MF	Middle Frequency
MSA	Maritime Safety Administration
PLA	People's Liberation Army of China
PSC	Port State Control
RBN-DGPS	Radio Bacon Network-Differential Global Positioning System
SOLAS	International Convention on the Safety of Life at Sea
UNCLOS	United Nations Convention on the Law of the Sea

VTS Vessel Traffic Service system

VHF Very High Frequency

## **CHAPTER 1**

### **INTRODUCTION**

#### **1.1 Overview of South China Sea**

South China Sea is bounded by the the island of Taiwan and mainland China, in order to connect to Nan'ao Island, Taiwan Eluanbi between the East China Sea and is bounded, south of Greater Sunda Islands, east of the Philippine Islands, west of Indochina and the Malay Peninsula, the geographic location is in between longitude  $99^{\circ} 10'$  to  $122^{\circ} 10'$ , latitude  $3^{\circ} 10'$  to latitude  $23^{\circ} 37'$ . As the location in the southern Chinese mainland, so it is used to call "the South China Sea" internationally. South China Sea extends from northeast to southwest, north and south about 1600 sea miles, 900 sea miles from east to west, with a total area of about 3.56 million square kilometers, an average depth of 1212 meters, the maximum depth of 5377 meters. South China Sea is a marginal sea, semi-enclosed sea, surrounded by the continental shelf, from north to south, east-west narrow, central to the deep basin, the continental shelf area of about 374,000 square kilometers. Neighboring countries are China, Vietnam, Philippines, Malaysia, Indonesia and Brunei(Luo L. Yuan, S.L. 2005).

Islands of South China Sea are general term for the South China Sea islands, from north to defend North Beach, south to James Shoal, latitude 17 degrees north and south across the east-west span more than 11 degrees of longitude, they consist of the shore beaches, shoals, shoals and islands can be divided into Dongsha, Zhongsha, Xisha, and Nansha Islands. Nansha Islands of South China Sea is the largest area of the largest island of an archipelago, its water area of 820,000 square kilometers, about the size of more than 230 islands and reefs composed of the largest Taiping island area of about 0.43 square kilometers(Chen,T.X. Zheng, Z.Y. Yang, X.J. 2004).

## **1.2 Important international trade route**

South China Sea is located between the Pacific and Indian oceans, but also in the Asian continent and to bring the connection between Oceania, a "crossroads" between the two continents and two oceans, it is in the north of Taiwan Strait and the East China Sea through communication, longitude Bashi Channel, Bahrain Tong Strait, Luzon Strait and the Pacific interlinked, south-east by karimata strait, Gaspar Strait and Java Sea, Sulu Sea phase, southwest through the Malacca Strait and Andaman Sea, the Indian Ocean is connected. It is not only sea communication between Asia, Africa, Europe and Oceania necessary land, materials between North and South America and Southeast Asian countries also exchange, shipping around the extremely busy area, is an important global commercial waterway vessels and naval dependent(Wu, S.C. 2005). According to statistics, the US Energy Information Administration, according to the ship's tonnage, the world each year more than 50% of the merchant through the South China Sea. Most cruise from the Middle East are entering the South China Sea through the Strait of Malacca. Japan's exports to the European market in goods and trade in Southeast Asia, is mainly dependent on these waterways. One of the main waterway near the Nansha Islands is the most important waterway between west coast the United States and

Persian Gulf.

Over the South China Sea is the world's major air channel. Route China, South Korea, Japan and the rest of Southeast Asia, the Philippines and the rest of Indochina and from the route to go through over the South China Sea. Western Europe - Middle East - Far East is one of the world's busiest air routes, which connects Paris, London, Frankfurt and other major airports in Western Europe and the Far East, Singapore, HongKong, Beijing, Tokyo and other airport, the South China Sea airspace is an important passage on this route, In addition, Western Europe - South East Asia - Australia and New Zealand, the Far East - Australia and New Zealand have been here for some routes(Wu, S.C. 2001).

### **1.3 An important base for national security**

South China Sea is China's mainland and offshore islands to the external world transportation hub, is China's foreign relations, international trade, energy and transport vital sea lanes, safety is a very important role and significance for the defense of our country's economy. In China's 39 leading foreign main routes, there are 21 by the Nansha Islands, 60% of foreign trade transportation through Nansha. In oil, for example, it is predicted that by 2020, China's oil consumption to a minimum of 4.5 million tons, then, China's dependence on foreign oil will be close to 60% of annual oil imports will more than 300 million tons(Chen, H.Y. 1996). Most of our oil imports from the Middle East, Africa and Southeast Asia, more than 90% through sea tankers, of which about 4/5 through the Malacca Strait, the South China Sea and then by the arrival of China's coastal ports.

South China Sea and islands nearby constitute a large Asian countries encirclement together, aircraft taking off can be controlled on the Nansha Islands and the Strait of

Malacca and the Sunda Strait, has a very important strategic position in the geopolitical and military security. Thus, it can be said, who controls the South China Sea, Southeast Asia and anyone can control, which can control the entire Pacific Northwest and East Asia (Xue, G.F. 2012). Therefore, the South China Sea security is of great significance for the defense of our country.

## **1.4 South China Sea resources**

### **1.4.1 South China Sea fishery resources**

South China Sea is rich in fishery resources. Among them, the eastern part of Hainan Island fishing area of 54,000 square kilometers, resources of about 460,000 tons, the annual catch of about 230,000 tons. Southern Hainan Island fishing area is 46,000 square kilometers wide, the amount of resources are 394,000 tons, the annual allowable catch are 197,000 tons, and the main varieties of catches are Spanish mackerels, nemipterus, octopus, Priacanthus and so on (Wu, S.C. 2001). Fish in Nansha Islands and waters rich in resources, a wide range of specimens have been taken to 558 species belonging to 27 orders 138 families, mainly fish belonging to Perciformes, Myctophiformes, most fish belong to India - Western Pacific's tropical fish area, where an economic fishes about 300 species, the common main economic fish more than 60, the total allowable catch of about 900,000 tons (Wu, S.C. 2012).

#### ***1.4.1.1 Current Situation of Development***

Chinese fishermen in the operation area southwest of Dongsha Islands focused on reef waters and dive fishing, gill, fishing and picking up snails and other practices based. Due to the longer growing cycle Reef fisheries resources cultivars, coupled with small breed populations, few outside the region complement the development of long-term strength of the bear, current quantity and quality of fisheries resources of

Xisha islands and reefs has dropped significantly, and some varieties of resources become exhausted, and further affect the stability of coral-reef ecosystems, and even the collapse of the trend. According to statistics, the coverage of live coral reef waters of the Xisha, 2006, between 40-80% in 2008 to between 26-52% in 2009, dropped to less than 1%, most of the reefs of coral reef basic death-thorns starfish outbreak of large-scale coral reef ecosystems and marine biodiversity under serious threat(Jiang, X.C. Wang, J. 2009). Meanwhile, the death of large areas of coral reef, each Xisha Islands and severely eroded shoreline, wherein said Zhaoshu Island, Zhongjian Island and Dong island is particularly prominent, and even has a serious threat to the safety of our territorial waters basis points. In recent years, affected by restrictions, ecological changes in natural conditions and other environmental objective factors, China's South Sea fishermen to vessels and decreasing the number of job scope than the traditional area of operation have a more substantial narrowing, some fishermen settlements are gradually dying . According to statistics, fishing vessels in fishing waters of the South China Sea, 1986--1990 were 799, the annual output was 12,654 tons, output value was 87.35 million RMB; 1991--1995 were 1076, the total output was 45,952 tons, total output value was 178.83 million RMB ; 1996--2000 were 989, the annual output was 69,538 tons, output value was 359.86 million RMB; 2011 was 328, which has less than 100 Xisha, Nansha sea area in more than 20 only(Wu, S.C. 2012).

