On 15 May 2014, the Philippines released a series of photographs on China’s land reclamation activities at Johnson South Reef showing the gradual construction of an artificial island. A few months later, similar activities undertaken by China at Gaven Reef, Hughes Reef, Cuarteron Reef, and Fiery Cross Reef, which are all part of the disputed Spratly Islands, circulated in various local and international news agencies. China’s construction of artificial islands in the Spratlys received criticisms particularly from the Philippines, Vietnam, and the United States, creating tensions in the region which, in turn, contributed to the increasing magnitude of challenges that impact on regional security.

The Philippines and the United States raised the issue of China’s construction of artificial islands in the South China Sea in regional discussions through separate proposals of a moratorium or a freeze in specific activities in the South China Sea before the August 2014 ASEAN Regional Forum in Myanmar. China rejected the proposals, while ASEAN Secretary General Le Luong Minh stated that the proposals were not formally discussed by ASEAN Ministers “because there is already a mechanism in place to curtail sensitive actions such as land reclamation and building on disputed islands,” referring to the 2002 Declaration on the Conduct of Parties in the South China Sea. He added “it is up to ASEAN to encourage China to show serious and effective implementation of this commitment, rather than ASEAN asking itself whether it should support or not support the proposal.” Minh’s statements, however, show that he does not dismiss the idea of land reclamation in the disputed South China Sea being a concern that needs to be addressed. He prefers a stricter enforcement of existing agreements, though, rather than introducing new ones.

The paper argues that China’s construction of artificial islands in the South China Sea is a regional concern and not just of a particular country. More than creating ripples among claimants and countries who want to ensure freedom of navigation; it also represents China’s strategic positioning – a show of power in the South China Sea. The author will attempt to explain the legal entitlements of artificial islands, and their impact on the security of the region vis-à-vis their strategic and military significance, especially in the South China Sea, using Stephen Walt’s framing of threat perception. Security is viewed in its comprehensive sense, involving not only the military but also other dimensions of security, such as the environmental, economic, including its human dimension.

Artificial islands in the Spratly

An island, according to the United Nations Convention on the Law of the Sea (UNCLOS), is a naturally formed area of land that is elevated above the surface of the sea, and can sustain human habitation and economic life of its own. On the other hand, the term artificial islands refers to “all man-made structures, installations, and other devices on the seas” that are prima facie not islands.

Specifically, an artificial island is a “man-made alluvion formed by placing soil and/or rocks in the sea in which partakes thus of the ‘nature of territory’. It is a non-naturally-formed structure, permanently attached to the seabed and surrounded by water, which is above water at high tide”. The construction of artificial islands involves creating new land territories that are above sea level by manually depositing sediments. Artificial islands are constructed to avoid taking vital agricultural land for various purposes including urban development, exploration and exploitation of natural resources, transportation and communication, scientific investigation and weather forecasting, recreation, and military installation. It should be noted, however, that not all constructions in the sea...
lead to the creation of artificial islands. For instance, infrastructure above pre-existing naturally-formed piece of land that is always above water, and which does not involve changing or altering the natural configuration of the land territory, is not considered an artificial island.

Most of the construction activities in the South China Sea are done in the Spratly Islands, the southern portion of the South China Sea that consists of a cluster of lands, rocks, reefs, and shoals. China currently occupies 7 features in the Spratly Islands, Malaysia has 8, the Philippines has 9, Taiwan has 1, and Vietnam has the most number of occupied features at 22. Accounts from various scholars, charts, and hydrographic surveys reveal that most of the features in the Spratly Islands are low tide elevations or reefs, including those that are currently under control by a claimant party. A low tide elevation is defined as “a naturally formed area of land which is surrounded by and above water at low tide but submerged at high tide”, while a reef refers to “a mass of rock or coral which either reach close to the sea surface or is exposed at low tide”. A reef can be classified under low-tide elevations if a part of it is exposed at low tide which is called drying reefs. Some of the features in the Spratly Islands that are always above sea level include Itu Aba that is occupied by Taiwan; Thitu, West York, and Northeast Cay that are occupied by the Philippines; and Spratly Island that is occupied by Vietnam. These features are also among the largest naturally formed features in the area.

