The diplomacy of scientific research in the South China Sea: the case of joint oceanographic marine scientific research expedition between Vietnam and the Philippines

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Abstract. The South China Sea is one of the hot-spot areas in the world. This area is claimed by China, Malaysia, Brunei, Taiwan, Vietnam and the Philippines. It also noted, the South China Sea is rich in biodiversity as well as oil and gas. On the other side, environmental degradation is still happening in the South China Sea due to the reluctance of surrounding states to conduct preservation program and mitigating action on climate change effects. Joint Oceanographic Marine Scientific Research Expedition between Vietnam and the Philippines is a breakthrough to start collaboration actions as well as to conduct Science Diplomacy.

1. Introduction
The South China Sea (SCS) is defined by the International Hydrographic Bureau as the semi-enclosed body of water surrounded by China, Taiwan, the Philippines, Malaysia, Brunei, Indonesia, Vietnam, Singapore, Thailand, and Cambodia. It has an area of some 3.3 million km² connecting Pacific and the Indian Ocean. It is also recognized as a Large Marine Ecosystem (LME) having specific characteristics of oceanography, biography, and ecology [1]. There are three groups of islands in the SCS namely Pratas Islands, Paracel Islands, Spratly Islands and one submerged bank called Macclesfield Bank. All things considered, these are tiny islands and mostly uninhabited.

The SCS has at least three significances. The first is sea-lane connecting Southeast and Northeast Asia. More than 41,000 ships a year pass through the SCS. Over half of the world’s annual merchant fleet tonnage passes through the region’s waters. More than 80% of the oil imported by Japan, South Korea, and Taiwan transits through the SCS [2]. The second is known as the world’s highest level of biodiversity. It contains 1,027 fish, 91 shrimp and 73 cephalopod species in the northern part of continental shelf; approximately 205 fish and 96 shrimp species in the continental slope, and more than 520 fish species around the islands and reefs of the southern part [2]. The third is the potential of hydrocarbon, oil, and gas. Based on a survey report conducted by the Chinese Ministry of Geology and Mineral Resources, oil deposit in the SCS has amounted about 130 billion barrels. This amount is comparable to 112 billion barrels for Iraq, which ranks the second of the world oil reserves after Saudi Arabia. China also estimated that SCS had more than 2,000 trillion cubic feet of natural gas reserves [3,4].

Given these significances, sovereignty and jurisdiction over all or part of the SCS are claimed by six states including China, Taiwan, Malaysia, Brunei, Vietnam and the Philippines. Of course, diplomatic debates and military skirmishes among the adversaries occasionally happen. Therefore, the SCS is known as one of the hot-spot places in the world.
Although having rich in biodiversity and uniqueness, the SCS now faces a serious problem relating to the environmental degradation due to pollution and population pressures in surrounding states. This condition is exacerbated by the effects of climate change with rising sea temperatures resulting coral reef damage. Moreover, the SCS is located in conflict areas so that its surrounding states are reluctant to make efforts to preserve the environment and its impacts on climate change.

Vietnam and the Philippines have made a breakthrough in building trust by conducting marine scientific research in the SCS since 1996. This project was named Joint Oceanographic Marine Scientific Research Expedition (JOMSRE). It was hoped that JOMSRE could enrich marine scientific knowledge in the SCS as a foundation to establish cooperation for preserving the environment and mitigating from the damage of climate change. In the long run, collaboration among parties could reduce tension in the SCS.

This article analyzes the effort of Vietnam and the Philippines in managing their dispute through JOMSRE. It is divided into five sections. The first section is introduction then followed by theoretical framework and method as the second and the third section. The fourth section is finding and discussion and the last section is the conclusion.

2. Theoretical framework

2.1 Diplomacy

In general, diplomacy means the conduct of international relations by negotiation rather than by force or applying activities by other peaceful means [5]. If it applies scientific research as a mean, it is called Science Diplomacy. Langenhove [6] indicates three variants of Science Diplomacy, namely Diplomacy for Science, Science in Diplomacy, and Science for Diplomacy. Diplomacy for Science is talking about facilitation of diplomacy tools for scientific collaboration. Science in Diplomacy is concerning scientists’ contribution to support foreign policy. The goal of such diplomacy is to conduct foreign policy through the use of scientific knowledge. Science for Diplomacy means using science or scientific activities to improve relations between states. It can be done when tensions between states are high and they are not able to find a solution. Scientific collaboration is an alternative tool to pave the way to solving the problem. This article is guided by the term of Science for Diplomacy.

2.2 Confidence Building Measure (CBM)

The phenomenon of CBM is not new in security and military studies. Up to now, the term of CBM is applied in non-security studies and even mushroomed in academic literature, it is no single definition of the CBM. Basically, CBM aims to reduce tensions and suspicions between and among adversaries. The United Nations states that the ultimate goal of CBM is “to strengthen international peace and security and to contribute to the development of confidence, better understanding and more stable relations between nations, thus creating and improving the conditions for fruitful international cooperation” [7(p.6)]. To enhance assurance and trustworthiness, it needs concrete measurements such as building communication channels and transparency [8].