#### **1.4.2 South China Sea oil and gas resources**

South China Sea is rich in oil and natural gas resources. South China Sea sedimentary basins based, 37 sedimentary basins have been discovered so far have produced good geological conditions and accumulation of oil and gas. According to expert estimates, the South China Sea oil reserves roughly between 230-300 million tons, accounting for China's total oil resources 1/3(Wu, S.C. 2001). Currently, the

South China Sea has proven oil reserves in the world's fifth offshore oil reserves, has proven natural gas reserves in the fourth. South China Sea has become an important new oil and gas region, as famous as the Persian Gulf, the Mexico Gulf, the North Sea and other oil-producing region.

#### ***1.4.2.1 Current Situation of Development***

Our oil and gas development in the South China Sea can be roughly divided into three stages: the first stage is from the late 1950s to the late 1970s. Mainly offshore oil and gas development infancy. The level and scale are relatively backward, China has drilled a total of fewer than 20 in 20 years. Landmark event in 1963, played with a flag start offshore oil well "Ying 1" (Jiang, X.C. Wang, J. 2009). The second stage is from the early 1980s to the beginning of New Century. Mainly large-scale development stage, is a landmark event in 1982, China National Offshore Oil Corporation was established. China has stepped up the South China Sea oil and gas resources exploration and development efforts. CNOOC takes the form of international cooperation, accelerates the speed of the South China Sea oil and gas resources exploration and development, has cooperated with the United States, Britain, France, Japan, Australia and other countries oil companies to introduce advanced technology and management experience, making China Offshore Drilling technology gained rapid development. The third stage is from the beginning of New Century to today. The main stage of comprehensive development. February 2010 CNOOC 3000 meter deep water semi-submersible drilling rig "Offshore Oil 981" out of the dock, indicates that China ranks among the world's leading offshore deepwater equipment ranks (Wu, S.C. 2012).

However, China currently has not an own oil or gas well in the waters of Nansha, there is no output of a barrel of oil. The reasons of current passive situation are

complex, but also multifaceted. Mainly from China stabilize the situation in the South China Sea in the overall situation, to exercise restraint results. In disputed areas of resource development of South China Sea, the Chinese government is adhering the good-neighborly and friendly policy, safeguarding regional peace and stability of the strategic perspective, the proposed "putting aside disputes and seeking common development" solutions advocated the South China Sea from the "controversy sea "into a" sea of cooperation" , joint development of marine resources in disputed waters(Wang, Y.Z. 2004).

## **CHAPTER 2**

### **The situation in the South China Sea and strategic policy**

#### **2.1 The strategic position of the South China Sea**

##### **2.1.1 Hainan and South China Sea become a natural barrier of Southern China's security together**

If China hold the South China Sea, including the Nansha Islands, equivalent to hold the southern gateway to China, an increase of more than 1000 km of strategic depth. More than 70% of the area of the South China Sea are more than 3000 m deep water area, for me and other aircraft carriers and nuclear submarines strategic naval forces activities(Li, G.Y. 1989). In addition, the Xisha Islands, Nansha Islands and prominent location, with the wealth of resources development and utilization of reefs in the future I can build a bridgehead in the South China Sea military hinterland. Nansha Islands and adjacent surrounding areas, especially in Southeast Asia, it has direct access to the Strait of Malacca in the southwest, southeast Oceania direct access via the Java Sea, the strategic location is very prominent. From the military strategic point of view, if China can effectively control the South China Sea, can greatly enhance the comprehensive strategic deterrent capability, which fully demonstrates China's great power status, which has important and practical significance for the consolidation of the South China Sea coast defense, maintaining national security and coastal economically for developed areas in the southeast.

### **2.1.2 South China Sea is an important and strategic sea channel**

To become a Oceanic Great Power, China must control access to the sea. Since the three western Pacific Ocean island chain on multiple blockade, coupled with the US-Japan military alliance, US-South Korea military alliance, US-Australia military alliance formed for obvious constraints(Sun, J. Lin, Y.S. 2006). South China Sea is possible to be the only strategic channel and the access to the sea in the future. In addition, the South China Sea oil is my lifeline transport and maritime trade, has \$ 600 billion of goods transported by sea this year, its transportation accounts for 1/3 of the world's total(Wu, S.C. 2005). South China Sea waterway owns more than half of the world's supertanker navigation to East Asian countries every year. 2016 China oil import dependency reached 58% or more, by 2020, China is expected to import about 730 million barrels of crude oil per day, the foreign dependency rate will reach about 70%, most of which have to transport through the South China Sea, South China Sea will become important strategic sea channel.

### **2.1.3 South China Sea is the future resource base and the connecting area of energy**

South China Sea biological resources, mineral resources are very rich. Especially in the South China Sea oil and gas resources development and utilization prospect is extremely broad. In addition to the South China Sea is rich in oil and gas resources outside the conventional, unconventional combustible ice resources more abundant, optimism is expected to reach 500 to 700 billion tons of oil equivalent(Chen, H.Y. 1996). In South China Sea, there is a wealth of deep-sea biological resources and seafloor sulphides, polymetallic nodules and other mineral resources, with the upgrading of marine mineral resources development technology, can China's future sustainable development of the formation of strong support. South China Sea is

rich in oil and natural gas resources, currently known oil and gas structures containing more than 200 blocks, 180 oil and gas fields. The entire South China Sea oil and gas reserves conservatively estimated at approximately 230 to 300 million tons(Wu, S.C. 2001). The current international oil companies have increasingly set their sights on the deep water of the South China Sea.

## **2.2 Situation and the future trend in South China Sea**

South China Sea issue is a historical issue, which is produced in the late 1960s and early 1970s, it is a long, complex and sensitive issues of sovereignty, national security and development interests of China, which is related to peace and stability around. In recent years, the South China Sea is maintaining the overall situation in spite of the stable and controllable, but the presence of some noise aggravate the dispute, showing the development trend of steady tightening. By interleaving the influence of traditional security and non-traditional security, and jointly promote the region and beyond in the power of the South China Sea issue has become a focus of global attention. With the warming of South China Sea issue, South China Sea issues on the country's overall diplomacy is also rising, to properly handle South China Sea issue also involves the national stability maintenance(Li, J.Y. 2012). China, as a responsible big country properly deal with the other parties to the dispute and provocative exercise restraint, to a certain extent, within a certain range plays a positive role, but overall strategic situation the South China Sea, the other tends are taking advantage of the opportunity to increase aggressive efforts to exercise restraint, just like "pushing boundaries," "nibble" and other little tricks. South China Sea issue is currently facing increasingly complicated and grim situation.

