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China Maritime Report No. 12: Sansha City in China's South China Sea Strategy: Building a System of Administrative Control

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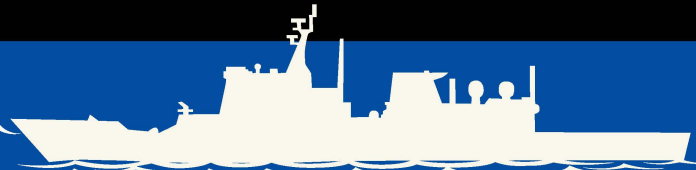
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Summary

China established Sansha City in 2012 to administer the bulk of its territorial and maritime claims in the South China Sea. Sansha is headquartered on Woody Island. The city's jurisdiction includes the Paracel Islands, Zhongsha Islands, and Spratly Islands and most of the waters within China's "nine-dash line." Sansha is responsible for exercising administrative control, implementing military-civil fusion, and carrying out the day-to-day work of rights defense, stability maintenance, environmental protection, and resource development. Since 2012, each level of the Chinese party-state system has worked to develop Sansha, improving the city's physical infrastructure and transportation, communications, corporate ecosystem, party-state institutions, and rights defense system. In effect, the city's development has produced a system of normalized administrative control. This system ultimately allows China to govern contested areas of the South China Sea as if they were Chinese territory.

Key Findings

- Sansha is responsible for administering China's maritime and territorial claims in the South China Sea on a day-to-day basis from the front lines of the disputes.
- Sansha's physical infrastructure, transportation, communications, economy, party-state institutions, and defense capabilities form a unified system that continuously strengthens the city's capacity to exercise administrative control over contested areas of the South China Sea.
- The city uses civilian-administrative means, including maritime law enforcement and maritime militia operations, rather than military force to advance China's position in the South China Sea disputes.
- The development of Sansha is gradually civilianizing and institutionalizing China's efforts to control the South China Sea, providing a mechanism to govern contested areas as if they were Chinese territory.
- The city's development aligns closely with China's broader strategy in the South China Sea, which aims to consolidate China's claims while deterring other states from strengthening their own claims. This strategy relies on China Coast Guard (CCG) and maritime militia operations backed by the People's Liberation Army (PLA) Navy.
- Military-civil fusion is the guiding principle of the city's development, which ensures that all aspects of Sansha's development ultimately serve China's sovereignty and security interests.
- Improvements to Sansha's physical infrastructure and transportation, including the construction of a smart microgrid on Woody Island, allow Woody Island and other occupied features to accommodate a growing number of military, civilian, and law enforcement personnel and guarantee the continuous operation of important facilities.
- The development of the city's communications infrastructure enables local leaders to monitor and govern vast swathes of contested maritime space with ease.
- Sansha's leaders have systematically mobilized private and state-owned enterprises in support of nearly every aspect of the city's daily operations and long-term development.

- The expansion of the city's party-state institutions allows municipal authorities to directly govern contested areas of the South China Sea and ensures the primacy of Chinese Communist Party (CCP) interests in local decision-making.
- To defend China's maritime rights and interests, the city created Sansha Comprehensive Law Enforcement (SCLE), a maritime law enforcement force, and established a new maritime militia force. Sansha has integrated both forces into its military, law enforcement, and civilian joint defense system. Using these capabilities, local leaders physically assert Sansha's jurisdiction at the expense of China's neighbors and coordinate joint operations with the CCG.
- Sansha's system of normalized administrative control is currently strongest in the Paracel Islands. Despite the continuing influence of the central bureaucracies, CCG, and PLA, elements of this system also exist in the Spratly Islands and show signs of expanding.

Introduction

On June 21, 2012, the Ministry of Civil Affairs announced that China's State Council had approved the creation of Sansha City (三沙市), a new prefecture-level city in Hainan province.¹ The city was officially established a month later on July 24.² Sansha is physically headquartered on Woody Island in the Paracel Islands and maintains a number of settlements throughout the South China Sea.³ The city's jurisdiction includes the "islands and reefs" and "sea areas" of the Paracel Islands, Spratly Islands,⁴ and so-called Zhongsha Islands (中沙群岛).⁵ These three regions constitute the bulk of China's territorial and maritime claims in the South China Sea.⁶ In total, Sansha supposedly governs over 280 islands, shoals, reefs, and other features and their surrounding waters, amounting to roughly two million square kilometers (800,000 square miles) of sea and land.⁷ See **Figure 1**, below.

Since 2012, the development of Sansha City has consolidated China's position in the South China Sea disputes,⁸ helping to transform China's otherwise tenuous claims into tangible reality. Once a remote outpost, Woody Island has become a bustling hub of activity thanks to the efforts of China's central bureaucracy, Hainan province, and the municipal party-state. The island now boasts expanded port infrastructure,⁹ seawater desalination and sewage treatment facilities,¹⁰ new public housing,¹¹ a

¹ 民政部关于国务院批准设立地级三沙市的公告 ["Ministry of Civil Affairs Announcement on State Council Approving Establishment of Prefecture-Level Sansha City"], 中国政府网 [China Government Net], 中国政府网, June 21, 2012, <https://perma.cc/3Q23-SQGA>.

² 王晖余 [Wang Huiyu], 三沙市成立大会暨揭牌仪式在西沙永兴岛隆重举行 ["Sansha City Establishment Assembly and Unveiling Ceremony Solemnly Held on Paracel Islands Woody Island"], 中国政府网 [China Government Net], July 24, 2012, <https://perma.cc/88HK-223P>.

³ 傅勇涛 [Fu Yongtao], 海南三沙市渔民党员已覆盖所有设社区岛礁 ["Hainan Sansha City Fishermen and Party Members Already Cover All Island and Reef Communities"], 中国政府网 [China Government Net], June 30, 2014, <https://perma.cc/VX7Q-M23T>.

⁴ "Ministry of Civil Affairs Announcement on State Council Approving Establishment of Prefecture-Level Sansha City."

⁵ The "Zhongsha Islands" encompass Macclesfield Bank and Scarborough Shoal.

⁶ China also claims the Pratas Islands (东沙群岛), which do not fall within Sansha's jurisdiction. See 中华人民共和国领海及毗连区法 ["Law of the People's Republic of China on the Territorial Sea and the Contiguous Zone"], 中国人大网 [China National People's Congress Net], <https://perma.cc/6PS9-R72M>.

⁷ 三沙概况 ["Sansha Overview"], 三沙市人民政府网 [Sansha City People's Government Net], <https://perma.cc/Y229-DKBH>.

⁸ For more on the consolidation of China's claims in the South China Sea, see M. Taylor Fravel, "China's Strategy in the South China Sea," *Contemporary Southeast Asia* 33, no. 3 (2011), pp. 293, 297; Andrew Chubb, "Chinese Popular Nationalism and PRC Policy in the South China Sea" (PhD diss., The University of Western Australia, 2016), p. 89; Michael B. Petersen, "The Chinese Maritime Gray Zone: Definitions, Dangers, and the Complications of Rights Protection Operations," in *China's Maritime Gray Zone Operations*, eds. Andrew S. Erickson and Ryan D. Martinson (Annapolis, MD: Naval Institute Press, 2019), p. 20; Greg Poling, "Beijing's South China Sea strategies: consolidation and provocation," *East Asia Forum*, March 28, 2014, <https://www.eastasiaforum.org/2014/03/28/beijings-south-china-sea-strategies-consolidation-and-provocation/>.

⁹ 王子谦 [Wang Ziqian] and 王晓斌 [Wang Xiaobin], 三沙市永兴综合码头一期交付使用 ["Sansha City Yongxing Integrated Wharf First Phase Delivered for Use"], 中国新闻网 [China News Net], July 18, 2013, <https://perma.cc/TJ3U-E8RW>.

¹⁰ 宋国强 [Song Guoqiang], 海南永兴岛污水处理及管网工程已投入使用 ["Hainan Woody Island Sewage Processing and Pipe Project Already Put Into Use"], 中国经济网 [China Economy Net], July 11, 2013, <https://perma.cc/J4KZ-KSZC>; 三沙市长: 永兴岛 1000 吨海水淡化工程已经完工 ["Sansha Mayor: Woody Island 1,000-ton Seawater Desalination Project Already Completed"], 新浪网 [Sina Net], March 15, 2016, <https://perma.cc/PB6X-HZQT>.