3. Method

This article is based on descriptive qualitative method because its aim is to describe certain phenomena. Main data and information are collected through library research. Data are validated by using triangulation technique using sources’ triangulation. The interactive model is applied to data analysis which conclusion is draw from collecting, reducing and displaying data [9].

4. Finding and discussion

JOMSRE was initiated by President of the Philippines Videl Ramos and President of Vietnam Le Dec Anh in 1994. At an international conference on JOMSRE 2008 results, President Ramos said that JOMSRE is an effort to transform SCS into a peaceful and prosperous sea. He further said: "The South
China Sea serves as the unifying element for the better understanding between the Philippines and Vietnam and all other countries in the neighborhood” [10].

The Embryo of JOMSRE is the annual workshop on Managing Potential Conflict in the South China Sea organized by Indonesia since 1990. The workshop is an informal meeting of experts, diplomats, and bureaucrats from the countries surrounding the SCS and attendees present on their personal capacity. The workshop discussed several issues such as marine scientific research and environmental protection. In 1991, the participants of the Workshop launched Bandung Joint Statement essentially recommended the government of each participant to promote the rational utilization of living resources, to protect and preserve the marine environment, and to conduct marine scientific research. The Joint Bandung Statement was later formalized as the code of conduct to reduce tension between Vietnam and the Philippines in 1995 [11].

Meanwhile, the United Nations Convention on Law of the Sea (UNCLOS) in 1994 came into force. In article 123 of the UNCLOS stipulates that: “States bordering an enclosed or semi-enclosed sea should co-operate with each other in the exercise of their rights and in the performance of their duties under this Convention”. They should: To coordinate the management, conservation, exploration, and exploration of the living resources of the sea; To co-ordinate the implementation of their rights and duties with respect to the protection and preservation of the marine environment; To coordinate their scientific research policies and undertake where appropriate joint programs of scientific research in the area; To invite, as appropriate, other interested States or international organizations to cooperate with them in furtherance of the provisions of this article.

Based on the spirit of the Bandung Statement and the UNCLOS, in 1994 the Philippines President Fidel Ramos and Vietnam President Le Duc Anh agreed for both countries to cooperate in marine scientific research and environmental protection in the SCS. The implementation of the agreement was the setting-up of JOMSRE. Therefore, it can be said that JOMSRE is the beginning of formalized cooperation in the South China Sea and management mechanism for marine resources and it is hoped to spill-over to other fields as well as other countries in the SCS [12].

Figure 1. Cruise track of (a) JOMSRE 1, (b) JOMSRE 2, (c) JOMSRE 3 and (d) JOMSRE 4
JOMSRE was begun in 1996 to 2007 and divided into four phases. The first phase was 18 – 09 May 1996, the second phase was 27 May – 2 June 2000, the third phase was 6-19 April 2005, and the fourth phase was 7-12 April 2007. Marine scientists from the two countries were working together cruising various spots in the SCS, especially in the water of Spratly Islands. They studied marine biology, marine geology, marine chemistry, and oceanography. JOMSRE I cruised the South China Sea from Manila to Ho Chi Minh City with focusing on four coral reefs in the Spratly Islands namely Scarborough Shoal, Trident Shoal, Nares Bank, and Menzies Reef. JOMSRE II tracked from Nha Trang in Vietnam to Manila while JOMSRE III started from Subic Bay to Cham Rah Bay with stopping sites in Trident Shoal and North Danger Reef. JOMSRE IV investigated southern part of Spratly Island located in the north of Palawan Island. The following figures show the tracks of JOMSRE expeditions [13].

During cruising and analyzing the finding, JOMSRE concluded firstly that densities and stocks of the marine species associated with coral reefs have been drastically reduced. Secondly, some species of shark were difficult to be found. Thirdly, the biomass of fish species in 2007 has been reduced to one-third compared to 1990s. Fourthly, two-thirds of the fish stock was a decline in 11 years (1996-2007)[14].

Moreover, in March 2006 the Philippines and Vietnam agreed to expand JOMSRE participation to include scientists from other interested States, particularly the ASEAN states surrounding the South China Sea, and China. At the fourth phase, a scientist from Laos participated in this activity.

Data collected and analyzed by JOMSRE, of course, contributed to further understanding of biodiversity, geology, and oceanography of the SCS. It is also important that the result can be used as the scientific basis for cooperative programs such as adaptation and mitigating the impacts of climate change [15], prevention of the impacts of both natural and man-made hazards, and formulation policies to enact sustainable ocean management in the SCS. Through the JOMSRE, cooperation among scientists from adversary states is able to reduce tensions in the SCS dispute.

5. Conclusion
The problem of the phenomenon of international relations is now becoming more complicated, so it is very easy to cause conflict. Therefore, diplomacy activities need to be expanded including conducting collaboration scientific activities. JOMSRE is an example of Science Diplomacy to initiate cooperation in the hot-spot area.

Through cooperation among scientists from various disputing countries, they can build trust and confidence and in the long run, it is essential to reduce suspicion. It is also possible to pave the way for the permanent solution of the dispute.

The most important is the results of JOMSRE that could be developed for further cooperation in preserving the environment of the SCS. It also can be used to plan for mitigating regional action of climate change effect.

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