## **CHAPTER 3**

### **Relevant provisions of the Conventions, domestic laws and regulations and the responsibilities of maritime administration agencies**

#### **3.1 United Nations Convention on the Law of the Sea**

##### **3.1.1 The rights and obligations of coastal State in the internal waters**

Coastal State has complete and exclusive sovereignty in the internal waters, mainly in the areas as following :

- a. Develop relevant laws and regulations about internal waters.
- b. Without permission foreign vessels are not allowed to enter internal waters.
- c. Foreign vessels that permitted to enter the internal waters should be in accordance with laws and regulations into the designated port.
- d. Foreign military vessels must go through diplomatic channels before they enter internal waters.
- e. Exercise territorial jurisdiction to foreign vessels which have entered its internal waters, but usually only enforce its laws when their interests are jeopardized.

Coastal State discharges the following obligations in the internal waters:

- a. Allow innocent passage of foreign vessels under certain circumstances. If, after certain internal water when using normal baseline is just outside the baseline but was only draw straight baselines used in the baseline, and in the waters of the coastal State is obliged to allow the innocent passage of vessels.

b. The coastal State shall give appropriate publicity to any danger to navigation, of which it has knowledge, within its internal waters.

### **3.1.2 The rights and obligations of coastal State in the territorial sea**

Coastal State has the following rights in territorial sea:

a. Ownership of natural resources. All the resources in the territorial sea, including biotic and abiotic resources in the sea, sea-bed and subsoil within, are all coastal coastal State shall have exclusive jurisdiction in its territorial waters of these natural resources exploitation.

b. Coastal shipping rights and trading rights.

c. National airspace right. Coastal State has exclusive rights over the territorial sea, the coastal State without the permission of foreign aircraft may not enter the country over the territorial sea.

d. Legislative authority about relevant systems.

e. Jurisdiction, including criminal jurisdiction and civil jurisdiction.

f. Right of hot pursuit. The hot pursuit of a foreign ship may be undertaken when the competent authorities of the coastal State have good reason to believe that the ship has violated the laws and regulations of that State.

Coastal State discharges the following obligation in territorial sea:

a. The coastal State shall not hamper the innocent passage of foreign ships through the territorial sea except in accordance with this Convention. In particular, in the application of this Convention or of any laws or regulations adopted in conformity with this Convention, the coastal State shall not:

(a) impose requirements on foreign ships which have the practical effect of denying or impairing the right of innocent passage; or

(b) discriminate in form or in fact against the ships of any State or against ships carrying cargoes to, from or on behalf of any State.

b. The coastal State shall give appropriate publicity to any danger to navigation, of which it has knowledge, within its territorial sea.

### **3.1.3 The rights and obligations of coastal State in the contiguous zone**

Coastal State has the following rights in contiguous zone:

a. In a zone contiguous to its territorial sea, described as the contiguous zone, the coastal State may exercise the control necessary to:

(a) prevent infringement of its customs, fiscal, immigration or sanitary laws and regulations within its territory or territorial sea;

(b) punish infringement of the above laws and regulations committed within its territory or territorial sea.

b. right of hot pursuit for the ship which violation of the provisions of the contiguous zone.

Coastal State discharges the following obligation in contiguous zone:

a. In the territorial sea and contiguous zone overlapping ranges, the coastal State has the same obligations with the territorial sea.

b. In the contiguous zone and exclusive economic zone overlapping ranges, the coastal State has the same obligations with exclusive economic zone. If a State does not establish exclusive economic zone, the range will belong to the scope of high seas, the legal regime applicable to the high seas.

### **3.1.4 The rights and obligations of coastal State in the exclusive economic zone**

Coastal State has the following rights in exclusive economic zone:

a. Sovereign rights for the purpose of exploring and exploiting, conserving and managing the natural resources, whether living or non-living, of the waters superjacent to the seabed and of the seabed and its subsoil, and with regard to other activities for the economic exploitation and exploration of the zone, such as the

production of energy from the water, currents and winds.

b. jurisdiction as provided for in the relevant provisions of this Convention with regard to:

- (a) the establishment and use of artificial islands, installations and structures;
- (b) marine scientific research;
- (c) the protection and preservation of the marine environment;
- (d) other rights and duties provided for in this Convention.

In exercising their rights and performing their duties under this Convention in the exclusive economic zone, States shall have due regard to the rights and duties of the coastal State and shall comply with the laws and regulations adopted by the coastal State in accordance with the provisions of this Convention and other rules of international law in so far as they are not incompatible with this Part.

### **3.1.5 The rights and obligations of coastal State in continental shelf**

#### ***3.1.5.1 Rights and obligations of the continental shelf within 200 sea miles***

Rights of coastal State:

- a. The coastal State exercises over the continental shelf sovereign rights for the purpose of exploring it and exploiting its natural resources.
- b. Explore the continental shelf or exploit its natural resources.
- c. The construction of artificial islands, installations and equipment necessary and the right to establish such facilities around the 500-meter safety zone, and the exclusive jurisdiction.
- d. Approve delimitation line of any State which lay submarine cables and pipelines on its continental shelf.
- e. For the foreign ship which break law of coastal State in the safety zone around the area of continental shelf(including the continental shelf), the coastal State has the

right of hot pursuit.

The exercise of the rights of the coastal State over the continental shelf must not infringe or result in any unjustifiable interference with navigation and other rights and freedoms of other States as provided for in this Convention.

#### ***3.1.5.2 Rights and obligations of the continental shelf outside 200 sea miles***

Settled biological capture is still the exclusive rights of coastal States, rather than belonging to sedentary species, the implementation of the freedom of the high seas fishing free system. The coastal State shall make payments or contributions in kind in respect of the exploitation of the non-living resources of the continental shelf beyond 200 nautical miles from the baselines from which the breadth of the territorial sea is measured.

### **3.2 Basis UNCLOS and relevant Conventions, the scope of administrative functions of China Maritime Safety Administration**

Under the authority of China's relevant laws and regulations, China MSA is responsible for the management of maritime safety, prevention of pollution from ships, and maritime security. China MSA also organize the implementation of international maritime Conventions to fulfill the functions of Flag State and Port State control. Therefore, the UNCLOS and belonging to the field of international maritime Conventions in the Member States to perform the above functions shall be exercised by the China MSA(Xue, G.F. 2005).

#### **3.2.1 Management authority and scope of China MSA under the management framework of coastal State**

##### ***3.2.1.1 Jurisdiction of China MSA in the internal waters and territorial sea***

The coastal State has exclusive sovereignty and jurisdiction in the internal waters , other States have no right to interfere(Zhao, L.H. 1996). Therefore, China MSA can fully exercise maritime safety management, prevent pollution from ships, to provide maritime security and other duties. But China MSA is restricted by the right of innocent passage when it is exercising these powers. UNCLOS Article 19 clearly stated on "innocent passage" : Passage is innocent so long as it is not prejudicial to the peace, good order or security of the coastal State. Such passage shall take place in conformity with this Convention and with other rules of international law. Therefore, if any foreign ship takes following activities: violation of the provisions of this Convention any deliberate and serious pollution behavior, or for any purpose that any interference coastal State communication system and radio navigation beacon coastal maritime safety communication or any other facilities or equipment conduct deemed "harmful passage", as mandated laws and regulations, China MSA has the right to investigate and deal with such "harmful passage".