¹¹ 宋国强 [Song Guoqiang], 海南三沙市公用住房 7 月交付使用 总投资 1870 万 ["Hainan Sansha Public Housing Delivered for Use in July, Total Investment 18,700,000"], 中国新闻网 [China News Net], June 17, 2014, <https://perma.cc/2E6N-AWWB>; 永兴岛上的“王府井”! 这条商业街仅用三天建成 ["Woody Island's 'Wangfujing!' This Business Street Only Took Three Days to Complete"], 海外网 [Overseas Net], September 5, 2016, <https://perma.cc/8PEW-S5G2>.

functioning judicial system,¹² 5G network coverage,¹³ a school,¹⁴ and regular charter flights to and from the mainland.¹⁵ Beyond Woody Island, the city has expanded physical infrastructure and party-state institutions throughout the Paracel and Spratly Islands.¹⁶ As the city developed these other islands and reefs, leaders promoted further activity across Sansha's jurisdiction, developing tourism in the Paracel Islands,¹⁷ attracting hundreds of newly registered companies,¹⁸ cultivating aquaculture,¹⁹ and encouraging long-term residency.²⁰

Central, provincial, and municipal authorities have also invested in Sansha City's capacity to defend China's maritime rights and interests (海洋权益),²¹ security, and sovereignty. Sansha has expanded its law enforcement and maritime militia forces,²² hosted a People's Liberation Army (PLA)

¹² 宋起来 [Song Qilai], 三沙市三沙群岛人民法院首次在永兴岛审理案件 [“Sansha City Sansha Islands People's Court Hears First Case on Woody Island”], 中国新闻网 [China News Net], June 4, 2015, <https://perma.cc/P979-4MBF>.

¹³ 阮强 [Ruan Qiang] and 乔光伟 [Qiao Guangwei], 中国电信开通海南三沙市永暑礁、永兴岛 5G 基站 [“China Telecom Opens Hainan Sansha City Fiery Cross Reef and Woody Island 5G Base Stations”], 凤凰网 [ifeng Net], July 25, 2019, <https://perma.cc/H2MB-ZK4Y>.

¹⁴ 洪媛媛 [Hong Yuanyuan], 中国最南端学校三沙市永兴学校建成投入使用(图) [“China's Southernmost School Sansha City Yongxing School Completed and Put Into Use (Pictures)”], 新浪网 [Sina Net], December 14, 2015, <https://perma.cc/DUJ4-W3K3>.

¹⁵ 陈欣 [Chen Xin], 三沙开通民航公务包机航班 学者：定期民用航线将成可能 [“Sansha Opens Civil Aviation Official Business Charter Flights, Scholar: Regular Civil-Use Routes Will Become a Possibility”], 新华网 [Xinhua Net], December 23, 2016, <https://perma.cc/8896-HQN7>.

¹⁶ 赵叶苹 [Zhao Yeping], 三沙创新方法建强基层守护祖国南大门 [“Sansha's Innovative Method to Build a Grassroot Guarding the Motherland's Southern Gate”], 新华网 [Xinhua Net], December 22, 2016, <https://perma.cc/UR2R-CAXG>; 周元 [Zhou Yuan], 岛礁党旗别样红 [“Islands and Reefs Party Flags are a Special Kind of Red”], 海南日报 [Hainan Daily], July 24, 2015, <https://perma.cc/HDF7-KZZD>.

¹⁷ 谢文卿 [Xie Wenqing] and 高华 [Gao Hua], 西沙旅游航线开通六年累计航行逾 460 航次 [“Xisha Tourism Route Open for Six Years Accumulated 460 Voyages”], 新浪网 [Sina Net], April 27, 2019, <https://perma.cc/Y8UZ-FAWW>.

¹⁸ 廖飞菲 [Liao Feifei], 三沙局创新征管方式以网路代马路 [“Sansha Bureau Innovative Collection and Management Method Replaces Roads with the Internet”], 国家税务总局海南省税务局网 [State Taxation Administration Hainan Province Taxation Administration Net], June 4, 2019, <https://perma.cc/2WGC-SE59>.

¹⁹ 夏冠男 [Xia Guannan], 三沙经济加快 注册企业破百家 [“Sansha's Economy Accelerates, Registered Companies Break 100”], 三沙市人民政府网 [Sansha City People's Government Net], January 15, 2016, <https://perma.cc/3BZL-8NNF>.

²⁰ 高鹏 [Gao Peng], 鼓励渔民常住岛礁！每年住满 180 天三沙市政府给补贴 [“Encourage Fishermen to Permanently Reside on Islands and Reefs! Every Year Living 180 Days Sansha City Government Provides Subsidy”], 凤凰网 [ifeng Net], November 23, 2015, <https://perma.cc/BV4E-GC4W>; 陈蔚林 [Chen Weilin], 陈际阳委员建议：完善三沙市居民和工作人员补贴机制 [“Committee Member Chen Jiyang Recommends: Complete Sansha City Residents and Work Personnel Subsidy Mechanism”], 海南省人民政府网 [Hainan Province People's Government Net], February 12, 2014, <https://perma.cc/V6W7-LGZ6>.

²¹ In the South China Sea, several different types of maritime claims constitute China's maritime rights and interests, namely those involving sovereign territorial seas and internal waters, exclusive economic zone and continental shelf rights, historic rights, and the regulation of military activities. See Chubb, “Chinese Popular Nationalism and PRC Policy in the South China Sea,” p. 45; Isaac B. Kardon, “Maritime Rights and Interests,” Asia Maritime Transparency Initiative, July 16, 2015, <https://amti.csis.org/maritime-rights-and-interests/>; Fravel, “China's Strategy in the South China Sea,” pp. 293-296.

²² 中国三沙市综合执法船联合海警驱离一侵权外国渔船 [“China's Sansha City Comprehensive Law Enforcement Ship Unites With Coast Guard to Drive Away an Infringing Foreign Fishing Boat”], 新浪网 [Sina Net], December 18, 2015, <https://perma.cc/UL4Q-48KC>; 吴绍渊 [Wu Shaoyuan], 吴绍渊：三沙市的特殊性日渐凸显 [“Wu Shaoyuan: Sansha's Peculiarity is Becoming More Prominent”], 中国军网 [China Military Net], April 14, 2014, <https://perma.cc/RT56-Z6RQ>.

garrison,²³ and established a joint defense command center to integrate military, maritime law enforcement, and maritime militia operations.²⁴ It has also promoted military-civil fusion (军民融合),²⁵ built maritime surveillance systems,²⁶ and mobilized companies to support the city's rights defense mission.²⁷ These initiatives all underscore the strategic significance of the city's development.

This report argues that the development of Sansha City has created a system of normalized administrative control in the South China Sea. Sansha exercises “administrative control” in the sense that the city uses ostensibly civilian means to control contested maritime space and territory.²⁸ This administrative control is “normalized” because the city governs these contested areas on a day-to-day basis from the front lines of the South China Sea using processes and institutions imported from party-state governance on the mainland. Sansha's leaders have built a “system” of normalized administrative control in that the city's physical infrastructure and transportation, communications, corporate ecosystem, party-state institutions, and rights defense system are interdependent and mutually reinforcing. These various components form a unified system that continuously strengthens Sansha's capacity to exercise administrative control over contested areas of the South China Sea.²⁹

Sansha City's system of normalized administrative control aligns closely with China's broader strategy in the South China Sea. This strategy aims to “consolidate China's claims” and “deter other states from strengthening their own claims,”³⁰ an approach that relies on China Coast Guard (CCG) and maritime militia operations backed by the PLA Navy.³¹ In coordination with the CCG and the PLA,³² Sansha's leaders oversee the daily minutiae of strengthening China's grip over occupied

²³ 王洪山 [Wang Hongshan] and 曾政雄 [Ceng Zhengxiong], 中央军委批复同意组建三沙警备区 为正师级单位 [“Central Military Commission Approves and Agrees to Organize Sansha Garrison, Is a Division-Level Unit”], 中国网 [China Net], July 23, 2012, <https://perma.cc/XT74-6WWB>.

