



Breakthrough in Growing Crops on China's South China Sea Outposts

OE Watch Commentary: Chinese media recently announced a breakthrough in cultivating crops on China's island and reef outposts in the South China Sea. The new plot for vegetables is on Woody Island, the seat of the Sansha Prefecture that covers all of the South China Sea and the most densely populated of the islands and reefs.

Chinese history includes examples of cultivating crops at military outposts for logistical and political reasons as early as the Western Han dynasty (206 BCE – 9 CE). This “Tuntian System” [屯田制] employed farmers, soldiers, and merchants to help settle border areas while providing fresh food to military outposts. These agricultural communities sprung up around the watchtowers of border fortifications protecting China from invasions from the North and settling portions of Xinjiang in the west.

In more modern times, the PLA was regarded as a “productive force” and expected to engage in civilian works projects and agriculture. These tasks have been decreased to make room for the demands of training for modern warfare, but it is common to see small garden plots supporting military bases.

In the South China Sea, developing fresh sources of vegetables has a more directly significant role. The conditions at these outposts and their distance from the mainland has led to a higher incidence of various illnesses. Some are the result of the harsh environment but others are related to poor diet, which can be addressed through access fresh produce. As noted in the accompanying article, the islands of the Paracels (the archipelago in the northern half of the South China Sea), have long relied entirely on food shipped in from the mainland.

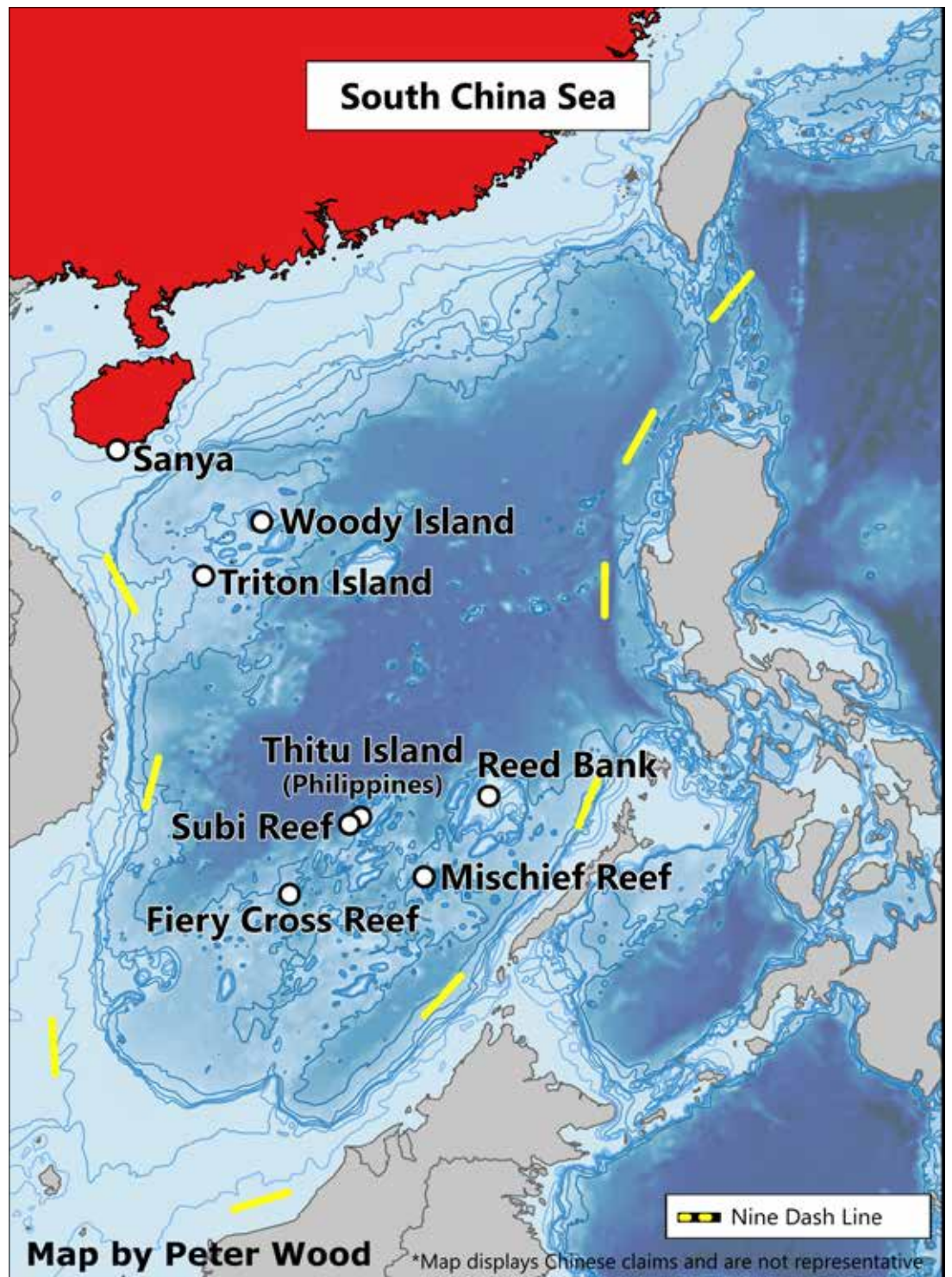
However, these outposts are tiny dots in a vast space: the Sansha prefecture established in July 2012 and which covers all of China's claims in the South China Sea, has only 1,800 residents (not including military personnel) in 2 million square kilometers. Supplying these islands and reefs—some hundreds of kilometers apart—is a real challenge.

