

Chinese fishermen in disputed waters: Not quite a “people's war”



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ABSTRACT

China's strategic and political considerations have directly and indirectly contributed to the growing presence of Chinese fishermen in disputed waters in the South China Sea and in the East China Sea. But it is an overstatement to claim that China is launching a “people's war” at sea. Based on extensive interviews with Chinese fishermen, scholars, and government officials and with a comprehensive review of the official documents, news reports, and existing research papers, the author argues that food security and economic factors are the primary drivers for the outward expansion of China's marine fishery sector. The Chinese fishermen are increasingly placed at the center stage of maritime conflicts in the troubled regional waters.

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1. Introduction

Over the past few years, amid rising tensions in the South China Sea and in the East China Sea, several maritime incidents involving Chinese fishermen sparked diplomatic and even security tensions between China and its neighbors. For instance, in September 2010, Japan's arrest of the Chinese fishing captain in disputed waters near the Senkaku/Diaoyu Islands after the boat collision incident triggered a major diplomatic dispute between China and Japan. In April 2012, the Philippine Navy's attempt to detain Chinese fishing vessels in the disputed Scarborough Shoal resulted in a standoff that went on for months.

As maritime conflicts have already emerged as one of the top threats to economic prosperity, peace and stability in East Asia, it is critically important to manage these potential flashpoints. For this reason, fishing disputes, as well as maritime security incidents involving Chinese fishermen deserve serious policy attention. The first step is to understand the underlying causes of rising fishing disputes involving Chinese fishermen in disputed waters and beyond. A substantial body of literature attributes these fishing incidents and growing presence of Chinese fishermen in disputed waters, particularly in the East China Sea and in the South China Sea, to China's strategic and political motives. The argument is that these fishermen are actually maritime militia who are positioned to conduct a “people's war” at sea in the event of a conflict [1–7].

Given its transboundary nature, marine fishing certainly carries

important political and diplomatic functions. During the early days of the People's Liberation Army (PLAN), Chinese fishing boats played an important role. For example, during the Sino-Vietnamese naval clash in 1974, Chinese fishermen provided crucial support for PLAN's operation. Currently, it is no secret that China, as well as Vietnam, the Philippines, and other countries, considers the country's fishermen as an important force for strengthening its maritime presence in the disputed waters. The Chinese government provides financial and political support to the fishermen to undertake fishing activities in the contested waters. On an ad hoc basis, China deploys its fishermen and fishing boats to confront other countries' maritime forces. For instance, both China and Vietnam have dispatched fishing vessels during the recent HD-981 oil rig row in 2014 [8].

Nonetheless, this political and strategic argument has some major weaknesses. First, the fishing incidents involving Chinese fishermen have not only occurred in disputed waters in the South China Sea and in the East China Sea where China has the interest to strengthen its maritime claims. Instead, these incidents have happened almost everywhere, including Exclusive economic zone (EEZ) of South Korea, Russia, North Korea, Indonesia, and Palau. In fact, most of the fishing incidents involving Chinese fishermen took place in the Yellow Sea. In 2012 alone, 467 Chinese fishing boats were seized while fishing illegally in South Korean waters. A total of 29,600 Chinese fishing vessels illegally entered South Korea's EEZs in the second half of 2014, up more than 16 percent from 25,400 incidents in the same period in 2013 [9]. Even in the case of the East China Sea disputes, Chinese fishermen did not only expand their operations in the disputed waters near the Senkaku/

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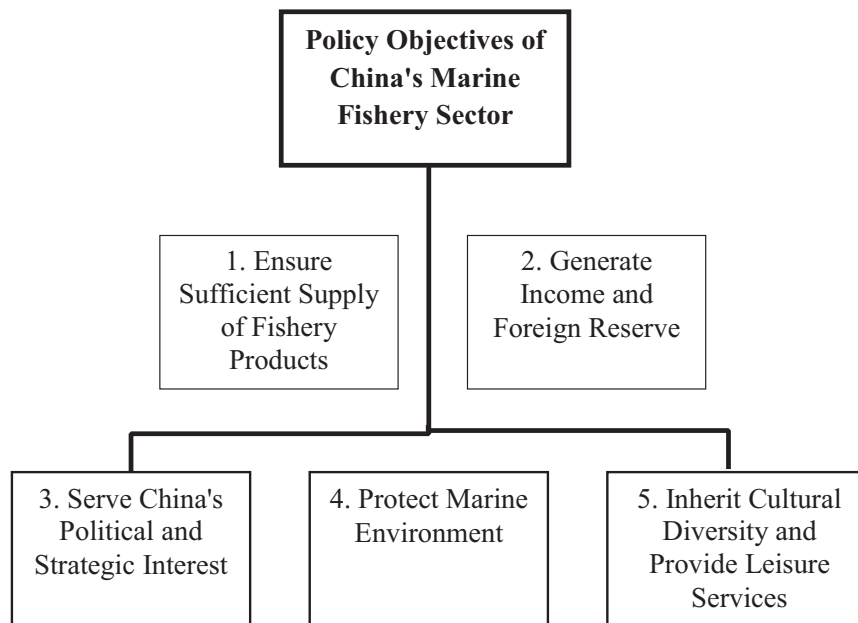


Fig. 1. Policy objectives of China's marine fishery sector. Source: D.D. Yue, L.M.Wang, Analysis of the current Status of Strategic studies on China's Fishery Industry and A Preliminary Reflection, *Journal of Agricultural Science and Technology* 15 (2013) 168–175. The same view is also expressed by Tong Chunfeng in her book *Marine fishery transition and fishermen transformation*. Ocean University of China: Qingdao, 2007.