#### ***3.2.1.2 Jurisdiction of China MSA in contiguous zone***

In the overlapping range of territorial sea and contiguous zone , China MSA has the same authority within territorial sea. In the overlapping range of exclusive economic zone and contiguous zone , China MSA has the same authority within exclusive economic zone.

#### ***3.2.1.3 Jurisdiction of China MSA in exclusive economic zone***

Based in marine environmental protection jurisdiction the exclusive economic zone of coastal State in the exclusive economic zone, antifouling management of China MSA is the same within territorial waters, it has the right to take necessary measures to prevent, reduce and control marine environment pollution. When it is found that the ship does not comply with anti-pollution regulations, it may require the ship to

provide information; if the sewage behavior of a ship is found , the ship can be inspected; if the threat of significant damage is found, the ship may be arrested by judicial process(Kittichaisaree K. 1987).

China MSA should also be liable for the maritime safety of artificial facilities(Li, Y.T. Jiang, Y.K. 2008). Within exclusive economic zone in Nansha islands, there are artificial facilities such as artificial reef, drilling platforms and single point mooring buoy, etc, China MSA has the right to guarantee the implementation of navigation safety management of artificial facilities, the development of safety assessment methods and standards for these facilities.

China MSA also has certain jurisdiction of sunken objects in exclusive economic zone. In accordance with the provisions of UNCLOS, the coastal State jurisdiction over its exclusive economic zone is limited to natural resources, The sunken objects are non-natural resources, in general, coastal State has no jurisdiction to sunken objects. But the sunken objects if it contains certain pollutants to the marine environment from pollution caused by the presence or potential risk of pollution of the marine environment, namely China MSA which has jurisdiction.

### **3.3 Duties of China MSA conferred by domestic laws and regulations**

#### **3.3.1 Maintenance of maritime safety**

##### ***3.3.1.1 Maritime navigation environment***

Maritime navigation environment includes the approval of navigation safety-related use of the shoreline and surface and underwater construction, operations, management of wreck and hinders navigation purge, manage and publish national navigational warning (notice) and so on. Details as follows:

- a. Navigable waters shoreline Safety
- b. Surface and underwater constructions and operations
- c. Route planning and protection
- d. Salvage and clear Sunken Ships and floating debris
- e. Harbor mining and blasting activities
- f. Examination of clearance scale in navigable waters
- g. Punishment for non-compliance relating to marine navigation environment safeguard provisions

### ***3.3.1.2 Maritime Traffic Order***

Maritime navigation order maintenance includes includes the approval of the temporary entry of foreign ships non-open waters, delineation of the no-fly zone, channel, traffic control areas, and anchorages outside of harbor waters safe operating zones; responsible for the no-fly zone, waterway regulatory, traffic control areas, anchorage and safe operating area and other waters, and maintain water transport order and so on. Details as follows:

- a. Supervision and management for sailing, berthing and operations of foreign ships
- b. Coercive measures for the ship which is threatening to port security
- c. Approval of a foreign ship into the temporary non-open waters
- d. Special provisions as foreign ships docking ports, internal waters or offshore facilities
- e. Approve designation of restricted navigation area, channel (Road), traffic control areas, anchorage and safe operating area, determined and published anchorage port and maritime traffic control area
- f. To ensure the right of innocent passage of foreign non-military ships in territorial waters.
- g. Management on pilotage

- h. Implementation of ship traffic separation scheme or routing system in the territorial sea
- i. The development of special rules for navigation waters
- j. Traffic management through VTS
- k. Ship reporting requirements
- l. Supervision and management of the use of signaling equipment and ship radio station
- m. Issuing navigational warnings and navigational notices
- n. Navigation safety management in exclusive economic zone and continental shelf
- o. Supervision and management of submarine cable laying work when influence or interfere with the normal order of maritime navigation
- p. Punishment for non-compliance maritime traffic order behavior

#### ***3.3.1.3 maritime security***

Maritime security includes coastal navigation mark management, maritime security monitoring and information dissemination. Embodied as management of coastal beacon radio navigation systems and maritime safety communications; management sea port channel mapping and navigation-related organizations published books and materials; centralized management of the transport sector mapping. Details as follows:

- a. Navigation mark management
- b. Protection of navigational aids and other facilities or equipment
- c. Provide GMDSS radio communications service and cooperation with other States Parties

#### ***3.3.1.4 Ship safety supervision***

As the competent authority, China MSA oversight responsibilities of the ship is the

main representative of the State to fulfill its obligations of the International Convention on the added flag, port regulations. Details as follows:

- a. Ship inspection and examination right of the Flag State
- b. Ship safety supervision and inspection of the Port State
- c. Supervision and management for shipping companies
- d. Measures to maintain the Manning of Ships

#### ***3.3.1.5 Maritime Search and Rescue***

As UNCLOS Article 98 provisions, every coastal State shall promote the establishment, operation and maintenance of an adequate and effective search and rescue service regarding safety on and over the sea and, where circumstances so require, by way of mutual regional arrangements cooperate with neighbouring States for this purpose. As SOLAS Chapter 5 Article 7 provisions, each Contracting Government undertakes to ensure that necessary arrangements are made for distress communication and co-ordination in their area of responsibility and for the rescue of persons in distress at sea around its coasts. These arrangements shall include the establishment, operation and maintenance of such search and rescue facilities as are deemed practicable and necessary, having regard to the density of the seagoing traffic and the navigational dangers, and shall, so far as possible, provide adequate means of locating and rescuing such persons.

#### ***3.3.1.6 Maritime investigation***

Details as follows:

- a. Require the relevant ship to report
- b. Maritime accident investigation authority
- c. Maritime accident treatment authority
- d. Civil dispute resolution authority

### **3.3.2 Prevention and Control marine environment pollution from ships**

#### ***3.3.2.1 Management of ships carrying dangerous cargo***

Mainly based on SOLAS 1974 Chapter 7, the Convention on the classification of dangerous goods, transportation requirements, marking and labeling, documentation and other content requirements. Supervision management of domestic ships which carry dangerous goods is mainly seen in the provisions of Chapter 6 of the Maritime Safety Law of People's Republic of China Article 32, ships, storage facilities, handling, and transport of dangerous goods must have reliable equipment and conditions, and compliance with national regulations regarding the management and transport of dangerous goods.

#### ***3.3.2.2 Anchorage and dock of dangerous cargo***

Mainly based on Provisions on the Safety Management of Hazardous Goods at Ports Article 6, the port administrative departments at the provincial level shall be responsible for reviewing the safety conditions of the port construction projects examined and approved, and verified by and filed at the State Council, the National Development and Reform Commission, the Ministry of Transport and people's governments at the provincial level and their relevant departments.

#### ***3.3.2.3 Prevention and control of marine environmental pollution by ships and related activities***

Mainly based on UNCLOS Article 211, the coastal State may adopt laws and regulations, in conformity with the provisions of this Convention and other rules of international law, relating to innocent passage through the territorial sea. Such as the preservation of the environment of the coastal State and the prevention, reduction and control of pollution thereof.