Some claimant parties in the South China Sea have transformed their occupied features, especially those that are submerged at high tide, into artificial islands in order to make them permanently above sea level, where they can construct structures and install equipment for various purposes. When Malaysia occupied Swallow Reef in 1983, it subsequently turned the reef into an artificial island by “dredging materials to expand Swallow Reef into a cay of 6 hectares, including a 500m airstrip”. Swallow Reef currently houses a “luxurious 90-room dive resort, a Malaysian naval base and a nesting colony for several sea-faring migratory birds.”

Many of Vietnam’s occupied features such as Ladd Reef, Pearson Reef, London Reef, and Discovery Great Reef, among others, are drying reefs which have been turned into artificial islands with concrete structures, gun emplacements, solar panels and piers, light posts, and other equipment. Analysts note, however, that China’s construction of artificial islands is being done more rapidly and in a much larger scale. BBC Journalist Rupert Wingfield-Hayes provided a detailed description of China’s activities at Johnson South (Mabini) Reef: “millions of tonnes of rock and sand have been dredged up from the sea floor and pumped into the reef to form new land. There are cement-pumping trucks, cranes, large steel pipes, and the flash of welding torches.” One of the vessels identified operating at Johnson South Reef is Tian Jing Hao, a 127 meter-long seagoing cutter suction dredger operated by CCCC Tianjin Dredging. It reportedly “deploys a cutter with the power of 4,200 kW to the seabed and deposits the spoil either through pipeline ashore for land reclamation or into hopper barges for dumping offshore.” A visual representation of this process is shown in Figure 1.
The progress of China’s land reclamation at Johnson South Reef is shown in Figure 2. According to the design plans released by China State Building Corporation, a military airbase with an airport, a long airstrip, and a boat harbor is planned for construction after transforming the reef into a 30-hectare land mass.\textsuperscript{18}

Aside from Johnson South Reef, China is also constructing artificial islands at Gaven (Burgos) Reef and Hughes (Kennan) Reef. Gaven Reef initially had a concrete platform on its western side that houses a communication equipment, and anti-air and naval gun systems, until China gradually constructed an artificial island in the area. According to an Airbus Defence and Satellite imagery, between 31 March and 7 August 2014, “a channel was cut out of the centre of Gaven Reef and the resultant rubble deposited to create a rectangular island that is about 300 m by 250 m. Along with a spit that leads to the channel, about 114,000 square meter of new land has been created.”\textsuperscript{19} A comparison of the original structure and the artificial island at Gaven Reef is shown in Figure 3.
China’s dredging operations monitored at Hughes (Kennan) Reef is shown in Figure 4. Excavated materials composed of corals, sand and rocks are reported to be used for reclamation. There is also an increase number of heavy equipment like bulldozers, backhoe, cranes and supply ships sighted around the area.\(^{20}\)

The dredger vessel *Tian Jing Hao* was also monitored operating at Cuarteron Reef and Fiery Cross Reef. In fact, China already expressed its plans to construct a landing strip at Fiery Cross Reef and to reclaim a portion of the sea where a 5 sq km. military base 3 meters above sea level will be constructed.\(^{21}\)

**Legal entitlements of artificial islands**

On the subject of the construction of artificial islands, UNCLOS, universally regarded as the constitution for the oceans, provides only the coastal state the right to establish and use artificial islands, installations, and structures in the exclusive economic zone and the continental shelf.\(^{22}\) The exclusive economic zones of Brunei, Malaysia, the Philippines, and Vietnam overlap on some area of the Spratly Islands as shown in Figure 5, hence, the existence of territorial disputes within the exclusive economic zones. As discussed in the previous section, some claimants in the Spratly Islands have been transforming their occupied features into artificial islands to serve their own purposes.