²⁴ 三沙军警民联防指挥中心开工 [“Sansha Military, Law Enforcement, and Civilian Joint Defense Command Center Starts Construction”], 凤凰网 [ifeng Net], July 26, 2015, <https://perma.cc/F4ZU-HXZF>.

²⁵ 游苏杭 [You Suhang], 肖杰: 军民融合是三沙发展的必由之路 [“Xiao Jie: Military-Civil Fusion is the Only Way for Sansha's Development”], 新华网 [Xinhua Net], March 13, 2016, <https://perma.cc/FG8U-RAWT>.

²⁶ 侯坤 [Hou Kun], 信息化民兵哨所落户南海岛礁 [“Informatized Militia Post Set Up on South China Sea Island-Reef”], 中国军网 [China Military Net], June 30, 2015, <https://perma.cc/D7RB-LLJZ>.

²⁷ Zachary Haver, “Sansha City and Corporate Activity in the South China Sea,” Asia Maritime Transparency Initiative, September 22, 2020, <https://amti.csis.org/sansha-city-and-corporate-activity-in-the-south-china-sea/>.

²⁸ This includes the use of maritime law enforcement and maritime militia operations.

²⁹ For example, the municipal party-state relies on maritime law enforcement operations to physically govern the maritime space within its jurisdiction. At the same time, Sansha's maritime law enforcement forces depend on the municipal party-state for guidance, infrastructure, and other resources. As such, even seemingly benign improvements to Sansha's bureaucratic capacity ultimately help the city exert administrative control over the South China Sea.

³⁰ Fravel, “China's Strategy in the South China Sea,” pp. 293, 299-310.

³¹ Ryan Martinson, “Echelon Defense: The Role of Sea Power in Chinese Maritime Dispute Strategy,” China Maritime Studies Institute, 2018, <https://digital-commons.usnwc.edu/cmsi-red-books/15/>; Conor M. Kennedy and Andrew S. Erickson, “China Maritime Report No. 1: China's Third Sea Force, The People's Armed Forces Maritime Militia: Tethered to the PLA,” China Maritime Studies Institute, 2017, <https://digital-commons.usnwc.edu/cmsi-maritime-reports/1/>.

³² 王蓓蓓 [Wang Beibei], 三沙市春节拥军慰问团赴湛江慰问部队官兵 [“Sansha City Spring Festival Supporting the Military Greeting Group Goes to Zhanjiang to Greet Unit Officers and Soldiers”], 三沙市人民政府网 [Sansha City People's Government Net], June 1, 2020, <https://perma.cc/9QLT-HZRU>; 刘超 [Liu Chao], 三沙市创建第十一届全国双拥模范城纪实 [“Sansha City Founding 11th National Double Support Model City Records”], 海南日报 [Hainan Daily], September 25, 2020, <https://perma.cc/8B5C-YW56>; 缪影影 [Mou Yingying], 三沙综合执法局与海南海警签执法协作协议 [“Sansha Comprehensive Law Enforcement Bureau and Hainan Coast Guard Sign Law Enforcement Coordination Agreement”], 中国网 [China Net], March 26, 2015, <https://perma.cc/9BMX-BH85>; 刘操 [Liu Cao], 2015 年度三沙热点

features and precluding other claimants from operating freely within contested waters. This arrangement delegates a significant level of authority to the local party-state, placing the city's civilian leaders in charge of managing contested areas on a day-to-day basis.³³ In effect, the development of Sansha is civilianizing and institutionalizing China's efforts to control the South China Sea, providing China a mechanism to govern the South China Sea as if it were Chinese territory.³⁴

Leveraging publicly available Chinese-language sources,³⁵ this report provides a comprehensive account of Sansha City's development of a system of normalized administrative control.³⁶ It comprises three main sections. The first section details how the Chinese party-state system articulates Sansha's role in the South China Sea. The second section provides an overview of Sansha's development, focusing on the city's physical infrastructure and transportation, communications, corporate ecosystem, party-state institutions, and rights defense system. The third section analyzes Sansha's investments in smart microgrid technology as a case study of the city's development.

新闻评出：永兴学校建成等入选 [“2015 End of Year Sansha City Special Interest News Review: Yongxing School Completed, etc., Selected”] 三沙新闻网 [Sansha News Net], January 5, 2015, <https://perma.cc/EF3S-WRGE>; “China's Sansha City Comprehensive Law Enforcement Ship Unites With Coast Guard to Drive Away an Infringing Foreign Fishing Boat.”

³³ Currently, Sansha's system of normalized administrative control is strongest in the Paracel Islands. Though the central bureaucracies, CCG, and PLA are likely still dominant in the Spratly Islands, elements of the city's system of normalized administrative control also exist in the Spratly Islands—and show signs of expanding. This being said, the extent of the city's role in the Spratly Islands remains unclear, as reliable publicly available information on China's activities in the Spratly Islands is scarce.

³⁴ Notably, this approach allows China to gradually dominate the South China Sea without the use of military force and without risking war with its neighbors.

³⁵ Specifically, this report synthesizes information gathered from local government bulletins, Chinese-language news articles, central and provincial party-state documents, satellite imagery, photographs, videos, corporate data, company documents, bidding records, patents, and other sources.

³⁶ This report is not the first attempt to study Sansha City. Scholars and analysts have produced a number of useful studies on this subject. However, previous contributions are generally limited by a narrow focus on specific areas of Sansha's development and do not exploit the full range of existing publicly available information. For example, see Audrye Wong, “More than Peripheral: How Provinces Influence China's Foreign Policy,” *The China Quarterly* 235 (2018), 735-757; Xue Gong, “The Role of Chinese Corporate Players in China's South China Sea Policy,” *Contemporary Southeast Asia* 40, no. 2 (2018), 301-326; Conor M. Kennedy and Andrew S. Erickson, “Riding a New Wave of Professionalization and Militarization: Sansha City's Maritime Militia,” Center for International Maritime Security, September 1, 2016, <http://cimsec.org/riding-new-wave-professionalization-militarization-sansha-citys-maritime-militia/27689>; Ian Rowen, “Tourism as a Territorial Strategy in the South China Sea,” in *Enterprises, Localities, People, and Policy in the South China Sea*, eds. Jonathan Spangler, Dean Karalekas and Moises Lopes de Souza (London: Palgrave Macmillan, 2018), 61-74; Shinji Yamaguchi, “Creating Facts on the Sea: China's Plan to Establish Sansha City,” *Asia Maritime Transparency Initiative*, April 17, 2017, <https://amti.csis.org/chinas-plan-establish-sansha-city/>; Mingjiang Li, “Hainan Province in China's South China Sea Policy: What Role Does the Local Government Play?” *Asian Politics & Policy* 11, no. 4 (2019), 623-642; Kevin Carrico, “Seeing Sansha: The Political Aesthetics of a South China Sea Settlement,” *Critical Inquiry* 46, no. 3 (2020), 646-664.



Figure 1. Map of the South China Sea region³⁷

Conceptions of Sansha City's Role

This section examines how central, provincial, and municipal authorities conceptualize Sansha City's strategic role in the South China Sea. The Chinese Communist Party (CCP) Central Committee, State Council, and Central Military Commission and their subordinate organs guide and support Sansha's development, providing funding, backing projects, and crafting policies.³⁸ In turn, officials and organs at the provincial and municipal levels implement central priorities and formulate their own

³⁷ Created using Google Earth.