Diaoyu Islands, but as far as Japanese EEZs and territorial waters near the Ogasawara islands, which is located about 600 miles south of Tokyo.

Second, fishermen should not be regarded as passive actors who mainly follow orders from the Chinese authorities. It is important to keep in mind that fishermen are self-motivated economic players with the ultimate goal of earning more money. As China's domestic fishery resources are waning due to pollution and overfishing, the fishermen naturally go further into the seas, be it disputed waters in the East China Sea and in the South China Sea or even neighboring countries' EEZs, where fishery resources are abundant.

Third, the geopolitical argument cannot explain why the Chinese government refused to make financial compensation to most of the fishermen detained or harassed by neighboring countries. On the contrary, many fishermen were fined or disqualified for fuel subsidy by the Chinese government after they returned to China [10,11]. After the Scarborough Shoal standoff between China and the Philippines, China banned its fishermen from fishing in waters near the Scarborough Shoal despite opposition from its fishermen.

Fourthly, while it is true that the Chinese government provides financial support, particularly in the form of fishing fuel subsidy and subsidy for building new ships, to its fishermen, this financial support is applied to entire fishing industry, thus, not limited to fishing activities in disputed waters. As the matter of fact, it is a common practice for countries to subsidize marine fishing. Countries such as Spain, France, UK, US and Japan offer generous fuel subsidies for distant water fishing [12].

With these themes in mind, this paper aims to re-examine the factors that contribute to the growing number of fishing incidents involving Chinese fishermen in regional waters. In order to address this aim, the paper begins with an introduction to the fishing policy objectives framework and the data used in this paper. Next, it re-examines the maritime militia narrative and lists three key challenges facing China's maritime militia policy. Following that, the paper looks at the food security and economic dimensions of the growing maritime incidents involving Chinese fishermen in regional waters to provide an alternative explanation. Finally, the paper offers policy recommendations for managing these incidents.

2. Data and methods

2.1. Data

Between September 2014 and November 2015, the author conducted five field research trips to China's major fishing provinces, including Hainan (28–30/9/2014; 22–25/11/2015), Fujian (1–7/10/2014), Shandong (18–24/12/2014) and Zhejiang (19–24/07/2015). In particular, the author paid two separate visits to the Tanmen fishing town, where is home to China's most important maritime militia force in the South China Sea [2]. During the field study trips, the author had extensive talks with fishing crews and fishing boat captains who have personally had encounters with foreign warships and fishermen in the South China Sea. The author also interviewed many Chinese scholars and several government officials. However, due to the sensitivity of these issues, the identities of the interviewees are not revealed in this paper. The author also relies on data from China's Bureau of Statistics and the Food and Agriculture Organization of the United Nations (FAO), and other sources such as government reports, news articles, and existing literature.

2.2. Fishing policy objectives framework

As part of China's agricultural industry and given its trans-boundary nature, the marine fishery has five major policy objectives to fulfill (Fig. 1). The first and most important policy objective is to ensure a steady supply of fishery products, including high-quality protein for human consumption and raw material for related industries. The second objective is to increase the fishermen's foreign reserve earnings. Development of the marine fishery sector can contribute to fishermen's income growth. Given the comparative advantage of China's marine fishery sector, there is great export potential to generate foreign reserves for the country. The third objective is to serve the country's political and strategic interest. It is recognized that the development of marine fishery sector will safeguard China's maritime interest in the disputed waters while a distant-water fishing fleet will expand China's fishery cooperation with the international community and

support China's international strategy. The fourth objective is to protect the marine environment through sustainable fishing. Marine species and the water body itself are integral parts of the marine environment and the marine fishery sector plays a vital role in protecting the marine environment. On the one hand, overfishing, pollution, and introduced species could destroy the marine environment. On the other hand, sustainable fishing practices including the construction of ocean artificial reefs, restocking, and improving water quality, among other measures, protect the marine environment. The fifth objective is to promote culture and leisure. In other words, the marine fishery sector plays a major role in preserving the cultural diversity of the country. As one of the oldest economic sectors, marine fishery itself embedded very rich cultural resources and increasingly, marine fishing tourism becomes an important component of the modern fishing industry.

Ideally, these five policy objectives could be simultaneously achieved with a set of coherent marine fishing policies. But in reality, given China's huge population and limited fishery resources, the government struggles to prioritize these policy objectives (i.e. to balance competing priorities for optimum results). In the following section, the author analyzes how the Chinese government's efforts to balance these objectives have made its fishermen increasingly at the central stage of maritime conflicts in regional waters.

3. The maritime militia argument reconsidered

3.1. China's maritime power aspiration and marine fishery

Although some commentators exaggerate that China is waging a "people's war" at sea, there is no denial that the Chinese government considers a strong fishing fleet as integral to sea power and it has strengthened the fishermen's capacity for protecting the country's maritime interest in disputed waters. In December 2012, at the 18th Party Congress on Maritime Power, China's former president Hu Jintao pledged that China would enhance its capacity for exploiting marine resources, develop the marine economy, protect the marine ecological environment, and resolutely safeguard China's maritime rights and interests. This report represented a broad policy consensus by the party leadership and the latter's desire to build China into a formidable maritime power [13]. While China has been paying growing attention to the country's maritime interests for more than a decade following its growing integration into the global economy, placing the safeguard of maritime interests and the goal of becoming a maritime power in the Party Congress Report makes these issues central to China's policy agenda. Developing a strong marine fishery sector is naturally considered crucial to China's aim to become a maritime power. Two areas should be highlighted. First, expansion of China's Distant Water Fishing (DWF) is considered imperative for China to become a global maritime power [14]. China believes that DWF helps to safeguard China's marine interests and secures international space for development. In addition, DWF can play a critical role in evacuating overseas Chinese residing in foreign countries in times of crisis. Besides, DWF can help PLAN to develop China's knowledge base with respect to prevailing local conditions, and provide logistics and supplies for the navy's blue-water operations [15].