With regard to maritime entitlements of artificial islands, UNCLOS excludes artificial islands from generating territorial sea rights or other maritime zones because they do not possess the status of islands. An island is capable of generating a 200nm exclusive economic zone, a rock is allowed a maximum of 12nm territorial sea, and low-tide elevations do not generate any maritime zone at all. An artificial island, on the other hand, is only provided a maximum of 500 m safety zone to “ensure the safety both of navigation and of the artificial islands, installations and structures”.\(^{23}\)
The presence of artificial islands also does not affect the delimitation of the territorial sea, the exclusive economic zone, or the continental shelf. Also, artificial islands cannot be considered as ports, which is an integral part of the harbor system that forms part of the coast where the territorial sea is to be delimited. UNCLOS provisions state the limitations with regard to the status of artificial islands under international law. They indicate that artificial islands in the Spratlys can neither be used for maritime delimitation nor can they be used to lay claim to the waters surrounding them beyond 500 m. The Arctic Sunrise case dealt extensively on the issue of artificial islands and installations. The Tribunal ruled in favor of Netherland that Russia should immediately release the vessel and crew members of the Arctic Sunrise that was seized in Russia’s exclusive economic zone. The Court upheld that jurisdiction over artificial islands, installations, and structures apply only within the 500 meter safety zone. Outside the safety zone is the exclusive economic zone, where law enforcement applies only with respect to marine scientific research and fisheries, neither of which is at issue in the Arctic Sunrise case.

Existing state practice also denotes the desire to prevent excessive maritime claims through the construction of artificial islands. For instance, China’s position regarding Japan’s construction of artificial facilities on the Okinotorishima reef is that the reef “will not change its legal status” in the sense of generating an exclusive economic zone. In fact, natural features that are substantially altered may even lose their natural legal status and be treated as artificial islands under UNCLOS. China’s position on the Okinotorishima reef indicates awareness that it cannot use its artificial islands in the Spratlys to generate maritime zones that can be subjected to its sovereign rights and jurisdiction, nor can it use them to justify its nine-dashed line. China’s intention for constructing artificial islands in the Spratlys, therefore, lies in the strategic and military significance of these artificial islands for China.

Military and strategic significance of artificial islands

China has mandated its South Sea Fleet based in Guangdong province to patrol the entire South China Sea from the Taiwan Strait to James Shoal covering the Paracels and Spratly Islands. China has been bolstering the naval and air force capability of its South Sea Fleet to assert its claims in the South China Sea by equipping it with submarines, destroyers, frigates, amphibious vessels, and fighter jets.

In order to accommodate the increasing inventory of its South Sea Fleet, China constructed another naval base at Yalong Bay near the existing Yulin naval base in Hainan. However, the distance from China of Hainan, which houses some of China’s submarines and surface ships from the Spratlys, is 580 miles compared to that of Vietnam’s Cam Ranh base which is only 250 miles, and of the Philippines’ Puerto Princesa base which is 310 miles. This geographical constraint makes it logistically more costly for China to deploy and maintain a large number of military forces and vessels in the South China Sea, hence the construction of a military base in the Spratlys in the South China Sea.

An artificial island in the Spratlys could serve as a permanent and more strategically located military base that can house naval assets from China’s South Sea Fleet, including surface vessels and aircraft. Depending on the capacity of the artificial island, it may also have the potential to support subsurface vessels, including submarines. It can also accommodate military personnel, provide support facilities, and serve as a command center or training ground. An artificial island can also be a more effective “aircraft carrier” because it is unsinkable and can sustain longer operations. This is especially important now that China’s first aircraft carrier is still undergoing sea trials and is vulnerable against Vietnam’s Kilo-class submarines.

Impact of artificial islands on regional security

Security, in general, is the absence of objective dangers such as security threats, challenges, vulnerabilities, and risks. Regional security is defined as “a group of states whose primary security concerns link together sufficiently closely that their national securities cannot realistically be considered apart from one another.” The region under study is primarily East Asia where the South China Sea is located. This study, however, does not exclude countries
that have interests in the region even if they are not geographically located in East Asia.

The Philippines, Vietnam, and the United States expressed serious concern about China’s construction of artificial islands in the Spratlys.