According to a garrison member, due to the strong sunlight, the vegetables grow quickly and each half mu (a Chinese unit of measurement), or 333 square meters, yields 750kg of vegetables.

Test cultivation of vegetables on Woody Island began in 2007, and the various garrisons subsequently built small greenhouses on Duncan Island [琛航岛] and other islands. The breakthrough is in a mix of additives that allow the island sea sand to be used directly, rather than importing soil from the mainland.

While the addition of fresh vegetables and a small reduction in logistics support is certainly a benefit, there are also legal implications that may be a consideration for growing the crops. Article 121 of the United Nations Convention on the Law of the Sea (UNCLOS) for example, includes the line that “Rocks which cannot sustain human habitation or economic life of their own shall have no exclusive economic zone or continental shelf.” Growing the crops may help cement China's legal claims.

In April, the Chinese State Council further formalized its administrative rule over the South China Sea, establishing the Xisha (Paracel) [西沙岛礁] and Nansha (Spratley) Districts under the Sansha Prefecture. Xisha is administered from Woody Island [永兴岛] and Nansha from Fiery Cross Reef [永暑礁]. Tourism has been opened to Woody Island in another bid to formalize China's presence on these islands. If possession is nine-tenths of the law, then increasing the capacity to feed the population occupying these islands and reefs will be an important step in China's plan to cement control over its claims in the South China Sea. **End OE Watch Commentary (Wood)**





Continued: Breakthrough in Growing Crops on China's South China Sea Outposts

“The cultivation test was a success, hopefully resolving our shortages of fresh vegetables for military personnel and civilians on the island.”

Source: “Zhang Qingbao [张庆宝], Chen Zhufei [陈竹飞], “海军西沙某水警区向科技要保障力, 着力破解岛礁大面积种植绿化难题 (Navy Maritime Garrison Looks to Science and Technology to Improve Support, Crack the Largescale greenification problem),” *PLA Daily*, 6 June 2020. http://www.81.cn/jfjbmap/content/2020-06/06/content_263145.htm

In late May, PLA personnel of the maritime garrison had their first successful harvest of cabbages, bok choy and other vegetables in a test field along the white beach of Sansha City on Woody Island [永兴岛].

The leaders of the maritime garrison told reporters: “the cultivation test was a success, hopefully resolving our shortages of fresh vegetables for military personnel and civilians on the island.”

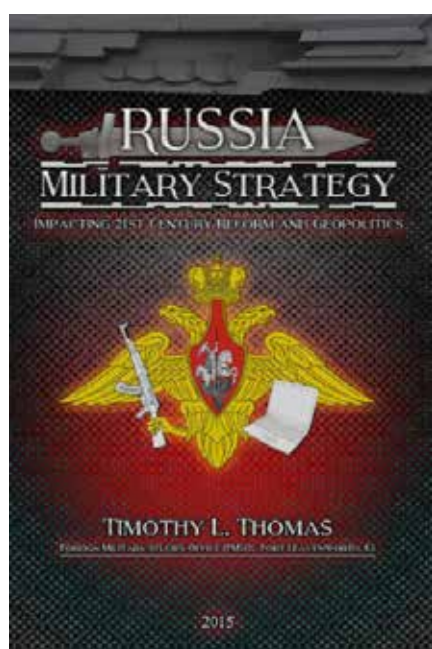
The islands and reefs of the Paracels’ high salinity, humidity and temperatures have meant that access to fresh vegetables has been a major problem for military personnel. Since the 1970s those stationed there have essentially relied on supplies shipped in.

“In the past, sea weed, glass noodles, tofu skin or pumpkin were the main dishes for meals in the Paracels. Since personnel lack access to fresh vegetables, without nutritional supplements they are vulnerable to various ulcers and related illnesses.

On Triton Island [中建岛], Master Sergeant Class 3 Qiu Hua [邱华], who has served as part of the island garrison for more than 20 years, explained, to improve the environmental conditions on the islands personnel have brought soil from the mainland. While they have grown Chinese spinach, peppers and other vegetables, the yields were not particularly great.

Sand on the reefs in the Paracels is unlike that in the desert; the granules are large and contain high levels of salt and is alkaline. After more than four months of efforts, the scientific research team as able to make a breakthrough in turning a beach into a usable field.

In early April, working under the guidance of the research team, the garrison personnel transformed the beach into a form suitable for cultivating vegetables. Mixing a plant fiber material with sea sand, combined with watering and addition of fertilizer, can achieve similar results to normal soil.



RUSSIA MILITARY STRATEGY: IMPACTING 21ST CENTURY REFORM AND GEOPOLITICS by TIMOTHY L. THOMAS

Russian military’s main tasks are to maintain the combat readiness of the Armed Forces and to ensure the Russian Federation’s defensive capability. Russia’s military heritage will assist this process tremendously. Combat readiness includes updated strategic thought, new equipment revelations, and future-war projections. Defensive capability includes not just protecting Russia’s territory, but also the security of the nation’s national interests and conduct of geopolitics. Capturing the essence of these developments is the goal of this book. In the process a few templates for understanding Russian military thought and actions are offered for further consideration and use.

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