Second, as tensions in the South China Sea and in the East China Sea rise, the Chinese government recognizes that a strong maritime militia can help protect China's maritime interests in disputed waters. Even though the development of maritime militia has long been emphasized by Chinese leaders and military officials, it gained new momentum after Xi Jinping urged the speeding

up of the development of maritime militia during his visit to Tanmen fishing town in April 2013. This was followed by the publication of numerous articles advocating the development of maritime militia forces in the *PLA Daily* and in the *National Defense Magazine*. More financial resources for training and new fishing vessel subsidies were allocated to the fishermen [16]. For instance, in 2014, Hainan's government, party, and military jointly promulgated "Opinions on Strengthening Maritime Militia Construction" to fund local counties' organization and recruitment of maritime militias, primarily aimed at protecting China's sovereignty and maritime interests in the South China Sea [2]. Consequently, many coastal cities have quickly set up their maritime militia units in recent years. In addition, in the past, China's maritime militia forces normally relied on renting the fishing boats from fishermen or fishing companies. Currently, China is building a state-owned fishing fleet for its maritime militia force in the South China Sea. China's Hainan Province has ordered the building of 84 large militia fishing vessels for Sansha City; among them, 10 fishing vessels were delivered in 2015 [17].

3.2. The challenges to china's maritime militia strategy

Even with the commitment of the top leaders and the support from the local governments, the maritime militia plan might not turn out to be an effective strategy for strengthening the country's claim in the South China Sea due to the following challenges.

To begin with, the Chinese government cannot control the fishermen. The relationship between the Chinese government and the fishermen is very complicated. Fishermen do not always trust the government officials. In the latest anti-corruption campaign in Hainan, a dozen officials from China's fishery administration were arrested for stealing the fishermen's fuel subsidy. At the height of the standoff on April 12, China's fishing surveillance force urged the fishermen fishing in waters near the Scarborough Shoal to depart from the waters immediately for their personal safety. Yet the fishermen refused and questioned: "The state maintains that the Scarborough Shoal belongs to China. Why are you trying to drive us away and not stopping the Filipino poachers? And if we leave now, who will compensate us for our financial losses?" [18]. The author's interviews with Tanmen fishermen elicited similar comments. Some scholars and even government officials noted that Chinese fishermen have, from time to time, undermined China's foreign policy [19]. According to Tabitha Grace Mallory, the Chinese government does not even have much say over state-owned fishing companies. While the government may appoint the leadership, the day-to-day management is left to the leaders [20].

In the case of the South China Sea disputes, while the nine-dash line in maps issued by the Chinese government appears to assert Chinese claims over much of the South China Sea, China has not filed a formal or definite claim to the territories within the nine-dash line. Such ambiguity gives China more flexibility to deal with the disputes and develop a more comprehensive strategy to address the South China Sea issue [21]. However, for the Chinese fishermen facing depleting fishery resources in inshore waters, outward expansion of operations is the key to survival. They navigate within the nine-dash line, not only in waters near islands controlled by China but also in waters near reefs or islands under foreign control. In the event of a maritime incident involving Chinese fishermen, the Chinese government is forced to respond when the legality of its nine-dash line is questioned.

Even worse, some Chinese fishermen even cross the nine-dash line. In recent years, nearly all Chinese fishing vessels have been installed with the Beidou system—Chinese version of Global Positioning System (GPS) system. While some consider the installation Beidou system, which is heavily subsidized by the Chinese government as a sign that China attempts to coordinate fishing vessels in

disputed waters, particularly the South China Sea [22]. But the Chinese government also uses the Beidou System to monitor the activities of the Chinese fishermen and to prevent them from illegally entering other countries' jurisdictions. However, it is still quite common for Chinese fishermen to simply turn off their Beidou System and enter other countries' EEZs and even territorial waters where marine resources are abundant (Interview 28/09/2014; Interview3/10/2014; Interview 24/11/2015).

The second challenge is the conflict of interests among different agencies regarding the maritime militia policy. While the Ministry of Defense and some local governments (particularly the newly established Sansha city) are strong supporters of the maritime militia policy, a fair number of ministries and departments (including the Ministry of Foreign Affairs, Ministry of Agriculture, China State Oceanic Administration and Custom, State Administration for Industry and Commerce) oppose (though not openly) the Maritime Militia Policy. For China's Ministry of Foreign Affairs, it appears that the country has become more assertive in enforcing its maritime claims in the East China Sea and in the South China Sea. Maintaining regional maritime stability is still its top priority. Some fishermen's illegal fishing practices do not only damage China's international image but also incur the risk of triggering major diplomatic tensions. For the Ministry of Agriculture, China's State Oceanic Administration, and other departments, there is fear that the maritime militia policy could encourage some fishermen to ignore the country's fishing regulations and domestic laws (Interview 30/09/2014). For instance, the maritime militia policy is being used by some fishermen as a cover for their illegal fishing and harvesting of endangered marine species.