³⁸ 罗保铭在三沙市成立大会暨揭牌仪式上的讲话 [“Luo Baoming Gives Speech at Sansha City Establishment Assembly and Unveiling Ceremony”], 人民网 [People Net], July 25, 2012, <https://perma.cc/4Y75-AYE5>; 关于将三沙市后续各项建设纳入国家计划和财政预算继续给予支持的建议 [“Recommendations on Incorporating Follow-Up Projects Construction into National Planning and Financial Budgets to Continuously Provide Support”], 海南省人大常委会 [Hainan Province People's Congress Standing Committee], March 15, 2013, <https://perma.cc/7JAE-G4XT>; 关向东 [Guan Xiangdong] and 王子谦 [Wang Ziqian], 三沙市八大基础设施项目获中央支持 总投资超百亿 [“Sansha City Eight Major Infrastructure Projects Received Central Support, Total Investment Surpasses Ten Billion”], 中国新闻网 [China News Net], November 2, 2012, <https://perma.cc/3PYP-7PJA>; 中共中央办公厅 国务院办公厅印发《国家生态文明试验区（海南）实施方案》 [“CCP Central Committee General Office and State Council General Office Publish ‘National Ecological Civilization Experimental Zone (Hainan) Implementation Plan’”], 中华人民共和国国家发展和改革委员会 [PRC National Development and Reform Commission], May 12, 2019, <https://perma.cc/2KYT-3Q2G>.

policies.³⁹ At the same time, city officials appear to work alongside PLA personnel and central officials stationed on Mischief Reef, Subi Reef, and Fiery Cross Reef in the Spratly Islands.⁴⁰ As such, a variety of different central, provincial, and local interests influence the city's role.⁴¹

Despite the diverse range of interests involved, the Chinese party-state system has produced several coherent conceptions of Sansha City's role in the South China Sea. Officials' speeches, party-state documents, and other authoritative sources indicate that the city is responsible for exercising administrative control, implementing military-civil fusion, and overseeing the day-to-day work of rights protection, stability maintenance, environmental protection, and resource development. That each level of the Chinese party-state agrees on Sansha's role is significant for two reasons. First, this consistency suggests that the rapid development of Sansha amounts to more than just local or provincial opportunism. Second, it indicates that the Chinese party-state system sees the city's activities as more than just a sideshow to CCG and PLA Navy operations. In other words, the various levels of the party-state system view Sansha's administrative role as a valuable component of China's strategy in the South China Sea.

Administrative Control

Central, provincial, and municipal authorities agree that Sansha City is responsible for strengthening China's administrative control over the South China Sea. After the Ministry of Civil Affairs announced China's plan to establish Sansha, a Ministry of Civil Affairs spokesperson stated that the establishment of Sansha would adjust and improve China's "administrative management" over the Paracel Islands, Spratly Islands, Zhongsha Islands, and their surrounding waters.⁴² During Sansha's founding ceremony on July 24, 2012, Hainan's party secretary stated that Sansha's "sacred duty" includes the "administrative management" of the city's islands, reefs, and waters.⁴³ In the years since the city's establishment, municipal officials have repeatedly discussed Sansha's efforts to improve "normalized control" (常态化管控) over the waters of the South China Sea.⁴⁴ According to these

³⁹ 海南省国民经济和社会发展第十三个五年规划纲要 ["Hainan Province National Economic and Social Development 13th Five-Year Plan Outline"], 中华人民共和国国家发展和改革委员会 [PRC National Development and Reform Commission], January 2016, <https://perma.cc/9U5R-NRPS>; 关于加快推进南沙渔业健康养殖的建议 ["Recommendations for Accelerating the Promotion of Nansha Fisheries Healthy Aquaculture"], 海南省人民政府网 [Hainan Province People's Government Net], 2018, <https://perma.cc/74UP-TRAZ>.

⁴⁰ 关于开通海口-南沙政务包机的建议 ["Recommendations On Opening a Haikou-Nansha Official Business Charter Plane"], 海南省人民政府网 [Hainan People's Government Net], 2018, <https://perma.cc/L3GY-5DBR>.

⁴¹ In a study of how center-local relations affect Chinese foreign policy, Audrye Wong provides evidence of provincial and local actors shaping what ultimately becomes China's South China Sea policy. Likewise, Mingjiang Li suggests that provincial and local actors influence China's South China Sea policy. Xue Gong notes similar dynamics regarding the role of central state-owned enterprises. See Wong, "More than Peripheral: How Provinces Influence China's Foreign Policy;" Li, "Hainan Province in China's South China Sea Policy;" Xue, "The Role of Chinese Corporate Players in China's South China Sea Policy."

⁴² 民政部发言人就国务院批准设立地级三沙市答问 ["Ministry of Civil Affairs Spokesperson Answers Questions on the State Council's Approval of Establishing a Prefecture-Level Sansha City"], 中国政府网 [China Government Net], June 21, 2012, <https://perma.cc/J9BM-5592>.

⁴³ "Luo Baoming Gives Speech at Sansha City Establishment Assembly and Unveiling Ceremony."

⁴⁴ For example, see 李学山 [Li Xueshan], 三沙市拘留(看守所)所开工建设 可羁押 56 人 ["Sansha City Detention Facilities (Guarded Facilities) Construction Starts, Can Detain 56 People"], 人民网 [People Net], July 25, 2015, <https://perma.cc/MRC7-37ZR>; 点击三沙市政府工作报告关键词 ["Click Sansha City Government Work Report Key Words"], 热备资讯 [Rebei Zixun], March 25, 2015, <https://perma.cc/M8T4-LA3C>; 王晓斌 [Wang Xiaobin], 三沙市推动军警民联防机制 构建三线海上维权格局 ["Sansha City Promotes Military, Law Enforcement, and Civilian Joint Defense Mechanism, Constructs Three-Line Maritime Rights Defense Structure"], 人民网 [People Net], November 22, 2014, <https://perma.cc/CD6V-UL7J>; 傅勇涛 [Fu Yongtao], 三沙走在南海维权第一线 ["Sansha Goes to the Front Lines

authorities, strengthening normalized control involves building up maritime law enforcement capacity,⁴⁵ developing surveillance and command platforms,⁴⁶ improving party-state governance,⁴⁷ constructing detention facilities,⁴⁸ and promoting fishing in contested areas.⁴⁹

Military-Civil Fusion

Each level of the Chinese party-state claims that Sansha City is obligated to synthesize military and civilian resources to defend China's sovereignty and security interests. During the city's establishment ceremony, a Ministry of Civil Affairs official read out the State Council document that approved the creation of Sansha, thereby revealing the center's expectations for the city.⁵⁰ First, the State Council instructed Sansha to "put defending national sovereignty and security in a prominent position."⁵¹ Second, the State Council called for the city to "earnestly implement national defense requirements, attend to both the military and civilians [军民兼顾], and combine peace and war [平战结合] in the construction of all things."⁵² Finally, the State Council commanded the city to "realize the coordinated development of national defense construction and economic construction."⁵³

Provincial and municipal officials have affirmed this view of Sansha City's role.⁵⁴ For example, during Sansha's founding ceremony, Hainan's party secretary gave a speech that laid out his vision for the city.⁵⁵ In his remarks, Luo Baoming (罗保铭) confirmed the province's dedication to implementing the center's priorities and indicated that Hainan would strive to build Sansha into an "important base" for defending sovereignty in the South China Sea.⁵⁶ To this point, Luo emphasized the significance of "accelerating military-civil fusion-style construction and development."⁵⁷ Notably, in suggesting that the military and civilians should "cooperate to defend and build a beautiful Sansha," Luo posited a defense responsibility for civilians and a development responsibility for the military.⁵⁸ In the years since, Sansha's leaders have consistently referenced the city's defense

of South China Sea Rights Defense"], 国际先驱导报 [International Herald Leader], July 28, 2014, <https://perma.cc/RHR4-4GMT>; 刘碧瑶 [Liu Biyao], 三沙市长肖杰: 改善民生是三沙发展的重中之重 ["Sansha City Mayor Xiao Jie: Improving the People's Livelihood is the Highest Priority of Sansha's Development"], 人民网 [People Net], July 24, 2014, <https://perma.cc/B3EK-F26H>; "Recommendations for Accelerating the Promotion of Nansha Fisheries Healthy Aquaculture;" 三沙五年规划: 引进新邮轮参与西沙旅游 ["Sansha Five Year Plan: Introduce New Cruise Ships to Participate in Xisha Tourism"], 上观新闻 [Shanghai Observer], December 8, 2016, <https://perma.cc/N7CF-JTVT>.

⁴⁵ "Click Sansha City Government Work Report Key Words."

⁴⁶ Wang, Sansha City Promotes Military, Law Enforcement, and Civilian Joint Defense Mechanism, Constructs Three-Line Maritime Rights Defense Structure."

⁴⁷ Liu, "Sansha City Mayor Xiao Jie: Improving the People's Livelihood is the Highest Priority of Sansha's Development."

⁴⁸ Li, "Sansha City Detention Facilities (Guarded Facilities) Construction Starts, Can Detain 56 People."