#### ***3.3.2.4 Antifouling certificates and documents inspection of ship***

MARPOL 73/78 Article 4 and 5, respectively, makes provision on ship in violation, certificates or documents and inspection of ship. Bunker oil convention requires 1000 gross tonnage and above vessels of foreign nationality, since March 9, 2009 must hold the States parties to the competent authority or its authorized agencies to issue "bunker oil pollution damage, civil liability insurance or other financial guarantee certificate, will only be allowed to and out of Chinese ports.

#### ***3.3.2.5 Timely acceptance of pollution accident report and notice***

According to the provisions of the accident report on hazardous substances in MARPOL 73/78 Article 8, the ship shall, without delay, try to make a report on the accident in accordance with all the provisions of this Convention.

#### ***3.3.2.6 Investigation and treatment of ship pollution accident***

MARPOL73 Article12 provisions of the competent authorities of any ship that applies to the Convention, including violation of emissions and other acts of the marine environment caused a significant harmful impact on the conduct of the investigation of the power.

#### ***3.3.2.7 Inspection, detention and punishment of illegal vessels in territorial waters***

According to the provisions of Article 220 of UNCLOS, Where there are clear grounds for believing that a vessel navigating in the territorial sea of a State has, during its passage therein, violated laws and regulations of that State adopted in accordance with this Convention or applicable international rules and standards for the prevention, reduction and control of pollution from vessels, that State, without

prejudice to the application of the relevant provisions of Part II, section 3, may undertake physical inspection of the vessel relating to the violation and may, where the evidence so warrants, institute proceedings, including detention of the vessel, in accordance with its laws.

#### ***3.3.2.8 Require the ship to provide information and inspection***

According to the provisions of Article 220 of UNCLOS, Where there are clear grounds for believing that a vessel navigating in the exclusive economic zone or the territorial sea of a State has, in the exclusive economic zone, committed a violation of applicable international rules and standards for the prevention, reduction and control of pollution from vessels or laws and regulations of that State conforming and giving effect to such rules and standards, that State may require the vessel to give information regarding its identity and port of registry, its last and its next port of call and other relevant information required to establish whether a violation has occurred. Where there are clear grounds for believing that a vessel navigating in the exclusive economic zone or the territorial sea of a State has, in the exclusive economic zone, committed a violation referred to in paragraph 3 resulting in a substantial discharge causing or threatening significant pollution of the marine environment, that State may undertake physical inspection of the vessel for matters relating to the violation if the vessel has refused to give information or if the information supplied by the vessel is manifestly at variance with the evident factual situation and if the circumstances of the case justify such inspection.

#### ***3.3.2.9 Management of preventing the pollution of oil tanker between oil and barge***

MARPOL 73 / 78 Annex I of Article 40, 41 and Article 42 of the Convention when the country's territorial waters and exclusive economic zone plan for maritime cargo

oil berth of 150 gross tons and above the oil tanker or on or after April 1, 2012 a berth to carry out the provisions of the proposed operations berth tankers with the mooring work plan and to the parties submitted a berth in information.

#### ***3.3.2.10 Investigate and treatment on illegal transportation of hazardous wastes***

According to the provisions of Article 210 of UNCLOS, States shall adopt laws and regulations to prevent, reduce and control pollution of the marine environment by dumping. States shall take other measures as may be necessary to prevent, reduce and control such pollution. Such laws, regulations and measures shall ensure that dumping is not carried out without the permission of the competent authorities of States.

#### ***3.3.2.11 Supervision and management of air pollution by ships***

MARPOL73/78 annex VI Article 10 to the port state to prevent air pollution from ships compliance check regulations.

#### ***3.3.2.12 Emergency management and international cooperation on marine pollution***

According to the provisions of Article 198 and 199 of UNCLOS, When a State becomes aware of cases in which the marine environment is in imminent danger of being damaged or has been damaged by pollution, it shall immediately notify other States it deems likely to be affected by such damage, as well as the competent international organizations. In the cases referred to in article 198, States in the area affected, in accordance with their capabilities, and the competent international organizations shall cooperate, to the extent possible, in eliminating the effects of pollution and preventing or minimizing the damage. To this end, States shall jointly develop and promote contingency plans for responding to pollution incidents in the

marine environment.

### ***3.3.2.13 Maritime accident intervention***

According to the provisions of Article 221 of UNCLOS, Nothing in this Part shall prejudice the right of States, pursuant to international law, both customary and conventional, to take and enforce measures beyond the territorial sea proportionate to the actual or threatened damage to protect their coastline or related interests, including fishing, from pollution or threat of pollution following upon a maritime casualty or acts relating to such a casualty, which may reasonably be expected to result in major harmful consequences.

## **CHAPTER 4**

### **The present situation and problems of the regulation of the South China Sea maritime affairs**

#### **4.1 Current situation of maritime regulation in the South China Sea**

##### **4.1.1 Setting and present situation of maritime administrative institutions in the South China Sea**

In March 13th, 2010, Xisha MSA was formally established. By the year of 2012, it was renamed Sansha MSA. There are total of 32 Navigation marks in South China Sea, 2 of them are managed by Sansha MSA, North reef Lighthouse and Langhua reef lighthouse, the rest are belong to the PLA Navy(Wu, S.C. 2012). North reef lighthouse and Langhua reef lighthouse are located near the international route, which has a good effect on the navigation of ships sailing on international routes. Military navigation mark comprises a lamp pile, beacon and buoy, mainly for military boats and ships and harbours and anchorages and set, can basically meet the needs of protection of ship navigation safety, taking needs of the fishing boats and Xisha replenishment ship sailing into account. In Haikou, Basuo, and Sanya, there are 3 transceiver station, which provide navigational warnings South China Sea, meteorological services and GMDSS information services, Xisha VHF/HF/MF transceiver has also been completed(Yin, J. 2011).

## **4.1.2 Maintenance navigation environment and traffic order of the South China Sea**

### ***4.1.2.1 Maritime cruise***

Maritime Cruise is an important way to declare and protect national maritime sovereignty. China is Class A member of IMO, should play an important role in development and utilization of resources in South China Sea, and fulfill international Conventions. Haixun 31 is one of the most modernization and the highest level of information maritime patrol ship in China, and also is China's first aircraft airworthiness Marine Systems International Sailing ship unrestricted navigation area of naturalization, a displacement of 3,000 tons, has undertaken the task of the South China Sea cruise(Zhang, B.C. 2008). In April 21th, 2006, China MSA organized first maritime cruise fleet in Xisha islands and Beibu Bay. By increasing efforts of maritime cruise and law enforcement, China MSA has protected maritime safety and environment, and defends national sovereignty in South China Sea.

### ***4.1.2.2 Navigational Warnings and Navigational notices***

Navigational Warnings and Navigational notices are important means of disseminating security information. The current global sea is divided into 16 regions for broadcasting Navigational Warnings, China is the 11<sup>th</sup>. China MSA established the total station of Navigational Warnings, a total of three Navigational Warnings sub-station are located in Tianjin, Shanghai, and Guangdong, which fulfill the international obligations. Guangzhou sub-station and Haikou and Sanya Navigational Warnings station are in charge of releasing Warnings and Navigational notices in 23° 30 ' N south of the South China Sea, including coastal waters.