Legal constraint is the third challenge. According to China's Military Service Law, the militia shall consist of a primary militia and an ordinary militia. Persons under the age of 28 who are soldiers discharged from active service or who have received or are selected for military training are recruited for the primary militia (In some cases, the age limit for primary militiamen may be extended appropriately); the remaining male citizens aged between 18 and 35 who qualify for military service are recruited for the ordinary militia. Yet in China's traditional fishing villages, very few young people are willing to work in the fishing sector. Consequently, the aging fishing community has become a major problem (Interview 28/09/2014; Interview 20/12/2014). In many Chinese fishing regions, the majority of traditional fishermen are between 40 and 60 years old. For instance, in China's biggest marine fishing city Zhou Shan, very few local workers under 30 years old are still working in the fishing sector while most local fishermen are in their 50s [23,24]. This means that few fishermen can meet the age requirements for employment. More importantly, under China's Household Registration System, farmers and fishermen can only be recruited in counties where their household register (hukou) belongs. Over the past decade, traditional fishermen have been replaced by peasant workers from the inland provinces because fewer young people from traditional fishing villages are willing to join the fishing sector [23]. In many fishing regions, peasant workers from inland provinces now make up 50% to 80% of the total fishing workforce [24–28]. It becomes challenging for the authorities to find qualified fishermen to be a part of China's maritime militia.

There are political factors at play as well. While the "people's war" concept has long been considered as one of the key pillars of China's military doctrine, the concept has evolved through time: from the traditional "people's war" to "people's war" under modern conditions and to the current "people's war" in the 21st Century. The key change is that guerrilla warfare is no longer included in the role of militia; instead, the focus has shifted to the logistics and transportation for conventional forces [29]. This is exactly the point made by Xi Jinping during his meeting with the

Tanmen militia. Xi told the militia that they should not only lead fishing activities but also collect oceanic information and support the country's construction of islands in the South China Sea [30]. However, as the South China Sea conflicts worsen, the maritime militia could be drawn into military clashes between China and regional countries. The Chinese government could come under public pressure or heavy criticism if these unarmed militia members were detained, injured or killed in the South China Sea. After the HD-981 oil rig incident, Vietnam established its own fisheries surveillance force and equipped it with weapons [8]. Reports about China's maritime militia have drawn criticisms from netizens and scholars; many ask the very question: "Why are the fishermen fighting in the frontline in the South China Sea yet the PLAN and Coast Guard, which have been so well equipped and paid, are hiding behind the fishermen?" Thus, maritime militia policy brings considerable political risks to the Chinese government.

3.3. The story of Tanmen fishermen

Fishermen from Tanmen, a small fishing town in China's Hainan Province, are the most well-known maritime militia. To both domestic and international observers, Tanmen fishermen are China's "maritime rights protection" vanguard in the South China Sea. For centuries, Tanmen fishermen have been fishing in the South China Sea, particularly in waters near the Scarborough Shoal and the Spratly Islands. And in recent years, Tanmen fishermen have been directly involved in some of the major conflicts in the South China Sea, including the 2012 Scarborough Shoal standoff and the 2014 Sino-Vietnamese 981 oil rig row. Tanmen fishermen also delivered supplies and building materials to China's Spratly outposts and supported China's island building in the South China Sea. Hence, it is said that without Tanmen fishermen, there would be no Sansha city, and perhaps without Tanmen fishermen, there would even be no South China Sea for China [31].

While it is certainly true that Tanmen fishermen's growing presence in the South China Sea is encouraged by the Chinese government, the drastic transformation of Tanmen's economic structure is nonetheless the bigger driver. Since 2012, the rise of the giant clam handicraft industry has completely transformed this old fishing town. More and more fishermen have left traditional fishing to harvest giant clams and sea turtles for higher income. In 2002, there were over 100 fishing vessels from Tanmen relying on fishing. However, with the rise of the giant clam handicraft industry, there were only 3 ships left by 2014. In the meantime, the number of handicraft retailers increased from 15 in 2012 to 460 in 2015 [32,33], and handicraft workshops increased from a dozen to over 100, creating job opportunities for not only the local residents but also attracting workers from other regions. It was estimated that by 2015, the giant clam handicraft industry supported nearly 100,000 people [34]. Due to overharvesting, it is increasingly difficult for the Tanmen fishermen to collect enough giant clams from the country's inshore waters to meet booming demand. It is estimated that giant clam stocks in China's Parcel Islands are completely depleted [35]. Consequently, due to shortage and speculation, the price of raw giant clam increased by 40 times as compared with figures five years ago [36]. Driven by potential profits, the Tanmen fishermen are expanding their operations further and further, not only in waters near the reefs controlled by other some China Sea claimants within the nine-dash line but also in neighboring countries' EEZs and even territorial waters. It is a common practice for Tanmen fishermen to cross China's proclaimed nine-dash line to harvest the giant clams, corals, and sea turtles (Interview 29/09/2014; Interview 24/11/2015).

Giant clams are protected by the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) and listed as the first-class protected animal in China. Before 2013,

Tanmen fishermen's harvest of giant clams and other endangered marine species was opposed by the Chinese governments both at local and central levels. Various measures were taken by China to prevent harvesting of giant clams and other endangered marine species. However, with rising tensions in the South China Sea and Xi's visit to Tanmen Town in early 2013, the Chinese government turned a blind eye to Tanmen's booming giant clam industry [19]. Nonetheless, rapidly depleting of giant clam stocks and growing awareness of the environmental danger posed by harvesting giant clams, the Chinese government began to clamp down Tanmen's giant clam industry. In February 2015, Policy Research Office of Hainan Provincial Government published a report urging local governments to clamp down illegal harvesting of giant clams and step up the effort to transform Tanmen's economic structure [35]. Shortly after, on March 11, 2015, Tanmen Town Government, together with the local police, customs officers, border police, and other departments, issued an official notice to ban illegal harvesting, transportation, and sale of giant clams. On July 22, 2015, China's State Oceanic Administration planned to enhance the protection of marine resources in the Spratly Islands. In September 2015, law enforcement forces from China's Sansha City detained a fishing vessel for harvesting giant clams near the Woody Island.