⁴⁹ "Recommendations for Accelerating the Promotion of Nansha Fisheries Healthy Aquaculture."

⁵⁰ 宁远 [Ning Yuan], 国务院: 三沙应把维护国家主权和安全放突出位置 ["State Council: Sansha Should Put Defending National Sovereignty and Security in a Prominent Position"], 人民网 [People Net], July 24, 2012, <https://perma.cc/MC9K-VEQF>.

⁵¹ Ibid.

⁵² Ibid.

⁵³ Ibid.

⁵⁴ "Luo Baoming Gives Speech at Sansha City Establishment Assembly and Unveiling Ceremony;" 宁远 [Ning Yuan], 肖杰: 设立三沙市是党中央国务院的英明决策 ["Xiao Jie: Establishing Sansha City is the CCP Central Committee and State Council's Wise Policy Decision"], 人民网 [People Net], July 24, 2012, <https://perma.cc/8UAY-NPSW>.

⁵⁵ "Luo Baoming Gives Speech at Sansha City Establishment Assembly and Unveiling Ceremony."

⁵⁶ Ibid.

⁵⁷ Ibid.

⁵⁸ Ibid.

mission and discussed military-civil fusion as a guiding principle,⁵⁹ ensuring that all aspects of the city's development ultimately contribute to China's sovereignty, security, and national defense objectives.⁶⁰

Rights Defense, Stability Maintenance, Environmental Protection, and Resource Development
Central, provincial, and municipal authorities also agree that Sansha City is responsible for managing a range of day-to-day responsibilities in the South China Sea. With support from Hainan and the center, Sansha is tasked with constructing infrastructure, improving transportation and communications, building party-state institutions, defending China's maritime rights and interests, protecting the environments of occupied islands and claimed waters, improving living conditions on occupied features, ensuring access to electricity and fresh water, mobilizing companies and attracting investment, and developing the South China Sea's resources.⁶¹ The most prominent articulation of these day-to-day responsibilities is the principle of “*weiquan, weiwen, baohu, kaifa*” (维权、维稳、保护、开发).⁶² Associated with Sansha City since its earliest days,⁶³ this slogan refers to “rights defense, stability maintenance, environmental protection, and resource development.”

Each level of the Chinese party-state has voiced support for the “rights defense, stability maintenance, environmental protection, and resource development” concept.⁶⁴ Notably, CCP General

⁵⁹ Zhao, “Sansha's Innovative Method to Build a Grassroot Guarding the Motherland's Southern Gate;” You, “Xiao Jie: Military-Civil Fusion is the Only Way for Sansha's Development;” 彭子娥 [Peng Zi'e], 张军赴三沙警备区调研 [“Zhang Jun Goes to Sansha Garrison for Investigation”], 三沙市政府网 [Sansha City People's Government Net], April 18, 2019, June 4, 2019 <https://perma.cc/WH4L-DAZD>; 关向东 [Guan Xiangdong] and 王子谦 [Wang Ziqian], 三沙投资两亿元加快军民融合 [“Sansha Invests 200 Million Yuan to Accelerate Military-Civil Fusion”], 凤凰网 [ifeng Net], November 22, 2016, <https://perma.cc/JZ57-ACGW>; 杜颖 [Du Ying], 三沙推动军民融合式发展 争创“全国双拥模范城” [“Sansha Promotes Military-Civil Fusion-Style Development, Strives to Create a ‘National Double Support Model City’”], 南海网 [Hinews Net], July 24, 2015, <https://perma.cc/HUL6-W99W>.

⁶⁰ Liu, “Sansha City Founding 11th National Double Support Model City Records;” Wang, “Sansha City Spring Festival Supporting the Military Greeting Group Goes to Zhanjiang to Greet Unit Officers and Soldiers;” 努力谱写军民融合式发展新篇章 [“Strive to Write a New Chapter in Military-Civil Fusion-Style Development”], 三沙市人民政府网 [Sansha City People's Government Net], October 19, 2015, <https://perma.cc/R99M-FJAD>.

⁶¹ “Hainan Province National Economic and Social Development 13th Five-Year Plan Outline;” Ning, “Xiao Jie: Establishing Sansha City is the CCP Central Committee and State Council's Wise Policy Decision;” “Luo Baoming Gives Speech at Sansha City Establishment Assembly and Unveiling Ceremony;” 美丽篇章藉春风——习近平总书记考察海南纪实 [“Beautiful Chapter by Spring Breeze - - General Secretary Xi Jinping Inspects Hainan Record”], 中国共产党新闻网 [CCP News Net], April 13, 2013, <https://perma.cc/TBA2-G6B5>.

⁶² For example, see 购买公共服务提升居民幸福指数 [“Purchasing Public Services to Improve Residents' Happiness Index”], 三沙市人民政府网 [Sansha City People's Government Net], January 7, 2015, <https://perma.cc/Z358-J7LY>; 王子谦 [Wang Ziqian], 三沙市设市三周年 多项基础设施工程开竣工(图) [“Sansha City 3rd Anniversary of the City's Establishment, Multiple Infrastructure Projects Started and Finished (Pictures)”], 凤凰网 [ifeng Net], July 25, 2015, <https://perma.cc/9XUH-83QD>; Zhao “Sansha's Innovative Method to Build a Grassroot Guarding the Motherland's Southern Gate;” 关于支持三沙市实施境外公司注册登记的建议 [“Recommendations on Supporting Sansha City to Implement Offshore Company Registrations”], 海南省人民政府网 [Hainan Province People's Government Net], 2018, <https://perma.cc/R3PY-DE2B>; Liao, “Sansha Bureau Innovative Collection and Management Method Replaces Roads with the Internet;” 洪媛媛 [Hong Yuanyuan], 邓忠会见平安集团党委副书记杜鹏一行 [“Deng Zhong Meets with Pingan Group Party Committee Deputy Secretary Du Peng”], 三沙市人民政府网 [Sansha City People's Government Net], September 30, 2020, <https://perma.cc/XX4T-G8T7>.

⁶³ “Luo Baoming Gives Speech at Sansha City Establishment Assembly and Unveiling Ceremony.”

⁶⁴ “Beautiful Chapter by Spring Breeze - - General Secretary Xi Jinping Inspects Hainan Record;” “Luo Baoming Gives Speech at Sansha City Establishment Assembly and Unveiling Ceremony;” 彭子娥 [Peng Zi'e], 肖杰:加强从严治党 推进三沙维权建设发展 [“Xiao Jie: Strengthen Strict Governance over the Party, Promote Sansha Rights Defense Construction and Development”], 人民网 [People Net], December 21, 2016, <https://perma.cc/WLE3-GX7A>.

Secretary Xi Jinping endorsed the idea soon after coming into power.⁶⁵ While inspecting Hainan in April 2013, Xi signaled keen interest in the city's development and emphasized that "accelerating the construction of Sansha City is the important duty of the Hainan province party committee and provincial government."⁶⁶ To this point, Xi specifically instructed the province to "carry out the important mission of rights protection, stability maintenance, environmental protection, and resource development in the South China Sea that the center entrusted."⁶⁷ The language of "rights defense, stability maintenance, environmental protection, and resource development" also aligns closely with the wording of China's "maritime great power" (海洋强国) concept.⁶⁸

This slogan paints a precise picture of Sansha City's role in the South China Sea. It defines the city's responsibilities in terms of four specific missions:

1. Rights defense refers to asserting China's maritime claims in contested waters. As China's vanguard in the South China Sea, Sansha facilitates maritime law enforcement and maritime militia operations to defend China's maritime rights and interests.⁶⁹ China's maritime rights and interests involve a number of different claims, including those related to sovereign territorial seas and internal waters, exclusive economic zone and continental shelf rights, historic rights, and the regulation of military activities.⁷⁰
2. Stability maintenance alludes to preventing interstate tensions from escalating beyond a manageable level. Sansha's leaders walk a narrow tightrope. They are responsible for defending China's maritime rights and interests without sparking a major diplomatic crisis or starting a war.⁷¹ Thus, the city relies on civilian-administrative means, including maritime law enforcement and maritime militia operations, rather than military force to advance China's position in the South China Sea disputes. City officials have argued that "normalized and sustainable civilian activity" is the "most effective means" of declaring and defending sovereignty.⁷²

⁶⁵ "Beautiful Chapter by Spring Breeze - - General Secretary Xi Jinping Inspects Hainan Record."

