



Island Development and Reclamation: A Comparative Study of the Activities of China, Vietnam, and the Philippines

By Serafettin Yilmaz / *Issue Briefings*, 8 / 2015

Beijing's land reclamation and buildup activity has been the target of much criticism, but most analyses fail to take into account the greater historical context and inherent differences in national capabilities.

The dispute over the maritime features and boundaries in the South China Sea (SCS) has taken a new turn after China launched a comprehensive island genesis program around seven reefs and rocks in the Spratly archipelago (*Nansha Qundao*) in 2014. Vietnam and the Philippines, the holders of the greatest number of islands and sea features in the Spratlys, have vehemently opposed China's construction efforts because they feared it helped China reinforce its territorial claims and change the status quo in the region without challenging their possessions directly. The Chinese government, however, has



stressed that its reclamation and buildup policy has been peaceful and development-oriented.

China's island development activities have encouraged greater intervention by the U.S. and its regional allies. Washington has vowed to increase air and sea patrols around the areas claimed by China. Ignoring Beijing's protests, the U.S. flew reconnaissance aircraft near the islands where construction work was underway. Japan, in the meantime, sought comprehensive military-to-military relationships with Vietnam and the Philippines and [referred explicitly to the SCS dispute in its defence white paper](#) for 2015.

This study examines island reclamation and buildup in the Spratlys by Vietnam, the Philippines and China. In this paper, 'reclamation' refers to any kind of effort to enlarge or turn rocks, atolls and other maritime features into islands that remain fully above water at high tide and allow for construction. 'Buildup,' on the other hand, refers to the development of infrastructure that help sustain civilian and military activity on the reclaimed islands. These structures range from waste management, accommodation units and health services to ports, air strips, light houses and radar facilities.



This analysis finds that every claimant in the SCS, except Brunei, has been involved in land reclamation and development. China is, in fact, a latecomer, although the scale and pace of its island buildup program dwarfs that of Vietnam and the Philippines. Therefore, unless one does not delve into debating intentions, what really separates China from the rest of the disputants are its economies of scale and immense engineering and logistical capacity.

Vietnam

Vietnam is the largest holder of islands among the claimants to the Spratlys, administering 29 islands and reefs first occupied between the early 1970s and early 1990s. The country has [pursued a two-layered strategy to reinforce its defensive posture](#) in the region. The strategy included, first, setting up “defensive positions comprising habitable and permanent defensive structures which can also serve in battle, forming a strategic defensive infrastructure” and, second, “establishing military outposts and guard houses on stilts, to widen the area of defense.” This enabled Vietnam to station permanent troops on the islands. According to [Vietnamese Defense Secretary Phung Quang Thanh](#), “Vietnamese troops were stationed on nine ‘floating islands’ and 12 ‘submerged islands’.”



Vietnam also took symbolic steps to reiterate its sovereignty over the Spratlys, including organizing [promotional cruises to the contested islands](#). For example, in recent months, the government offered 180 Vietnamese a trip to see parts of the archipelago, experience night fishing and enjoy the local seafood.

While the Vietnamese government sought to rally the United States, Japan and ASEAN against China's construction activity, it has also received calls to restrain its own program. Hanoi responded by [arguing that it did not work to expand the islands](#) but only “conducted consolidation on the islands under Vietnam's sovereignty,” hence “the scope and characteristic of our work is purely civilian.”

However, new satellite images tell otherwise. While the scale and pace are much less than that of China, Vietnam is seen to have been continuously engaged in land reclamation on its holdings in South China Sea. For instance, [images released by Digital Globe](#) indicate that significant land expansions took place at Sand Cay (*Đảo Sơn Ca*) and West London Reef in the Spratlys.

Between August 2011 and February 2015, the land mass of [Sand Cay expanded](#) from about 40,000 to over 60,000 square meters (sq/m). Upon Chinese government reaction to the



construction work, Vietnam [maintained that the reclamation and buildup was for peaceful purposes](#). Sand Cay Island is now furnished with a surveillance facility, new bunkers and heliport. Artillery positions were added on the northwestern part of the island and the construction of a pier is underway (Figure 1).