Tanmen fishermen's relations with the Chinese authorities, foreign fishermen, and foreign law enforcement vessels seem much more complex. Speaking of their relationship with the PLAN, several fishermen in Tanmen even mentioned that until the early 2000s, they had feared the PLAN the most. In the past, it was common for PLAN officers to illegally board their ships, take away their catch, and even physically abuse them. While the situation has improved a lot in recent years, some Chinese fishermen continue to distrust the PLAN. Given the fact that harvesting giant clam is a criminal offense under China's domestic law [35], Tanmen fishermen tend to keep a distance from other law enforcement agencies such as the Coast Guard. In addition, contrary to the common perception, the Tanmen fishermen have friendly relations with the Vietnamese and Filipino fishermen, as well as foreign navies. Tanmen fishermen mentioned that they share fuel, food, water, and cigarettes. They also help one another when accidents happen at sea (Interview 29/09/14) [37]. Surprisingly, when responding to a question whether they will join the navy if war broke out between China and the Philippines or Vietnam in the South China Sea, all the fishermen responded: "We will not. For one reason, there is no need because the Vietnamese and Filipinos are too weak to fend off the PLAN. For another reason, we do not hate Vietnamese and Filipinos. However, if war breaks out between China and Japan in the East China Sea, we will be the first to be enlisted because the Tanmen people suffered a lot when Japan occupied Hainan during the Sino-Japanese War" (Interview 23/11/2015).

During the 2014 Sino-Vietnamese 981 oil rig row, it was widely known that both China and Vietnamese fishing boats were deployed. Among the 98 fishing boats from the Chinese side, many were from Tanmen. However, little is known to outsiders that almost half of all Tanmen fishermen turned down the government's request to defend China's 981 oil rig in 2002. Apart from safety concern and low financial compensation from the government, the fishermen did not want war in the South China Sea or any major clash between China and regional countries to deprive them of their main source of income (Interview 28-30/09/2015).

4. Food security and economic dimensions

Therefore, while this political and geostrategic argument is appealing, it only offers a partial explanation for the outward expansion of China's marine fishery sector: from inshore to offshore

and distant water fishing [38]. In fact, behind its outward expansion is the predicament confronting China's marine fishery sector: Chinese fishermen who have an expanded capability to catch more fish are trapped in the country's inshore waters.

But with depleting fishery resources, largely attributed to China's problematic fishing policies, there is now an overemphasis on the role of the marine fishery sector in ensuring food security and economic growth.

4.1. Food security is the top concern

Out of the five policy objectives (Fig. 1), the objective of ensuring sufficient supply of fishery products is the top priority for the development of China's marine fishing sector. As an integral component of China's agriculture, China's marine fishery sector carries the mandate to contribute to China's food security by achieving self-sufficiency in fishery products. To meet the rising demand for fishery products, boosting production has been the most important goal for developing the fishery sector for decades. China's fishery production increased from 5 million metric tons in 1978 to 64.6 million metric tons in 2014 [39]. In 2002, China not only achieved self-sufficiency in the supply of fishery products but also became the largest exporter of fishery products. In contrast, Japan which has double the EEZs of China and 10% of China's total population has a sufficiency rate of fishery products of only around 60% [40]. Not surprisingly, China's high degree of self-sufficiency rate is achieved through overfishing of domestic fishery resources, leading to the rapid depletion of fish stocks in China's inshore waters. What's worse, maritime territorial and fishery agreements with neighboring countries have further reduced the marine fishery resources available for Chinese fishermen [20]. After the Sino-South Korean and Sino-Japanese fishery agreements came into force, about 25,000 fishing boats from China's eastern provinces such as Shandong, Liaoning, and Zhejiang, were forced to pull out of fishing. This led to a 1.2 million metric tons reduction in China's marine catch, causing an economic loss exceeding RMB 6 billion. According to the statistics of Zhejiang province, affected by China-South Korea fishery agreement, around 10,000 fishing boats had to pull out and over 30,000 fishing workers lost their jobs. Similarly in Southern China, after the China-Vietnam Beibu Gulf fishery agreement came into force, fishermen from Guangdong, Hainan, and Guangxi suffered huge losses. For Guangdong alone, around 6000 fishing boats had to cease fishing operations in their traditional fishing grounds in the western part of the Beibu Gulf [41].

The Chinese government came under great pressure when the demand for fishery products rose while catch production declined in China's inshore waters. The country carried out serious reforms to restructure the fishery industry. The top priority was to promote inland and marine fish farming. This strategy has been quite successful because the production of aquaculture is currently over 70% of the total production of fishery products in China [39]. Although the rapid development of aquaculture successfully replaced the marine catch sector as the biggest contributor to the supply of fishery products, the country's marine catch sector is still under huge pressure to expand due to three major reasons.

First, aquaculture has a direct linkage to marine capture fisheries because fresh fish and fishmeal are important food sources for aquaculture. The preferred protein source in most aquaculture is fishmeal or "trash fish" (small fish forming the low-value component of commercial catches). The rapid expansion of China's aquaculture resulted in a surge in demand for low-value/trash fish and fish meal driving further expansion of the country's marine catch sector. China's domestic production of fishmeal lagged behind soaring demand. China is by far the world's largest importer of fishmeal, bringing in an average of at least 1.1 million metric

tons per year from 2009 to 2013, according to the International Fishmeal and Fish Oil Organization (IFFO) and Oil World statistics [42].

Second, while aquaculture produces abundant and cheap fishery products, Chinese consumers are increasingly concerned about the quality and safety of these fishery products in the wake of widespread food safety scandals in China. Reports—related to the overuse of antibiotics, hormones, among other chemical inputs as well as water pollution problems in China's aquaculture—increased demand for safer and better quality of wild marine catch (Interview 4/10/2014) [43]. This is especially the case as the country's increasingly affluent middle class is now able to afford it.