⁶⁶ Ibid.

⁶⁷ Ibid.

⁶⁸ In his report to the 18th Party Congress in November 2012, CCP General Secretary Hu Jintao emphasized the need to "improve maritime resource development capabilities, develop the marine economy, protect the marine ecological environment, resolutely defend national maritime rights and interests, and build a maritime power" (提高海洋资源开发能力, 发展海洋经济, 保护海洋生态环境, 坚决维护国家海洋权益, 建设海洋强国). According to a CNA report on China's goal of becoming a maritime power, Hu's announcement "was the culminating point of over a decade of careful Chinese consideration of, and appreciation for, the importance of the maritime domain to China's continued development, to China's security, and to China's vision of its place in the world." See 胡锦涛在中国共产党第十八次全国代表大会上的报告 ["Hu Jintao's Report at the CCP 18th National Congress"], 新华网 [Xinhua Net], November 17, 2012.

<https://perma.cc/UM4U-KLQL>; Michael McDevitt ed., "Becoming a Great 'Maritime Power': A Chinese Dream" (Arlington, VA: CNA, June 2016), https://www.cna.org/cna_files/pdf/IRM-2016-U-013646.pdf.

⁶⁹ Wang, "Sansha City Promotes Military, Law Enforcement, and Civilian Joint Defense Mechanism, Constructs Three-Line Maritime Rights Defense Structure;" 外籍渔船闯三沙警备区 见穿迷彩民兵掉头就逃 ["Foreign Fishing Boats Break Into Sansha Garrison, Saw Militia Wearing Camouflage and Turned Around and Fled"], 中国网 [China Net], November 7, 2016, <https://perma.cc/J7ML-Q8DS>; "China's Sansha City Comprehensive Law Enforcement Ship Unites With Coast Guard to Drive Away an Infringing Foreign Fishing Boat."

⁷⁰ Andrew Chubb, "Chinese Popular Nationalism and PRC Policy in the South China Sea," p. 45; Kardon, "Maritime Rights and Interests;" Fravel, "China's Strategy in the South China Sea," pp. 293-296.

⁷¹ For more on the balance between stability maintenance and rights defense, see M. Taylor Fravel, "Xi Jinping's Overlooked Revelation on China's Maritime Disputes," *The Diplomat*, August 15, 2013,

<https://thediplomat.com/2013/08/xi-jinpings-overlooked-revelation-on-chinas-maritime-disputes/>.

⁷² "Recommendations for Accelerating the Promotion of Nansha Fisheries Healthy Aquaculture."

3. Environmental protection refers to carrying out environmental protection programs on occupied features and within claimed waters. The city’s development of renewable energy and its construction of seawater desalination, garbage transshipment, and sewage treatment facilities all fall under the banner of environmental protection.⁷³ These programs ultimately improve living conditions on occupied features and offer these Chinese outposts a greater degree of self-sufficiency.⁷⁴ Moreover, protecting the marine environment, which includes intercepting Chinese vessels engaged in illegal activities and driving out foreign vessels, appears to serve as a pretext for Sansha to enforce China’s maritime claims.⁷⁵
4. Resource development involves exploiting the bountiful resources of the South China Sea. This mainly involves the development of Sansha’s fishing industry and the pursuit of hydrocarbon resources within the city’s jurisdiction.⁷⁶ While resource exploitation is an end in and of itself, it also serves broader goals. The expansion of Sansha’s fishing and aquaculture, for example, appears to strengthen China’s ability to surveil maritime space and helps China maintain a continuous presence in contested areas, including in the Spratly Islands.⁷⁷

⁷³ 西沙永兴岛海水淡化项目开工 [“Xisha Woody Island Seawater Desalination Project Starts Construction”], 观察者 [Observer], November 10, 2012, <https://perma.cc/ZCX2-S27L>; 三沙将用上太阳能 [“Sansha Will Use Solar Energy”], 海南省国有资产监督管理委员会 [Hainan Province Stated-Owned Assets Supervision and Administration Commission], May 30, 2013, <https://perma.cc/R2HY-KNJK>; 彭青林 [Peng Qinglin] and 毛鹏飞 [Mao Pengfei], 三沙 4 个重点项目相继动工 海南省长要求推进建设 [“Sansha 4 Key Projects Have Successively Started Construction, Hainan Province Governor Requires Advance of Construction”], 人民网 [People Net], September 19, 2012, <https://perma.cc/2EV8-QLY7>.

⁷⁴ 朱小刚 [Zhu Xiaogang], 江东洲 [Jiang Dongzhou], and 刘昊 [Liu Hao], 三沙市永兴岛智能微电网: 让海岛供电可靠性媲美城市 [“Sansha City Woody Island Smart Microgrid: Makes Island Power Supply Reliable Comparable to a City”], 新华网 [Xinhua Net], July 5, 2018, <https://perma.cc/78JK-U249>; “互联网+”智慧能源, 美丽三沙的能源保障 [“Internet Plus’ Intelligent Energy, Beautiful Sansha’s Energy Guarantee”] 海南天能 [Hainan Tianneng], July 26, 2017, <https://perma.cc/4RS5-Q4UD>.

⁷⁵ 刘操 [Liu Cao], 这群护海人真的不简单 [“These Sea Protectors Are Really Not Simple”], 海南省人民政府网 [Hainan Province People’s Government Net], June 30, 2015, https://web.archive.org/web/20201001021212/http://webcache.googleusercontent.com/search?q=cache%3ACfykHiGjfNQI%3Awww.hainan.gov.cn%2Fhn%2Fyw%2Fzwdt%2Fsx%2F201506%2F20150630_1598358.html&client=firefox-b-1-d&hl=en&gl=hk&strip=1&vwsr=0; Liu, “2015 End of Year Sansha City Special Interest News Review;” 王蓓蓓 [Wang Beibei], 工委书记说变化 [“Working Committee Secretary Says Change”], 三沙市人民政府网 [Sansha City People’s Government Net], November 14, 2016, <https://perma.cc/6QKC-DBUU>; 傅勇涛 [Fu Yongtao] and 刘伊曼 [Liu Yiman], 肖杰: 三沙建设一天都不耽搁 [“Xiao Jie: Sansha’s Construction Will Not Delay for Even a Day”], 新浪网 [Sina Net], March 17, 2014, <https://perma.cc/63XE-P275>.

⁷⁶ “Recommendations on Incorporating Follow-Up Projects Construction into National Planning and Financial Budgets to Continuously Provide Support;” “Luo Baoming Gives Speech at Sansha City Establishment Assembly and Unveiling Ceremony;” 张茜翼 [Zhang Qianyi], 致公党海南省委建议建设三沙市综合基地 [“Zhi Gong Party Hainan Province Committee Recommends Establishing Sansha City Integrated Base”], 中国新闻网 [China News Net], January 27, 2013, <https://perma.cc/B4P5-L9WD>.