Figure 1. Sand Cay (*Đảo Sơn Ca*) (Source: CSIS/Digital Globe, 2015)

Another land feature, West Reef (*Đá Tây*) in the western Spratlys, grew from 12,595 sq/m to 77,596 sq/m, adding about 60,000 sq/m of land. Also, new structures, including a harbor, gun trenches and multi-story military facilities, have been under construction (Figure 2). According to the [CSIS report](#), the construction likely started in August 2012, long before Beijing's own island genesis program.



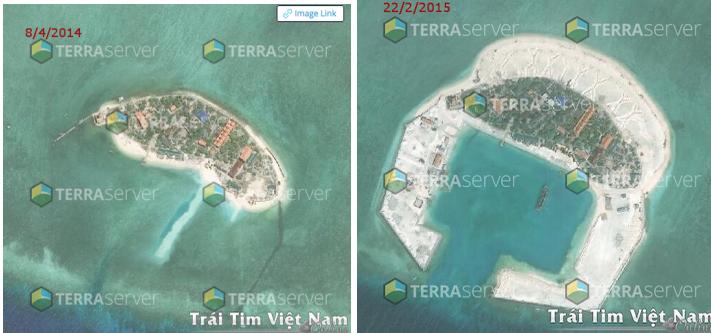
Figure 2. West Reef (*Đảo Đá Tây*) (Source: CSIS, 2015)

Pearson Reef (*Đảo Phan Vinh*) has grown more than four times bigger than its original size as a result of extensive land reclamation activity (Figure 3). The darker area represents the original island while the rest is artificially built.



Figure 3. Pearson Reef (*Đảo Phan Vinh*) (Source: Digital Globe, 2015)

Extensive land reclamation and buildup has been underway on Sin Cowe Island (*Đảo Sinh Ton*) as well. The island now appears to have a port and other facilities. Figures 4 and 5 demonstrate the progress in land reclamation between 2011 and 2015.



Figures 4 and 5: Sin Cowe Island (*Đảo Sinh Tồn*) (Source: timawa.net, 2014 and 2015)

Southwest Cay (*Đảo Song Tử Tây*) is another reclaimed and fortified island in the Spratlys. Originally occupied by the Philippines, the island was taken by force in 1973 by South Vietnam. Since then, the Vietnamese government has built a fortified inlet, an army garrison as well as a number of support buildings. (Figure 6)



Figure 6: Southwest Cay (*Đảo Song Tử Tây*) (Source: mottheqioi.vn, 2013)

The Philippines

The Philippines' island reclamation and buildup activity, although it also predates China's, is much smaller in scale than that of Vietnam or China. Currently occupying eight islands in the Spratlys, the country has permanent military presence on Thitu Island (*Pagasa*), which was the second largest in the region before China launched its own island development program. (Figure 7)

Although Manila has opposed from the beginning China's island development efforts in the Spratlys and actually filed a case with the Permanent Court of Arbitration at The Hague to decide [what features can be deemed as islands](#) and thus entitled



with to an exclusive economic zone (EEZ), it has been engaged in island reclamation and buildup since the 1970s.

Initially, in order to support the January 2013 arbitration complaint filed against China, Manila announced in October 2014 that it had halted all development work on its occupied sea features in the South China Sea. However, some analysts later acknowledged that the arbitration case might have actually encouraged and sped up [reclamation activities](#) by the parties to the dispute, and the Philippines might end up being on the losing side. Hence, in view of the continuing activities by Vietnam, Taiwan and others, the Philippine government said it [planned to resume its construction work](#), arguing that “the works, including repairs to an airstrip, did not violate an informal code of conduct in the South China Sea because they would not alter the status quo in the disputed area.”

Also, Manila announced recently its intention to [turn some of the Spratly islands into tourist sites](#) by launching ferry services and building civilian structures. These moves are clearly an attempt to reinforce sovereignty over the disputed features and gain a stronger foothold in the region.

With a land size of 0.372 sq. km, Thitu Island (*Pagasa*) is equipped with a number of [military structures](#), including a barracks, a 4200m runway built on reclaimed land and a



telecommunications base. Renovation and buildup plans, including airstrips and naval ports, are reported to be in the pipeline on several other islands.



Figure 7: Thitu Island (*Pagasa*) (Source: Digital Globe, 2013)

China

China administers seven islands in the SCS, less in number than either Vietnam or the Philippines. Prior to early 2014, Beijing had not yet engaged in any island development activity in the Spratlys. However, although a latecomer, China's island genesis scheme has proven to be multi-dimensional. Thanks to the nation's extensive logistics and engineering expertise and capability, the pace and scale of development has outpaced the rest of the claimants in less than two years.