Third, overcapacity of the country's onshore fishing processing sector puts more pressure on the marine catch sector. China's fish processing sector expanded rapidly to meet rising demand for processed seafood. China is also by far the biggest fish processor in the world. In 2013, China had 9,774 fish processing companies, with an annual processing capacity of 27.5 million metric tons. However, in the same year, China's fish processing sector produced 19.5 million metric tons of fishery products, with 80% from the marine fishery and 20% from the inland fishery. This indicates that the utilization rate of China's processing capacity was only slightly above 70% in 2014 [39].

Therefore, while the Chinese government has recognized the need to regulate its marine catch, safeguarding the supply of its fishery products is still the key driver of the country's fishing industry development. According to the country's 12th Five-Year Plan for Fishery Development, the fundamental objective of China's fishing industry is still “meeting the rising demand for fishery products” [44]. In recent years, the Chinese government is embracing the notion of “blue granary or a marine-based food security” to overcome mounting challenges to achieve national food security. Sourcing food from seas is regarded as one of the key approaches to achieve food security in China [45]. According to a high-level task force report in 2010 on strengthening China's DWF sector, sole reliance on resources on land, territorial waters and the country's EEZs will not satisfy growing domestic demand for food, instead, China should actively explore and utilize ocean resources, particularly marine biological resources in the high seas where the largest sources of protein are found [15]. And in June 2013, at the “National Teleconference on Efforts to Develop a Modern Fishing Industry”, China's vice premier Wang Yang highlighted that China's severe scarcity of land and water resources, coupled with soaring demand for food and he called for a grand resource and food security strategy which is to be based on diversified food supplies [46]. He stressed that China's vast marine territories and rich fishery resources offer great potential for future development. Developing a modern fishing industry will boost the supply of fishery products to meet rising demand for high-quality animal protein, and in turn, contribute to the country's food security [46].

4.2. Marine fishery as an important contributor to economic growth

While the central government is concerned about food security, local governments are more interested in the role of the marine fishery sector in generating foreign reserves and in boosting GDP. In China's coastal regions, particularly those less-developed areas, the marine fishery is regarded as one of the pillars of the local economy. Contrary to widening overall agricultural trade deficit, for twelve consecutive years, China has been the world largest exporter of fish and fish products. In 2014, China's total export of fishery products reached USD 20 billion, representing 15.6% of the global total [47]. Not surprisingly, many coastal regions set very high growth rates for the fishery sector. For example, China's Hainan Province which relies heavily on the marine catch sector

for economic development has set an annual growth target of 13.8% for its fishing industry in its 12th Five-Year Plan for Fishery Development. It hopes to boost the annual production value of China's fishing industry to RMB 45 billion in 2015 by increasing its provincial GDP to 12% [48].

Next, in its 12th Five Year Plan, China featured marine economy development as part of its national strategy to “promote the development of marine economy, adhere to the land and sea to coordinate development, formulate and implement marine economy development strategy, and improve marine development, control, and comprehensive management ability” [49]. A strong and thriving fishing economy is considered an important part of China's marine economy. In 2011, the Chinese central government approved Zhoushan's upgrade from a prefecture-level city to a state-level new area. Zhoushan holds China's largest offshore fishing ground. Its fishery sector is worth around RMB 15 billion a year. It is the country's fourth state-level new district to promote marine economy [50]. In April 2015, China's Ministry of Agriculture issued the “Opinions on Building the National Distant Water Fishing Base in Zhoushan”. According to this document, Zhoushan will build the national port for DWF, international fishery center, pelagic processing and logistic zone, and repair center for the DWF fleet. It aims to achieve a total production value of RMB 30 billion for the DWF sector by 2020 [51]. According to *China's 2015 Agricultural Report*, in the next ten years, China's fishery sector will continue to expand and the country will continue to be the leading exporter of fishery products. It is forecasted that fishery production will reach 73 million metric tons in 2020 and 77 million metric tons by 2024 while catch production will reach 17 million metric tons. It is expected that China's fishery export will reach 5.4 million metric tons by 2024, up from 4.3 million metric tons in 2015 [52].

In addition, as the One Belt, One Road (OBOR) strategy becomes the central focus of China's international strategy, strengthening fishing cooperation with regional countries is considered one of the key dimensions of building the 21st Century Maritime Silk Road. Officials from both central government and China's major fishing provinces such as Zhejiang, Shandong, Fujian, and Guangxi actively endorse the incorporation of fishing development into China's OBOR strategy [53,54]. Some experts even support the idea that fishing cooperation should be prioritized in China's plan to build the 21st Century Maritime Silk Road, yielding additional incentives for China to develop its marine fishery sector [55].

4.3. Half-hearted effort on fishery resources protection

Facing rapid depletion of fishery resources in its inshore waters as well as deterioration of marine ecology due to overfishing and pollution, China has introduced fishing moratorium since the mid-1990s in Bohai, the Yellow Sea, the East China Sea, and the South China Sea. In 1999, China began to implement the Zero Growth Policy for the marine fishery sector. In 2003, it formally started the Fishermen Transfer and Fishery Transition Program to preserve fishing resources. This program aims to ensure the sustainable development of fishing industry by reducing the number of fishing vessels and fishermen as well as controlling the intensity of marine catch. However, China's commitment to fishery resources protection is overshadowed by the overriding priorities of developing China's marine fishery sector for food security and economic growth, as well as deploying fishing boats to safeguard China's maritime interests in disputed waters.