With indirect reference to China during the 69th Session of the United Nations General Assembly, Philippine Foreign Affairs Secretary Albert del Rosario stated,

In the last two years, it has undertaken massive land reclamation activities in Johnson Reef, McKennan and Hughes Reef, Cuarteron Reef and Gaven Reef in the Spratlys. These unilateral activities, among others, form part of a pattern of forcing a change in the maritime status quo in order to advance a so-called nine dash line position, an expansive claim of indisputable sovereignty over nearly the entire South China Sea, which are in contravention of both the 2002 ASEAN-China Declaration on the Conduct of Parties in the South China Sea and UNCLOS. 33

Vietnam claims sovereignty over the entire Spratly Islands which it refers to as Truong Sa archipelago. In response to China’s reclamation activities, Vietnamese Ministry of Foreign Affairs Spokesperson Le Hai Binh stated,

Viet Nam resolutely opposes the above mentioned illegal activities by China and requests China to respect Viet Nam’s sovereignty, strictly implement the DOC, immediately stop the reclamation work that breaks the status quo in the Truong Sa Archipelago, and refrain from the recurrence of such wrongdoings. 34

The United States also criticized China’s activities in the South China Sea. According to Secretary of Defense Chuck Hagel:

In recent months, China has undertaken destabilizing, unilateral actions asserting its claims in the South China Sea. It has restricted access to Scarborough Reef, put pressure on the long-standing Philippine presence at the Second Thomas Shoal, begun land reclamation activities at multiple locations, and moved an oil rig into disputed waters near the Paracel Islands. 35

Australia also expressed support to the Philippine and US proposals of a moratorium on specific activities in the South China Sea. It was stated in the Joint Communiqué issued by Australia and the United States following their 12 August 2014 Ministerial Meeting that the two countries “affirmed their support for a voluntary ‘freeze’ by claimants on activities in disputed maritime areas”. 36

China, on the other hand, has dismissed these concerns. There is nothing irregular in the construction of artificial islands in the Spratlys which it refers to as Nansha Islands, Chinese Foreign Ministry Spokesperson Hua Chunying stated,

China asserts indisputable sovereignty over the Nansha Islands and the adjacent waters, and China’s activities on relevant islands and reefs of the Nansha Islands fall entirely within China’s sovereignty and are totally justifiable. 37

In addition, China argues that criticisms of the international community implies double standard:

Why is it that when other countries wantonly build airports, nobody says a word? But China has only this year started small and necessary construction, to raise living conditions on the islands - and so many people raise doubts. 38

The construction of artificial islands in the Spratlys is not a new phenomenon in the region as discussed in the previous sections. There is, however, a major difference between China’s activities and those of the other claimants. Although Vietnam and Malaysia previously constructed artificial islands, the difference was “they built up on existing natural features above water, whereas China created complete islands where there used to be none”. 39
States respond differently to an issue based on their own perceptions of threat. Stephen Walt identified four factors that affect threat perception which include aggregate power, proximity, offensive capability, and offensive intentions. Aggregate power refers to a state’s total resources, including its military capability. The greater the aggregate power, the greater threat it can pose to others. Proximity is the ability to project power that declines with distance; hence, states that are nearby pose a greater threat than those that are far away. Offensive power and offensive intention relate to how aggressive or expansionist a state appears.40

China’s aggregate power seems to have increased over the years; military spending in 2013 was estimated at $188 billion, from $91 billion in 2008, and $34 billion in 2003, compared to the collective military expenditure by Southeast Asian states to be approximately $35 billion in 2013, $24 billion in 2008, and $14 billion in 2003.41 This huge gap in military capability automatically puts the developing countries, especially those that have claims in the South China Sea, at a position of weakness compared to China. Analysts have concluded that, in fact, China’s economic and maritime power is one of the motivations behind naval modernization in Southeast Asia.42 For example, while one of China’s priorities for its military strategy is a credible sea-based nuclear deterrent involving submarines, naval forces of several states bordering the South China Sea are also being upgraded to significant capabilities to include the use or acquisition of submarines. Singapore, Malaysia, and Vietnam are becoming submarine operators for the first time, Indonesia and Taiwan also have plans to reinvigorate their submarine forces, and Thailand has been showing interest in joining the regional submarine club.43 The Philippines intends to acquire anti-submarine helicopters for its Naval Air Group.