China's island reclamation and buildup program involves both military and non-military components. Apart from improvements to the living conditions of personnel deployed on the islands, the non-military aspect includes scientific research, marine tourism, education, and emergency response and rescue. In June 2015, Beijing [unveiled a comprehensive development scheme](#) “for civil-use construction projects on its islands in the South China Sea.” To this end, it plans to construct “a batch of facilities for telecommunication, navigation, environmental monitoring, disaster relief, transportation and production, and logistical support.” Among these proposed facilities are lighthouses on international shipping lanes, maritime security and communication centers, meteorological stations, research units and facilities for disaster relief and support as well as “shelter, maintenance and repair services to ships passing by.” Beijing also plans to construct “a large scale medical and emergency center ... to satisfy future medical needs, alongside wastewater and garbage processing facilities.”

The work for two lighthouses has begun on Cuarteron Reef (*Huáyáng Jiāo*) and Johnson South Reef (*Chìguā Jiāo*). (Figures 8 and 9) These facilities are designed to provide assistance in marine navigation, warn of submerged rocks and



complement global positioning systems, including China's indigenous Beidou Navigation Satellite System. Satellite images show other structures on Cuarteron Reef, mostly still under construction, including a tall building and a port. Featured on Johnson South Reef are radar facilities, a 3000 sq/m harbor, a large military facility, renewable energy (wind and solar) and storage systems.





Figure 8: Cuarteron Reef (*Huáyáng Jiāo*) (Source: Digital Globe, 2015)



Figure 9: Johnson South Reef (*Chiguā Jiāo*) (Source: South China Research Forum, 2015)

The [construction of a number of facilities](#) on Fiery Cross Reef (*Yǒngshǔ Dǎo*) has also been underway, including a 3,100m-long and 50m-wide airstrip accompanied by an apron and taxiway that can accommodate large aircraft. (Figure 10) Originally a reef, the island is now the second largest in the Spratlys. The harbor area to the northeast of the island is over 630,000 sq/m with a number of temporary loading piers. Spread across the island are two helipads, satellite communication antennas and what looks like a radar tower. The size of the island is estimated to be 2.79 km².



Image via Victor Robert Lee &
DigitalGlobe



Fiery Cross Reef,
South China Sea
13 July, 2015



该图由 联合作战司令部 上传至 超级大本营军事论坛 CJDby.NET 版权归原作者所有



Figures 10 and 11: Fiery Cross Reef (*Yǒngshǔ Dǎo*) (Source: Digital Globe, 2015 and South China Research Forum)

On Mischief Reef (*Měiji Jiāo*) and Subi Reef (*Zhǔbì Jiāo*), currently first and third largest islands in the Spratlys, respectively, reclamation activity appears to be catching up with the earlier works carried out on five other reefs. Satellite images suggest that extensive work is going on with a number of buildings, deep harbors, and airstrips being constructed on both islands. Judging by the speed and scale of development, Meiji Island is likely to reach an over 5 sq/km land area, perhaps serving in the future as China's Diego Garcia in the South China Sea. (Figures 12 and 13) Subi's area, on the other hand, is now estimated to stand at 3.87 sq/km with extensive build up work. The island's northwestern segment can accommodate an airstrip more than three kilometers long. (Figure 14)



Figures 12 and 13: Mischief Reef (*Měiji Jiāo*) (Source: South China Research Forum, 2015)