### ***4.1.2.3 Rescue of human life at sea***

In recent years, China MSA is committed to life at sea rescue, continuously develop salvage capability provided relief sites in Zhanjiang, Hainan, and Xisha islands, and send professional rescue ships for longtime. In the South China Sea, the maritime satellite distress alarm is received by the mission control center of China, upon receipt of maritime distress alarm information, search and rescue center immediately dispatched professional rescue forces to coordinate social assistance force, and the passing ships to rescue.

#### ***4.1.2.4 International Cooperation of maritime rescue***

In January 20<sup>th</sup> 1987, China and the United States Coast Guard signed the "US-China Maritime Search and Rescue Cooperation Agreement". In addition, China and Southeast Asian countries through the establishment of China - ASEAN maritime cooperation mechanism, and China -Vietnam rescue regional cooperation mechanism to strengthen maritime rescue cooperation with neighboring countries.(Xinhua News Agency. 2000) Over the years China in has successfully rescued a number of ships and fishermen in distress of South China Sea neighboring countries, China MSA plays a leading role in search and rescue region of South China Sea.

#### ***4.1.2.5 Maritime security***

Coast stations of China within the range of 200 sea miles coastal voyages provide maritime safety information services and emergency alarm services through the international COSPAS-SARSAT to ships. China has constructed 20 coastal DGPS stations for passing ships to provide precise positioning, sweep survey navigable waters , and published nautical charts and books.

### **4.1.3 Dangerous cargo regulation and antifouling**

#### **4.1.3.1 Administrative licensing and safety supervision for ships carrying**

## **dangerous goods**

Sansha MSA through the area port in and out of the carriage of dangerous cargo ship approval to declare and Port State inspection to ensure compliance shall apply to all ships of SOLAS. The implementation of port state supervision and inspection in accordance with the A.882 (21) resolution correction of the Port State Control program and the accessories, including the requirements of SOLAS carrying dangerous goods ship structure, equipment and ship's certificates and relevant documents, data, and crew and their job responsibilities of related facilities, equipment actual operation ability. For carrying dangerous goods ship dynamic monitoring, using various means and maintenance of the ship navigation order: Cruise supervision, on-site maintenance of the ship navigation order; to import and sensitive area of carrying high toxicity, strong pollution, flammable and explosive chemicals ship implementation security escort measures.

### ***4.1.3.2 Administrative licensing and safety supervision for ship and its related activities***

Sansha MSA prevents pollution from ships and its related activities in the implementation of the permit system; port state supervision and inspection of the implementation of the Convention shall apply to all vessels; port waste reception facilities is to meet to the need of the ships in the harbor were monitored; the quality of supervision and management of the ship fuel; unclassified bulk liquid materials technology assessment; supervision and inspection of dangerous goods packaging, marking, and stow. In the implementation of site safety supervision, Sansha MSA supervises each ship, units operations effective implementation of safety and pollution prevention measures, and secures the marine environment.

### ***4.1.3.3 Inspection for antifouling certificate and documents of ship***

Sansha MSA attaches great importance to prevention and control of pollution from ships, implement inspection for antifouling certificate and documents of ship by port State inspection and site supervision, and makes administrative punishment or administrative coercive measures to the ship which is found violations in order to urge rectification of violations.

#### ***4.1.3.4 Emergency treatment and investigation of ship pollution accidents***

Sansha MSA respond to the ship pollution accidents actively, when ship pollution accident happens, organize oil spill emergency response force quickly and effectively, in order to reduce the degree of pollution damage. At the same time, Sansha MSA carries out the corresponding ship pollution accident investigation work, identify the reasons for the occurrence of pollution, contamination ascertain responsibility for the accident, the making of safety measures to reduce the risk of pollution from ships.

## **4.2 Problems in the regulation of the South China Sea maritime affairs**

### **4.2.1 Legally unsound**

Quite a number of laws and regulations of our country are made before UNCLOS on the law of the sea, and there is a situation in which domestic laws and regulations are not in place. Such as "Regulations of the People's Republic of China on the Investigation and Handing of Maritime Traffic Accidents" provides that These Regulations shall apply to the maritime traffic accidents happening to the vessels and installations in the coastal waters of the People's Republic of China, the regulations generally use the "coastal waters" to express, does not reflect the "Convention" on the territorial sea, the exclusive economic zone and the high seas and other areas of the principle of division, in terms of the definition of "Maritime Traffic Safety Law of the People's Republic of China", coastal waters refers to the People's Republic of

China's coastal ports, internal waters and territorial waters and all other sea areas under national jurisdiction. While this exhaustive presentation method is ensuring national jurisdiction, however, in particular the provisions on the matter, based on the absence of different jurisdictions to distinguish the different waters, causes difficulties on specific operations and implementation. In fact, there are no jurisdiction over certain incidents in the exclusive economic zone of the coastal State(Zhao, L.H. 1996). Such as the provisions of UNCLOS, in the exclusive economic zone and the high seas, coastal States have jurisdiction only in accidents involving their own ships, facilities, personnel and the cause of environmental pollution in coastal waters.

#### **4.2.2 limited management method and backward equipment**

##### ***4.2.2.1 Single regulatory means***

In the increasingly complex international situation in the South China Sea, China's maritime regulation of the South China Sea, in addition to a wide range of cruise control, outside the sea there is no other effective means, and the frequency and intensity of the cruise is far less than the maintenance of the safety requirements of South China Sea navigation channel. In the South China Sea, existing maritime supervision is mainly reflected on the Navigational Warnings and Navigational notices, China ship position reporting system, and marine salvage. For the implementation of the route planning and protection in the disputed waters; sunken objects and remove floating debris salvage management; marine exploration and development operations management, foreign vessels, sailing, berthing and operations supervision and management; provisional approval of foreign ships entering the country non-open water; to ensure that foreign non-military vessels in the territorial waters of the right of innocent passage; implementation of ship traffic

separation scheme or routing system in the territorial sea; the development of special rules for navigable waters; traffic management through the ship's vessel traffic management system ; exclusive economic zone and continental shelf of navigation safety management; supervision and management of submarine cable laying work to influence or interfere with the normal order of maritime navigation, maritime regulatory aspects of punishment are basically blank, which not really reflects the maintenance of safety of navigation and the role of the South China Sea sovereignty declaration.

#### ***4.2.2.2 Backward supervision equipment***

Maritime law enforcement equipment of Sansha MSA is relatively backward, there is only one ship more than 100 meters, which kiloton can be docked helicopter, and belongs to unrestricted navigation area, there is no dedicated aircraft for maritime law enforcement. Maritime regulatory area largely confined to the coastal range between port and port, for most of territorial seas, contiguous zone, and exclusive economic zone in South China Sea, MSA is difficult to cover.

#### **4.2.3 Problems of navigation management**

##### ***4.2.3.1 Ship reporting mechanism is not perfect***

At present, China has not yet fully established system of mandatory reporting for foreign ships which enter the territorial waters and the internal water, only in specific waters, such as the area which is implemented VTS reporting system. Ship reporting system is only mandatory for Chinese flag ships, foreign ships are voluntary. For the use of AIS, there is no mandatory requirement of China's domestic law, many ships do not use it, that largely affects the monitoring of MSA whether foreign ships enter the South China Sea waters, and weakens the effect of

searching and rescue for foreign ships in searching and rescue area of China when shipwreck occurs, it is also difficult to organize and coordinate the passing ship's participation in the area of distress in a short time.