⁷⁷ “Recommendations for Accelerating the Promotion of Nansha Fisheries Healthy Aquaculture;” 费磊 [Fei Lei], 渔政海监海警机制协同 三沙海上维权执法体系日渐完善 [“Fisheries Administration, Marine Surveillance, and Coast Guard Mechanism Coordination, Sansha Maritime Rights Defense Law Enforcement System is Improving Daily”], 中国广播网 [China National Radio Net], May 23, 2013, <https://perma.cc/HVS2-CPZR>; 赵叶苹 [Zhao Yeping] and 陈爱娣 [Chen Aidi], 南海执法力量: 已具备巡航南沙海域能力 [“South China Sea Law Enforcement Forces: Already Has The Capability to Patrol Nansha Sea Area”], 国际先驱导报 [International Herald Leader], June 1, 2015, <https://web.archive.org/web/20201013010243/http://webcache.googleusercontent.com/search?q=cache%3A0j2PBDLrs0cJ%3Aihl.cankaoxiaoxi.com%2F2015%2F0601%2F801888.shtml%3Ffr%3Dpc&hl=en&gl=hk&strip=1&vwsr=0>; 关于整合民企发展南海渔业的建议 [“Recommendations on Integrating Private Enterprise to Develop South China Sea Fisheries”], 海南省人民政府网 [Hainan Province People’s Government Net], 2018, <https://perma.cc/GD8V-PGY2>; 美济

The Development of Sansha City

This section details the development of Sansha City, examining both Woody Island and other settlements within the city's jurisdiction. Though China founded Sansha in 2012, the city's development began much earlier.⁷⁸ China occupied Woody Island in the mid-1950s and then created a party committee and government office on the island in March 1959.⁷⁹ After establishing its formal administrative presence, China gradually developed its settlement on Woody Island, building an airstrip, harbor, meteorological station, hospital, hotel, and other facilities.⁸⁰

In late 2007, a Hong Kong-based newspaper reported that the State Council had approved a proposal from Hainan to establish Sansha City as a county-level city.⁸¹ Though credible evidence remains sparse, some sources indicate that China may have unofficially established Sansha at this time.⁸² Regardless, Woody Island's development continued. For example, in 2008, the party committee and government office on Woody Island established 18 new administrative functional departments (行政职能部门) and 20 new public institutions (事业单位) in accordance with a provincial plan.⁸³ Additionally, in 2009, China began building a "large-scale civilian-use integrated harbor" at Woody Island (see **Figure 2**, below).⁸⁴ In April 2012, the State Oceanic Administration announced that it had approved the construction of an "integrated supply base" at Drummond Island in the Parcel Islands.⁸⁵

礁石斑鱼远洋养殖 一道亮丽低水产风景线 ["Mischief Reef Grouper Ocean Cultivation, A Beautiful Low Aquatic Product Landscape Line"], 水产养殖网 [Aquaculture Net], May 5, 2014, <https://perma.cc/AD9G-H85E>.

⁷⁸ For this reason, even though the State Council publicized its plan to found Sansha on the same day that Vietnam's National Assembly passed the Law of the Sea of Vietnam, the creation of Sansha City clearly amounts to a deliberate escalation rather than just Beijing's knee-jerk reaction. See "Law of the Sea of Vietnam," Vietnam Law and Legal Forum, August 7, 2015, <https://perma.cc/FDT8-NUJB>.

⁷⁹ "Woody Island," Asia Maritime Transparency Initiative, <https://amti.csis.org/woody-island/>; 魏铭言 [Wei Mingyan], 我国设三沙地级市管辖南海三群岛 [Our Country Establishes Sansha Prefecture-Level City To Administer the South China Sea's Three Archipelagos], 新浪网 [Sina Net], June 22, 2012, <https://perma.cc/49XP-GQB6>; 李晓梅 [Li Xiaomei], 杨隽莹 [Yang Junying], and 谭邦会 [Tan Banghui], 西南中沙工委建设 53 年 目前有 18 个职能部门 ["Xinanzhongsha Working Committee Has Been Established for 53 Years, Currently Has 18 Functional Departments"], 中国共产党新闻网 [CCP News Net], June 24, 2012, <https://perma.cc/W7U6-EUKS>.

⁸⁰ Li, Yong, and Tan, "Xinanzhongsha Working Committee Has Been Established for 53 Years, Currently Has 18 Functional Departments," <https://perma.cc/3PCQ-L7PG>.

⁸¹ 海南筹建三沙市爭議海域設轄區 面積約全國 1/4, 明報新聞網 ["Hainan Prepares to Create Sansha City to Have Jurisdiction Over Disputed Sea Area, Area Will Be About 1/4th of the Country"], [Ming Pao News Net], November 20, 2007, <https://perma.cc/N7NY-TSPW>.

⁸² 海南行政区划 ["Hainan Administrative Divisions"], 国务院新闻办公室网站 [State Council Information Office Website], January 1, 2010, <https://perma.cc/K52E-64NC>; 何亮亮: 中国官方舆论为何不谈海南设三沙市 ["He Liangliang: Why Does China's Official Public Opinion Not Discuss Hainan Establishing Sansha City"], 凤凰网 [ifeng Net], May 15, 2009, <https://perma.cc/MA4V-797K>; 程刚 [Cheng Gang], 独家探访南海三沙市: 航空兵频繁挂弹演练 ["Exclusive Visit to South China Sea Sansha City: Aviation Forces Frequently Hold Drills"], 环球网 [Huanqiu Net], July 12, 2012, <https://perma.cc/NRK3-B9X7>.

⁸³ 解放军竖立主权碑 ["PLA Erects Sovereignty Monument"], 三沙市人民政府网 [Sansha City People's Government Net], <https://perma.cc/SU7T-CAGS>; Li, Yong, and Tan, "Xinanzhongsha Working Committee Has Been Established for 53 Years, Currently Has 18 Functional Departments."

⁸⁴ 段欣毅 [Duan Xinyi] and 李学山 [Li Xueshan], 永兴综合码头项目一期工程交付使用 将打破三沙交通瓶颈(组图) ["Yongxing Integrated Wharf Project First Phase Project Delivered for Use, Will Break Sansha Traffic Bottleneck"], 搜狐 [Sohu], July 18, 2013, <https://perma.cc/2QX2-7Y3C>.

⁸⁵ 国家海洋局同意海南省在西沙、南沙填海建设码头 ["State Oceanic Administration Approves Hainan Building Reclaiming Sea to Build Wharfs in Xisha and Nansha"], 中国政府网 [China Government Net], April 28, 2012, <https://perma.cc/J79B-LV5H>; 关于在晋卿岛建设综合补给保障基地的建议 [Recommendations on Building an



Figure 2. The development of Woody Island's integrated harbor⁸⁶

Despite these earlier efforts, when China formally established Sansha City in July 2012, Woody Island and other Chinese settlements were still largely underdeveloped. Assessments of this early period regularly lament a number of insufficiencies, including the city's inadequate infrastructure, fresh water supply, electricity generation, living conditions, transportation, and maritime law enforcement capabilities.⁸⁷ Accordingly, since 2012 central, provincial, and municipal authorities have worked tirelessly to develop Woody Island and other features within Sansha's jurisdiction. In particular, they have focused on improving Sansha's physical infrastructure and transportation, communications, corporate ecosystem, party-state institutions, and rights defense system, all of which contribute to the city's system of normalized administrative control.

Physical Infrastructure and Transportation

Given Sansha City's remote geographic location and extreme natural environment, its physical infrastructure and transportation are of paramount importance. Up to 2012, Sansha's weak infrastructure and transportation had seriously constrained its development. For example, typhoons and other weather conditions easily disrupted the operations of Sansha's sole transportation and

Integrated Supply Guarantee Base at Drummond Island”], 海南省人大常委会 [“Hainan Province People's Congress Standing Committee”], March 15, 2013, <https://perma.cc/EQ6F-RUFZ>.

⁸⁶ 永兴岛图片 [“Wood Island Pictures”], 马蜂窝 [Mafengwo], May 13, 2018, <https://perma.cc/GLB4-S4UM>; Google Earth, February 6, 2010; Google Earth, June 3, 2019.

⁸⁷ “最美海控人”——天能电力有限公司三沙电站运维员 王海兴 [“The Most Beautiful Sea Controller” - - Tianneng Power Company Limited Sansha Power Station Operations and Maintenance Staff Wang Haixing”], 海南天能 [Hainan Tianneng], June 3, 2019, <https://perma.cc/BTC8-MQS7>; “Recommendations on Incorporating Follow-Up Projects Construction into National Planning and Financial Budgets to Continuously Provide Support;” 卞小燕 [Bian Xiaoyan], 绿色环保, 淡化海水将成新蓝海 [“Green Environmental Protection, Desalinated Seawater Will Become a New Blue Ocean”], 新浪网 [Sina Net], April 24, 2017, <https://perma.cc/5UHM-K6HH>; 走近中国最南端光伏电站——海南天能电力三沙永兴岛光伏微电网项目 [“Approach China's Southernmost Micro Photovoltaic Power Station - - Hainan Tianneng Power Sansha Woody Island Photovoltaic Microgrid Project”], 海南天能 [Hainan Tianneng], August 29, 2014, <https://perma.cc/67QH-XQJL>; Chen, “Exclusive Visit to South China Sea Sansha City: Aviation Forces Frequently Hold Drills;” 三沙申请国家大遗址保护区 或建设水下遗址公园 [“Sansha Applies for National Great Relics Protection Zone or Construct Underwater Relics Park”], 海外网 [Overseas Net], October 9, 2016, <https://perma.cc/72NS-TMBE>; 王玉洁 [Wang Yujie], 红旗在三沙飘扬 [“Red Flag Flying in Sansha”], 海南省人民政府网 [Hainan Province People's Government Net], January 28, 2016, <https://perma.cc/E8ED-JLR2>.

supply ship, the *Qiongsa 3* (琼沙 3 号).⁸⁸ Without a secure supply of fresh water, electricity, and other such necessities, the Woody Island could not sustainably accommodate a large population of civilian administrators, military personnel, fishermen, and other residents.⁸⁹ Likewise, Sansha's system of inter-island transportation relied mostly on fishing boats, which were slow, unsafe, and weak in the face of strong winds and waves, thereby limiting the movement of supplies and personnel within the city's jurisdiction.⁹⁰ Under these conditions, Sansha could not effectively administer contested areas of the South China Sea.