The permanent nature of artificial islands as a land territory can greatly contribute to China’s proximity to the region. Once completed, China will no longer be just an imposing neighbor in the north, but one that is strategically located at the very heart of the areas in dispute, where it could have an enhanced forward presence capability.44 It will be easier for China to access resources in the disputed South China Sea, to gain control of the sea lines of communication, to deploy forces for military operations such as patrol or surveillance activities, or to deny other claimant states freedom of navigation like it did with a Philippine vessel en route to Second Thomas Shoal in March 2014.

Robert Haddick and Peter Ford observe that China’s land reclamation in the Spratly Islands is also a continuation of its “salami-slicing” strategy in the South China Sea – an expansionist strategy described as the slow accumulation of small actions by occupying one reef at a time that results in a major strategic change in the long run.45 In 1994, China occupied Mischief Reef by building temporary wooden structures which it called fishermen shelters. China has been gradually expanding these structures, transforming them into concrete blocks. Mischief Reef currently has a three-story building equipped with radars and other facilities. After the standoff with the Philippines at Scarborough Shoal in 2012, China established permanent presence in the area and prevented Filipinos from entering the shoal. China’s previous activities in the Spratlys show a pattern that has caused anxiety especially for the Philippines; successful reclamation efforts in the Spratlys may also encourage China to do the same in Scarborough Shoal, posing a grave threat to the security of the Philippines as the shoal lies only 220 kilometers from the country’s main coast.

The presence of Chinese vessels in the South China Sea will be a common occurrence especially with the convenience brought by artificial islands in the Spratlys serving as their military base, which would certainly result in a greater sense of insecurity in the region. This sense of insecurity may lead China’s neighbors to increase their naval presence in the South China Sea, resulting in greater risk of accidental conflict that can escalate in a major diplomatic standoff, possibly involving not only parties with territorial and maritime claims in the area but also extra-regional players. Naval modernization in the region also indicate that future conflicts may no longer be limited to surface combat but may also include the use of submarines with nuclear capabilities, especially if these artificial islands are utilized as a submarine base.

**Strategic considerations at the expense of environmental risks: A risk too big to ignore**

More than strategic considerations, artificial islands also pose risks to the marine environment, a danger recognized by international law. In the case of Singapore’s land reclamation in and around the Strait of Johor, the International Tribunal for the Law of the Sea (ITLOS) ruled in 2003, on the request for provisional measures submitted by Malaysia, that
Singapore “shall suspend its current land reclamation activities until it has conducted and published an adequate assessment of their potential effects on the environment and on the affected coastal areas.”⁴⁸ UNCLOS also states that “due notice must be given of the construction of such artificial islands, installations or structures, and permanent means for giving warning of their presence must be maintained.”⁴⁷ Robert Beckman, an expert on UNCLOS, also added that “if a State is planning activities in an area under its jurisdiction and control that may have significant harmful effects on the marine environment of other States, it has a ‘duty to cooperate’ with those States. It must consult the States that might be affected in advance and in good faith”.⁴⁸

Although these legal discussions are based on the assumption that there are no sovereignty disputes involved and that there is a clear determination of jurisdiction over a maritime area (which is not the case in the South China Sea), the argument that the construction of artificial islands pose an environmental threat should not be ignored.

The impact of artificial islands on the environment varies depending on the locality or characteristic or the composition of the marine environment where the artificial island is constructed. However, a common effect of artificial island construction based on the scientific study conducted on The Palm Islands in Dubai (and was also specified by ITLOS on the Malaysia- Singapore case) was marine pollution. Land reclamation causes siltation or pollution of the water that increases the turbidity or the cloudiness or haziness of the water adjacent to the construction zone that affects marine wildlife. Dredging operations for the construction of artificial islands may also damage coral reefs that would negatively affect the underwater ecosystem. Moreover, dredging operations result in the substantial re-suspension of finer sediments that causes smothering and death of organisms living in the bottom of the sea.⁴⁹

An interference with the natural processes of the marine environment such as the construction of artificial islands may, in one way or another, have spillover effects particularly on biodiversity and food security, affecting the entire region especially the littoral states, including China.