#### ***4.2.3.2 Navigation support is insufficient***

According to China's current management system, public navigation marks in coastal sea route and coastal navigation marks in open waterways of ports are managed by China MSA, fisheries departments and the army also manage fishery navigation marks and military navigation marks in coastal waters within the scope of their duties, which causes Cross-functional status of navigation marks management. In foreign countries, the unified management of institutions are basically responsible for navigation marks, such as: Fisheries Agency of South Korea, Coast Guard of Japan, Coast Guard of United States , and Maritime Safety Authority of Australian(Shi, L. 2006). At the same time, coastal navigation marks and other aids to navigation in South China Sea need to be further optimized and further strengthened to help navigation facilities maintenance. GMDSS information, navigational warnings and weather information can not meet the needs of passing ships because of severe lack of shore-based facilities.

#### ***4.2.3.3 Lagged planning and construction of route alignment of South China Sea***

At present, China MSA has not made use of the relevant provisions of UNCLOS, such as oil tankers and other vessels, which can only be used in fixed line to strengthen the management of dangerous cargo(Yin, J. 2011). Taking the future growth of traffic flow in the South China Sea into account, China's dependence on imports of crude oil will sharply increase, it is necessary to analyze the existing navigation environment and set sea lanes and traffic separation schemes reasonably,

in order to protect navigation environment and prevent sea pollution by ships.

#### ***4.2.3.4 Insufficient performance of duties of search and rescue***

Currently, in South China Sea, the international situation is complicated, non-traditional security has become the focus of national attention, emergency management is constantly facing with new challenges. As a traditional safe safeguard, search and rescue have become embodiment of existence and an important means of maintaining maritime sovereignty. Although the ASEAN countries have established China-ASEAN maritime consultation mechanism, Overall, China's search and rescue emergency equipment and facilities are still relatively weak infrastructure, and the system, mechanism, search and rescue work is still not up to the maintenance of China's maritime interests of the target(Zang, Y.Y. 2008).

#### ***4.2.3.5 Insufficient performance of accident investigation and treatment***

There are conflicts between the current "Regulations of the People's Republic of China on the Investigation and Handing of Maritime Traffic Accidents" and other domestic law with the Rules of International Maritime Safety Investigation, such as rules of international conventions in accident investigate the nature and scope of the study, survey report, crew interest protection and survey evidence protection, which is leading to fewer non-maritime administration agencies involved in the South China Sea territorial waters of the accident investigation. China MSA has signed Minutes of meeting of maritime investigation cooperation only with South Korea, Japan and Hongkong, establishes mechanisms for cooperation, and has signed Minutes of Case of maritime investigation cooperation with Germany, but the participation of China MSA for international cooperation in accident investigation is not enough.

#### **4.2.4 Problems of pollution prevention**

##### ***4.2.4.1 Limited means to perform their duties***

Currently, the way of Sansha MSA prevent pollution from Ships in the performance of management functions on the marine environment is administrative licensing and boarding inspection for anchorage of ships in the ports. Pollution prevention management outside the port waters is limited for management tools, the undertaken efforts need to be strengthened. Particularly in the investigation of sewage and other illegal acts of passing ships in the coastal State's territorial waters, contiguous zone, and exclusive economic zone, there is still much room for development.

##### ***4.2.4.2 Marine pollution emergency response capabilities should be improved***

After years of effort, Sansha MSA has initially built a maritime oil spill emergency response system in ports of Xisha islands. There is a large room for improvement of ability to response and deal with marine pollution occurs outside the port waters, in territorial sea, exclusive economic zone, and continental shelf, even in the high seas. Especially in the oil spill surveillance monitoring, it is currently still in a relatively weak state.

## **CHAPTER 5**

### **Recommendation for improvement of maritime control of the South China Sea**

#### **5.1 Strengthen construction of infrastructure**

##### **5.1.1 Improve the quality of human resources and strengthen staff construction**

According to maritime regulatory needs, China MSA should recruit professionals to join maritime regulatory team of the South China Sea. Firstly, a professional team of law enforcement and cruise of the South China Sea should be built. This team will not only have a solid maritime skills, but also shoulder the maritime law enforcement mission; not only master the domestic laws and regulations, but also the correct use of international conventions to carry out maritime law enforcement, safeguarding national maritime rights and interests. Secondly, a foreign-related maritime law enforcement team should be built. In the process of maritime law enforcement, foreign affairs will inevitably be encountered, the level of treatment of these issues will not only affect the status of China's maritime in the international and domestic, but also affect the maintenance of the national marine rights and interests. Thirdly, a maritime law enforcement and theoretical research of maritime rights protection team should be built. Due to the South China Sea maritime law enforcement is a new task faced by the Chinese maritime, lack of experience in maritime law enforcement, to understand the Convention thorough enough and need to have a group of professionals specialized in maritime law enforcement affairs

research, in allusion to the new problems appeared in the maritime law enforcement, and put forward the scientific and effective countermeasures(Hu, J. 2008).

In view of the particularity of maritime supervision of South China Sea, staff of front-line law enforcement should be reasonably arranged, and a scientific system of duty and holiday should be established to ensure the law enforcement team get sufficient rest. Flexible and feasible rotation system should be set up to ensure record of formal schooling, professional structure and age structure of law enforcement team of South China Sea in a reasonable range.

### **5.1.2 Ensure funding for maritime supervision**

The routine regulatory cruise in sea and air of South China Sea is different from the general administrative law enforcement activities, with a quasi-defense nature, that requires significant funding support. China is a great country, which has strong accumulation of material foundation from the reform and opening up 30 years and current strong fiscal position, investment should be increased to safeguard national sovereignty and maritime rights and interests. Therefore, funding of maritime law enforcement of South China Sea should be included in the State budget, in order to ensure a stable source of funding and financial support.

### **5.1.3 Strengthen equipment of Sansha MSA**

As a branch of China MSA, which has the largest waters under the jurisdiction, Sansha MSA will be the bridgehead of maritime supervision of South China Sea in the future. Therefore, it is essential to construct Sansha MSA for exercising sovereignty in South China Sea, and it is more important for maritime supervision force perform their duties effectively in South China Sea. Sansha MSA shall be equipped with the ship which owns speed, wind resistance, more than 3000 tons,

unlimited navigation area, capable of accommodating most advanced maritime helicopters, and shipborne law enforcement equipment, for Sansha MSA carrying cruise , search and rescue and marine rights enforcement in South China Sea, at the same time, the ship shall be with the requirements of ship-borne maritime helicopter and maritime law enforcement with the necessary airborne electronic equipment.(Li, Y.T. Jiang, Y.K. 2008) Base of maritime law enforcement shall be the constructed in the island of Zhongsha islands and the Nansha islands which is featured better conditions. When conditions are appropriate, permanent law enforcement agencies and personnel can be accredited, and rescue sub center and the base of patrol ships and helicopter should be set up.