Looking at official data, the results seem to be quite impressive. In terms of marine catch production, after the introduction of the Zero Growth Policy in the late 1990s, the remarkable growth trend had indeed been reversed. Negative growth or zero growth was recorded throughout the first decade of the twenty-first century

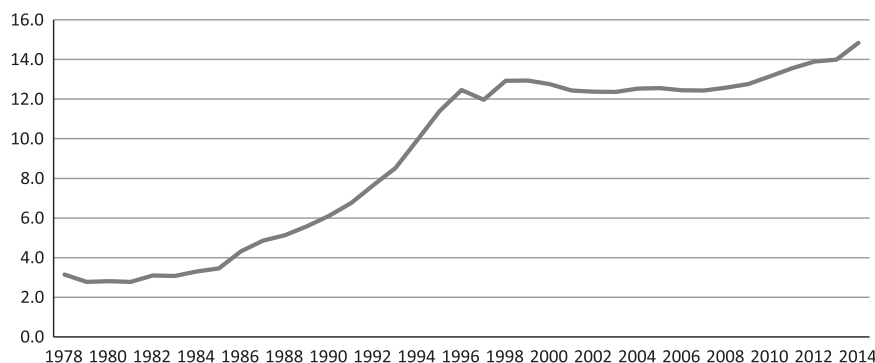


Fig. 2. China's annual marine catch production (including distant water fishing), million metric tons.
Source: China Fisheries Yearbook, multiple years.

Table 1
China's Marine Fishing Fleet. Source: China Fisheries Yearbook, multiple years

Year	Number	Total displacement, metric tons	Average displacement, metric tons	Total engine power million kW	Average engine power kW
2004	220,000	5,559,000	25.30	12338	56.1
2014	191,900	7,294,000	38.01	14088	73.4
2004–14	–10.55%	31.21%	50.23%	10.34%	30.90%

before a gradual rise in the last few years (Fig. 2). Between 2004 and 2014, the country's marine catch fleet shrunk more than 10% from 220,000 ships to 191,900 ships (Table 1). While these achievements appear to be impressive, the reliability of the data remains in question. Official data suggests that China marine catch production has halted since the late 1990 s.

But it is often argued that China, previously known for overestimating its domestic marine catch, now underestimates its annual catch production. For instance, according to a Chinese research team led by Lu Huosheng, a professor at Guangdong Ocean University, China's annual catch from the South China Sea exceeded 4.8 million metric tons as compared with the official data of about 3.5 million metric tons in recent years [56]. In 2012, a study conducted by the European Parliament concluded that the catch of China's DWF fleets is estimated at 4.6 million metric tons per year globally for the 12-year period from 2000 to 2011, compared to an average of 368,000 metric tons per year according to China's report to FAO [57]. One of the key reasons for the underestimation of annual marine catch production is the existence of a large number of "black ships" (fishing vessels without relevant legal permits) (Interview 4/10/2014; Interview 20-24/07/2015) [58]. For example, official statistics indicate that in Zhejiang Province, a total of 22,000 fishing vessels had relevant legal permits in 2014 whereas 12,000 fishing vessels were "black ships" [59].

Second, even though the official data may show that the number marine fishing vessels reduced, the average displacement and horsepower of the fishing fleet improved significantly (Table 1). Its average displacement increased by over 50%, and horsepower increased by nearly one-third during the same period primarily due to the conflicting fishing subsidy provided by the government. On the one hand, after the introduction of the Reduction and Transfer Policy, China's central fiscal agency provided special funds to support the policy. Between 2002 and 2006, the central government provided about RMB 1.2 billion. In comparison, China made a historical decision in 2006 to abolish the agricultural tax and to subsidize agricultural production. As a subsector, the marine fishery industry receives fishing fuel

subsidy. Parallel to the phenomenal increase in the China's agricultural subsidy during the same period, the fishing fuel subsidy increased from RMB 5.43 billion (88.6% of the central government's total spending on the fishery sector in 2007) to RMB 23.4 billion in 2012 [60]. On average, under the Zero or Negative Growth Policy, the government provided RMB 2500 per kilowatts in 2011 for every ship downsized. In contrast, in some areas, under the Fishing Fuel Subsidy Policy, fishermen will receive RMB 1,250 per kilowatts per year [61]. If a fishing boat owner participates in the government ship reduction program, he gets only two years of the fishing fuel subsidy.

The huge difference between the Fishing Fuel Subsidy Policy and the financial support from the Reduction and Transfer Program contributed to the boom of the fishing vessel building sector. Some report suggested that the country's price of fishing vessel building price index shot up 20 times between 2006 and 2012 [62]. The fishing fuel subsidy is given to the fishing boats with official fishing permits, and the sum of subsidy corresponds with the horsepower of the vessel (regardless of the actual amount fuel consumed and no matter where the fishing boat goes). The horsepower of the fishing vessel determines the amount of the fisherman's subsidy. To maximize the amount of subsidy, fishermen, supported by banks and other social capitals, invest massively in building bigger fishing vessels [63]. As new fishing permits are tightly controlled by the government, fishermen build bigger ships via purchasing horsepower quotas from their peers. With bigger and better fishing vessels, these fishermen are no longer confined to inshore waters. Instead, they venture further into the seas where fish is still plentiful, be it the disputed waters near the Spratly Islands or the Senkaku/Diaoyu Islands or even other countries' EEZs.