The South China Sea is linked to four semi-enclosed seas and large marine ecosystems including the Yellow Sea, East China Sea, Sulu-Sulawesi Sea and Indonesian Sea, an area where the highest marine biodiversity in the world in terms of marine fish species diversity and hard coral species diversity are found.⁵⁰ It is also connected to the Gulf of Tonkin and the Gulf of Thailand. Countries in Northeast Asia and Southeast Asia are among the largest producers of captured fish in the world for export production and domestic consumption.⁵¹ An interference with the natural processes of the marine environment such as the construction of artificial islands may, in one way or another, have spillover effects particularly on biodiversity and food security, affecting the entire region especially the littoral states, including China.

Hence, the construction of artificial islands is a regional concern and not only to claimant parties but to the region as well. China, in fact, should also be concerned because these artificial islands may have military and strategic utility but they also compromise the other aspects of its security and damage its relations with its neighbors. Amid the issue of China’s construction of artificial islands in the Spratlys, the Philippines decided to halt its plans to rehabilitate its airstrip in Pag-asa Island to contribute to the easing tensions in the disputed area. However, without the collective will of all parties in the dispute to ease tensions, mistrust and insecurity will continue to hound the region.

The Association of Southeast Asian Nations (ASEAN), has repeatedly called on all parties to undertake full and effective implementation of the Declaration on the Conduct of Parties in the South China Sea (DOC-SCS) and the early conclusion of a legally binding Code on Conduct (COC) at the July 2014 20th EU- ASEAN Ministerial Meeting, August 2014 47th ASEAN Foreign Ministers’ Meeting, August 2014 21st ASEAN Regional Forum, November 2014 25th ASEAN Summit, and November 2014 9th East Asia Summit. These reiterations indicate that ASEAN recognizes that the issue of the South China Sea is not only between China and some ASEAN member states, but of the region as a whole.

But pushing for effective implementation of the DOC-SCS is not enough, ASEAN should also include in the proposed COC the identification of the types of activities that parties should undertake in order not to complicate or escalate disputes, which can also serve as basis for a more concrete definition of self-restraint for adoption in a binding COC.

Conclusion

China has been constructing artificial islands in the Spratlys to expand the land mass of the features that it currently occupies with which it can exercise effective occupation and assert its sovereignty claims. Artificial islands in the Sprat-
lys also have military and strategic significance for China, allowing them forward-presence capability and the conduct of sustained operations in the South China Sea where it claims indisputable sovereignty. In terms of maritime entitlements, however, artificial islands cannot generate any maritime zone except for a 500 m safety zone. They also cannot affect the delimitation of the territorial sea, the exclusive economic zone, or the continental shelf.

The construction of artificial islands in the South China Sea generated a sense of insecurity among China’s neighbors especially when its aggregate power, proximity, and assertiveness in the South China Sea are taken into account. Moreover, dredging operations and land reclamation as part of the process in constructing artificial islands destroy the marine environment which is a significant component of food security among many countries in both Northeast and Southeast Asia, including China.

The situation in the South China Sea cannot be treated merely as a bilateral issue between disputing countries because the extent and gravity of its implications are trans-boundary, requiring multilateral solution. The challenge is for ASEAN to exercise leadership in ensuring that everybody shares the responsibility of maintaining peace, stability, and security in the region.

Endnotes

2. Ibid.
3. UNCLOS, Art. 121 (1)
5. Papadakis, N. (1977); p. 6
6. Papadakis, p. 11-35
8. UNCLOS, Art. 13
10. Ibid.
22 UNCLOS, Arts. 56 and 79.
23 UNCLOS, Art. 60.
24 Ibid.
25 UNCLOS, Art. 11.
27 Keyuan, Z., 2011.
28 Ibid.
30 Ibid.
44 From discussions with Capt. Teddy Quinzon, Director of the Office of Naval Strategic Studies, Philippine Navy. The statement indicated was his personal assessment and not an official position of the Philippine Navy.
46 Order of the International Tribunal for the Law of the Sea on the Case Concerning Land Reclamation by Singapore in and around the Strait of Johor, 8 October 2003.
47 UNCLOS, Art. 60 (3).
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