## **5.2 Effective monitoring**

### **5.2.1 Establish and improve mechanism of cruise**

China MSA should promote the process of integration of cruise and rescue actively. In view of the status of maritime law enforcement and the mode of maritime law enforcement, maritime cruise is the most important means to safeguard the maritime rights and interests of China. To promote the process of integration of cruise and rescue can effectively promote MSA to fulfill functions of Salvage at sea. This will not only exercise team of MSA and improve operational capacity, but also lay a solid foundation of "rescue of human life, fast and efficient"(Jiang, X.C. Wang, J. 2009), which achieves both effective regulation and fast rescue.

### **5.2.2 Traffic separation schemes, recommended routes and designated sea lanes in territorial sea of South China Sea of China**

Ship routing system is an important part of maritime traffic, China can take advantage of UNCLOS in the the relevant provisions that oil tankers and other ships can only pass by waters be made in alignment to enhance the safety of navigation

management. Taking the future growth of traffic volume into account, dependence of imports of crude oil and other resources will increase, uncertainty of navigation and oil spill risk will also increase. In accordance with the provisions of UNCLOS, China MSA can expand range of applications of sea lanes and traffic separation schemes in territorial seas of the South China Sea. Effect of ships such as tankers, nuclear-powered ships, ships carrying nuclear or other hazardous materials, toxic substances should be analyzed, such kind of ships shall only pass through designated watercourses mandatory, which is in order to protect maritime safety and prevent sea pollution by ships. Existing navigation environment shall be analyzed, and ship routing system shall be implemented in some traffic-intensive and accident-prone areas, in order to standardize the behavior of sailing vessels and reduce the occurrence of ship collisions.

### **5.2.3 Increase efforts of handing and investigation of maritime accidents in South China Sea**

In accordance with relevant provisions of the UNCLOS, coastal State has jurisdiction of investigation of ship pollution accidents which possibly happens the exclusive economic zone; maritime accidents which involves Chinese ships or citizens on the high seas and the exclusive economic zone, China can be involved in the investigation; for ship pollution accidents on the high seas which may affect China's territorial waters or exclusive economic zone, China can participate in the investigation as a stakeholder. According to the provisions of IMO A.849 (20) resolution, China can sends staff to in the country related to participate in accident investigation which involves vessels and citizens of China and happens in waters outside the jurisdiction of our country.

### **5.2.4 Digital control of South China Sea**

Level of law enforcement electronic equipment of maritime patrol aircraft and ships shall be improved. China MSA shall use the integrated remote surveillance radar, satellite remote sensing monitoring, RBN-DGPS, VTS, automatic ship identification system, AIS, LRIT, CCTV, and geographic information systems, electronic chart systems and other information systems comprehensively, and further improve and fully utilize China ship reporting system, navigational warnings and navigational notices publishing system and GMDSS. To achieve "digital control of South China Sea" by focusing on treatment and the combination of the above organic integration of information resources.

### **5.3 Deepen international cooperation**

#### **5.3.1 International cooperation of maritime traffic safety in South China Sea**

On the basis of "Treaty of Amity and Cooperation in Southeast Asia" and the "Declaration on Conduct of Parties in the South China Sea" , China can fully use the platform of "China-ASEAN maritime cooperation mechanism", and issue a joint statement with countries around South China Sea(Policy Research Department of Ministry of Foreign Affairs People's of Republic of China. 2003), which commitment to all dispute countries to ensure the safety of navigation in South China Sea, and shall not affect of maritime traffic because of the dispute. It indicates China's peaceful stance on the South China Sea issue, also to some extent, eliminate the adverse effects of "China threat theory"(Emma, V.B. 2003). To do this, China shall take advantages of features of maritime, such as highly specialized, low political sensitivity, sufficient basis in international law, and space larger of international cooperation. Start from the maintenance of safety of navigation in the South China Sea, the multilateral cooperation and play to our advantages in the aspects of ship manufacturing and testing, crew training, hydrographic, to help the construction of

navigation facilities etc., from the aspects of personnel, capital, technology, equipment and other countries around the South China Sea to provide a substantial support. That is not only conducive to maintaining and promoting the safety of navigation in the South China Sea, but also conducive to the expansion of China's influence in the region.

### **5.3.2 International anti-pollution cooperation in South China Sea**

South China Sea is not only an important channel of international crude oil and dangerous chemicals transport, but also an important international watercourse of international shipping and the operations-intensive area of world's undersea oil and gas mining, and still is one of the world's major fisheries. Therefore, pressure of prevent pollution from ships is enormous. Neighboring countries have common interests on marine environmental protection in the South China Sea, China may consider to establish mechanisms for cooperation with neighboring countries to address non-traditional security issues such as marine ecological environment deterioration, and oil pollution, to combat risk of marine pollution disaster together.

### **5.3.3 International cooperation of salvage at sea in South China Sea**

In view of less politically sensitive of salvage at sea activities, and there are clear and sufficient basis in international law, therefore, China should strive to maintain and strive to continue to expand the scope of search and rescue area of responsibility in the South China Sea, and strengthen the salvage efforts to show the presence of China in the South China Sea in a peaceful and humane way. Through the establishment of China-ASEAN maritime cooperation mechanism and China-Vietnam regional search and rescue cooperation mechanism, China has strengthened the cooperation of maritime search and rescue with Southeast Asian countries(Ling, D.Q. 2005), that platform should be made good use of. In recent years, China MSA

has increased efforts of rescuing fishermen (mainly Vietnamese fishermen) and dealing with sea-related incidents in the South China Sea, such efforts should be strengthened continuously.

## **CHAPTER 6**

### **SUMMARY and CONCLUSIONS**

This paper mainly focuses on geographical conditions and strategic position of South China Sea, describes and analyzes situation and future trend of South China Sea. Combined maritime supervision practice of South China Sea with international Conventions and domestic laws and regulations, in this paper, the powers of regulatory status of MSA in South China Sea is studied and analyzed, which defines the duties and obligations of MSA in the South China Sea.

Maritime supervision mechanism of South China Sea is established for not long time, institutional system of Sansha MSA is not perfect, and development of personnel, infrastructure construction and equipment are relatively backward. Coupled with wide area of South China Sea, and the ownership of sovereignty of South China Sea is dispute with neighboring countries, which brings some difficulties and challenges for Sansha MSA. Faced with these problems, the author has read a lot of historical documents and relevant international Conventions and conducted a field survey on part of the South China Sea, then has a certain understanding and knowledge on the navigation environment, natural resource development and fisheries situation in South China Sea. The author recognizes the problem of maritime supervision of Sansha MSA, such as imperfect law, limited means of supervision, backward facilities and equipment. There are also problems of navigable management and

pollution prevention management now.

By inductive analysis on regulatory status and problems of Sansha MSA, the author puts forward corresponding suggestions and views of maritime supervision of South China Sea.

Overall, South China Sea is an important strategic channel, treasure trove of resources, important frontier with concurrency and marine economy in the future, and the core of national interests of China. On the one hand, Sansha maritime supervision can effectively protect the masses of the people and personal and property security of passing ships within the jurisdiction, but also maintain measures of national sovereignty over the South China Sea. Research and discussion of maritime supervision of Sansha MSA is necessary for both for refining and improving maritime supervision of Sansha MSA and maintenance of the sovereignty of the South China Sea.

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