The outward expansion of China's marine fishery sector is also partially due to the fact that the country's efforts to curb overfishing and to protect marine ecology are largely concentrated in its inshore waters. Due to overfishing, pollution and land reclamation, fish stocks in China's traditional fishing grounds are depleted. Seventy percent of China's beach is polluted and 50% of tidal wetlands have disappeared. The Bohai fishing ground, the Zhoushan fishing ground, the fishing ground near coastal waters in the South China Sea and the Beibu Gulf fishing ground now exist in name only. In particular, big fish supply in China's Bohai is almost completely gone and the annual production of small fish is less than 10% of its peak amount [64]. Given that the depletion of fishery resources mainly occurs in inshore waters, China naturally focuses on curbing inshore fishing. Meanwhile, to ensure a stable supply of fishery products and to protect fishermen's livelihood, China encourages its fishermen to venture further into the seas. Xi Jinping, on his visit to Tanmen fishing town in 2013, urged Chinese fishermen men to "build bigger ships and venture even further

into the oceans and catch bigger fish" [65]. Here, venturing further into the oceans largely means offshore fishing in waters near the Spratly Islands and means.

What should also be noted is that fishing in waters near the Spratly Islands does not violate China's South China Sea fishing moratorium. In fact, there is an additional fishing fuel subsidy, called the Spratly Islands Special Fuel Subsidy. In 1999, China introduced the fishing moratorium in the South China Sea. This annual fishing ban lasted from May 16 to August 1, covering areas north of the 12th parallel, including the Scarborough Shoal, but excluding most of the Spratly Islands. Fishing vessels with the Spratly Islands Fishing Permit are not affected by the moratorium. Furthermore, because the Spratly Islands are too distant from the mainland and even China's Hainan Province, China introduced the Spratly Islands Special Fuel Subsidy in 1995 to compensate for high production costs. In those days, fishery resources were still abundant in nearer waters and only very few big ships could sail that far. In recent years, however, as fish stocks in China's inshore waters are depleted and competition is keen, and bigger and more powerful ships are available, more fishermen apply for the Spratly Islands' Fishing Permits to fish in waters near the Spratly Islands. In 2013, China established the "South China Sea Fishery Resources Survey and Evaluation Program" supported by the Special Fiscal Fund. Results from the two years' survey show that there are over 1.8 million metric tons of fishery resources in waters near the Spratly Islands with an annual catchable amount around 500,000 metric tons to 600,000 metric tons, as well as over 20 high-value fishery species [66], a potentially important fishing ground for the Chinese fishermen. At the same time, Southeast Asian countries including Vietnam, Indonesia, and the Philippines are also expanding their fishing operations in the South China Sea. With intensifying competition for limited fishery resources and increasing the likelihood for conflicts, China and the neighboring countries seem to be on a collision course

5. Conclusion and policy recommendation

Although China's Maritime Militia Policy and strategic and political considerations generally have contributed directly and indirectly to the growing presence of Chinese fishermen in disputed waters in the South China Sea and in the East China Sea, it is an overstatement to claim that China is launching a "people's war" at sea. The author has shown that food security and economic factors are in fact the primary drivers for the outward expansion of China's marine fishery sector. With boosting fishery production and economic growth as the overarching objective of China's fishing policy, China's fishing sector has been increasingly victimized by its own success. The rapid development of fishery production has been achieved through overfishing that rapidly depletes fishery resources in China's traditional fishing grounds. China's problematic fishing policies (particularly the Fishing Fuel Subsidy Policy and Maritime Militia Policy) undermine its effort to curb overfishing and continue to spur further expansion of its fishing capacity. Consequently, the overcapacity of China's fishing fleet and depleting fishery resources in China's inshore waters resulted in dramatic structural changes of its marine fishing sector (i.e. a shift from inshore to offshore fishing and DWF expansion). These structural changes bring huge challenges to the fishery sector and regional maritime security.

To ensure peace and stability in the region, China must take steps to prevent and manage maritime incidents involving Chinese fishermen by dealing with the predicament facing its fishing sector. The author has the following policy recommendations:

First, China cannot continue to develop its marine fishery sector with "boosting fishery production and economic growth" as

the overarching principle. Instead, the sustainable fishery must be placed as the top priority which governs the future development of China's fishery sector, and marine fishery in particular.

Next, to meet the country's rising demand for fishery products, China needs to better utilize international fishery resources. First, as China seeks to utilize fishery source food from the high seas and other countries' EEZs to meet its growing food demand, it needs to fully consider the marine ecology, global maritime security, as well as food security concerns of other countries. Second, it is better to utilize international fishery resources by increasing fishery imports. China should cooperate with regional countries to enhance regional fishery trade. Guangxi's proposal to build a China-ASEAN Fishing Corridor in the South China Sea is certainly a welcome move and the establishment of China-ASEAN Marine Product Exchange (CAMPE) in China's Fuzhou city is a good starting point. Third, as the biggest fish farming nation with advanced technological and management know-how, China should strive to work together with other regional countries to promote the development of regional aquaculture as an alternative to meet Asia's rising demand for seafood and to combat over-fishing. Development of aquaculture can also be a solution to Tanmen's giant clam handicraft sector. Giant clam cultivation also has the potential of becoming a principal sector for tropical aquaculture that facilitates the protection of coral reefs as well as the recovery and conservation of the South China Sea ecosystem [67].

Finally, for the purpose of safety and self-defence, the fishermen certainly need to be better organized. Suitable training in safety and security should be provided. The concept of maritime militia, however, needs to be reconsidered. The Maritime Militia Policy incurs far more costs than benefits to China and the region as a whole. Give the tensions brewing in the South China Sea and in the East China Sea, and the strong competition for scarce fishery resources in the region, the concept of Maritime Militia Policy is obsolete and ought to be discarded. Instead, China should take the lead to establish a multilateral fishing management framework to regulate illegal, unreported, and unregulated (IUU) fishing, manage fishing disputes, and prevent fishing incidents from escalating.

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Appendix A. Supplementary material

Supplementary data associated with this article can be found in the online version at <http://dx.doi.org/10.1016/j.marpol.2016.02.018>.

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