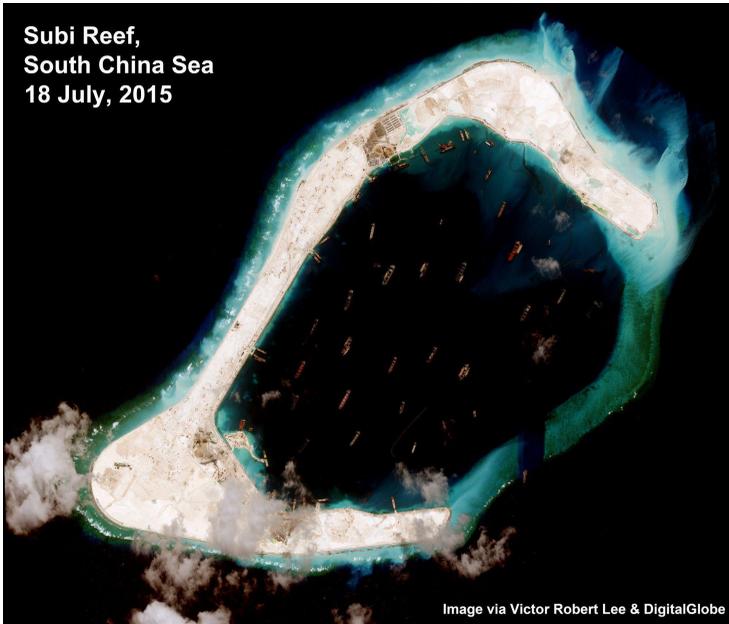


Figure 14: Subi Island (*Zhǔbì Jiāo*) (Source: Digital Globe, 2015)

Analysis of the Findings

This brief analysis finds that the three vocal actors in the SCS territorial disputes have all been involved in island reclamation and buildup work although the timeframe, scale and pace of their efforts are not uniform. Certain classifications can therefore be made as to who had the head start advantage or whose reclamation efforts have produced a larger land area so far. It appears that, in spite of their strong objections and attempts to mobilize international opinion against China's



construction activities in the Spratly Islands, both Vietnam and the Philippines have not entirely halted their own reclamation and buildup programs. In fact, “Between 2009 and 2014, [Vietnam was the most active claimant](#) in terms of both outpost upgrades and land reclamation, reclaiming approximately 60 acres.” China, in the meantime, has underlined the civilian, scientific and assistive aspects of its own endeavors, ignoring objections from the US, Vietnam and the Philippines.

Beijing has been [criticized for its maritime civil engineering project](#) on the grounds that it changes the status quo in the region and is not proportional to what the other nations’ own reclamation activities have yielded. This argument, however, is problematic. For one, no set of rules exists regarding how much reclamation is acceptable. Hence, there is hardly any reason why the response should be proportional or, in the absence of a global benchmark, why a country should allow others to set the rules of proportionality.

Then it is problematic to urge China not to mobilize its engineering and logistics capacity in proportion to its national economy. Suggesting that China should limit its reclamation and buildup efforts in line with those of smaller countries is akin to maintaining that powerful countries should not have



armed forces larger than those of smaller countries. International relations simply do not function that way.

It follows that, to achieve a certain consensus on basic rules and norms, all related parties need to bring their words in line with their actions to a greater degree. Recently, Beijing [announced that it had almost completed the dredging and island-manufacturing operations](#) while other claimants, specifically [Vietnam](#) and [the Philippines](#), continue with their own development and fortification programs. Such moves might lead to another round of reclamation by Beijing.

Currently, Vietnam and the Philippines appear to be testing regional geopolitical situation by simultaneously continuing to invest in the development of islands they occupy and opposing Beijing's own construction work and trying to rally global opinion in their favor. If they are able to continue with island construction regardless of China's reservations, then Hanoi and Manila might view this as a U.S. check on Beijing and pursue further reclamation and buildup with immunity. Yet, if China responds further by developing its own holdings despite U.S. duress, this may indicate the extent of help Vietnam and the Philippines might get from Washington in the event of a more serious confrontation with China.



To conclude, international (namely, U.S. and Japanese) reactions to recent developments in the SCS are problematic since they fail to take the larger historical context into account (e.g., [lack of attention to smaller but similar reclamation and military construction efforts](#) over the years by Vietnam, the Philippines and others) and attempts to judge Beijing's actions by its perceived intentions. Beyond the freedom of navigation rhetoric (no Chinese actions thus far have disrupted shipping activities in the region), the major concern for the U.S. appears to be related to the possibility that the newly constructed and fortified islands might eventually enable China to extend its defensive capabilities at the cost of U.S. military dominance.

Obviously, uneven national capabilities lead to differing results for each actor in terms of their SCS reclamation and buildup activities. However, inviting external intervention into the dispute for balancing will hardly be constructive or help change the power dynamics between the primary regional actors. Non-regional interference leads to overcrowding and further complicates the problem. The dispute needs to be negotiated by the related parties. ASEAN+1, for instance, might provide a viable institutional framework to moderate and manage the dispute. In this regard, the [ninth Senior Officials' Meeting](#) on the Implementation of the Declaration on the



Conduct of Parties in the South China Sea held in July 2015 is a positive step toward a regional solution.

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