By the end 2012, central, provincial, and local officials had already prioritized a number of infrastructure and transportation projects to overcome these issues.⁹¹ These projects included a sewage treatment and pipe network on Woody Island,⁹² garbage collection and transshipment on Woody Island,⁹³ a new inter-island transportation boat,⁹⁴ coastal restoration and protection work on various islands,⁹⁵ seawater desalination facilities and an accompanying pipe network on Woody Island (see **Figure 3**, below),⁹⁶ solar panels and a smart microgrid on Woody Island,⁹⁷ expansion of Woody Island's existing harbor,⁹⁸ the 7,800-ton *Sansha 1* (三沙 1 号) transportation and supply ship,⁹⁹ and a dedicated supply base at the Wenchang Qinglan harbor on Hainan Island.¹⁰⁰ Most of

⁸⁸ Chen, "Exclusive Visit to South China Sea Sansha City: Aviation Forces Frequently Hold Drills."

⁸⁹ "Approach China's Southernmost Micro Photovoltaic Power Station - - Hainan Tianneng Power Sansha Woody Island Photovoltaic Microgrid Project."

⁹⁰ 赵颖全 [Zhao Yingquan], 海南省三沙市加强岛际交通建设 ["Hainan Province Sansha City Strengthens Inter-Island Transportation Construction"], 中国政府网 [China Government Net], July 18, 2013, <https://perma.cc/7HLL-BVR7>.

⁹¹ Guan and Wang, "Sansha City Eight Major Infrastructure Projects Received Central Support, Total Investment Surpasses Ten Billion."

⁹² 尹海明 [Yin Haiming], 三沙市首个污水垃圾处理工程开工 ["Sansha City First Sewage and Trash Processing Projects Start Construction"], 人民网 [People Net], August 25, 2012, <https://perma.cc/EH9B-9G4H>; Peng and Mao, "Sansha 4 Key Projects Have Successively Started Construction, Hainan Province Governor Requires Advance of Construction."

⁹³ Yin, "Sansha City First Sewage and Trash Processing Projects Start Construction;" Peng and Mao, "Sansha 4 Key Projects Have Successively Started Construction, Hainan Province Governor Requires Advance of Construction."

⁹⁴ Peng and Mao, "Sansha 4 Key Projects Have Successively Started Construction, Hainan Province Governor Requires Advance of Construction."

⁹⁵ Ibid.

⁹⁶ "Xisha Woody Island Seawater Desalination Project Starts Construction."

⁹⁷ 黄晓慧 [Huang Xiaohui], 三沙成立供电局 ["Sansha Establishes Power Supply Bureau"], 人民网 [People Net], August 28, 2012, <https://perma.cc/LBP4-668L>.

⁹⁸ Changes between 2013, 2014, and 2015 are visible via Google Earth; 三沙市首府永兴岛扩建现场最新照 ["Newest Pictures of Sansha City Capital Woody Island Expansion Site"], 观察者 [Observer], October 8, 2014, <https://perma.cc/UD7H-MBVQ>.

⁹⁹ 25 项合作聚集三沙发展正能量 ["25 Cooperations Gather Positive Energy for Sansha's Development"], 三沙市人民政府网 [Sansha City People's Government Net], January 7, 2015, <https://perma.cc/CK93-U2ZS>.

¹⁰⁰ Guan and Wang, "Sansha City Eight Major Infrastructure Projects Received Central Support, Total Investment Surpasses Ten Billion."

these projects entered into use between 2013 and mid-2015,¹⁰¹ as did Woody Island’s new large-scale civilian-use integrated harbor.¹⁰²

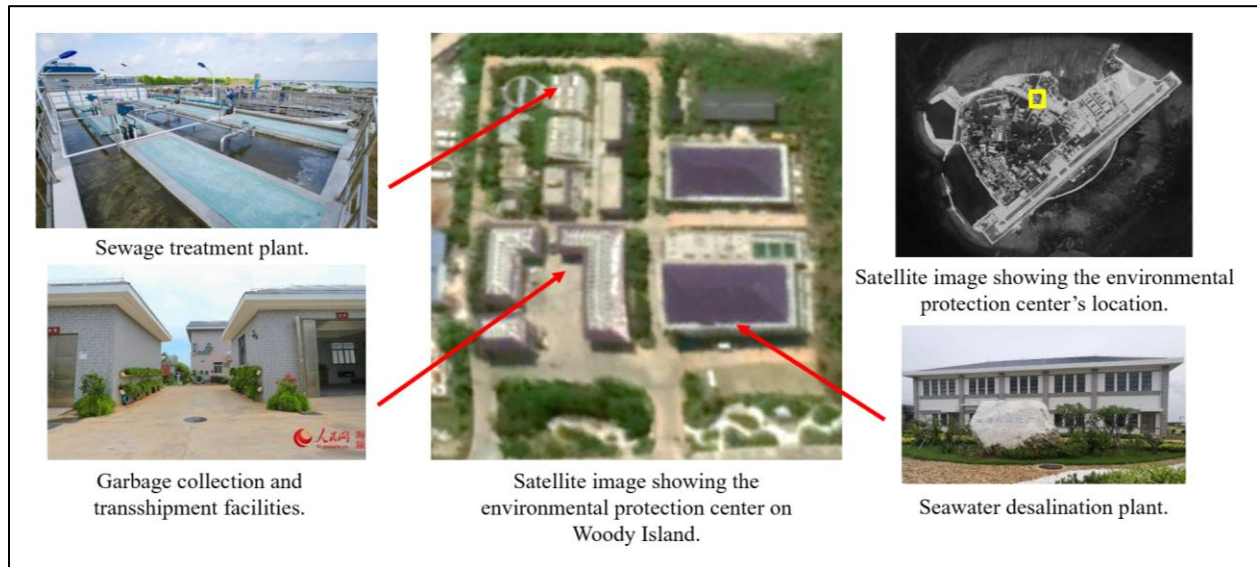


Figure 3. Sewage, garbage, and desalination facilities on Woody Island¹⁰³

After addressing Sansha City’s immediate needs, local officials continued developing the city’s transportation and infrastructure. For instance, Sansha’s second inter-island transportation boat came online in 2016.¹⁰⁴ By mid-2017, the city had built a new harbor on Tree Island,¹⁰⁵ installed a smart microgrid system that integrates solar and wind power on Tree Island (see **Figure 4**, below),¹⁰⁶ and

¹⁰¹ Fu and Liu, “Xiao Jie: Sansha’s Construction Will Not Delay for Even a Day;” Song, “Hainan Woody Island Sewage Processing and Pipe Project Already Put Into Use;” 王子谦 [Wang Ziqian], “三沙一号”大型交通补给船首航海南三沙 [“Sansha 1’ Large-Scale Transportation and Supply Ship First Voyage to Hainan Sansha”], 中国新闻网 [China News Net], January 5, 2015, <https://perma.cc/42KG-M63Z>; 宁远 [Ning Yuan], 海南首个独立光伏智能微电网在三沙建成运营 [Hainan’s First Independent Photovoltaic Smart Microgrid Finished Construction and is Operating in Sansha”], 凤凰网 [ifeng Net], December 31, 2013, <https://perma.cc/2LOS-BNU4>; Wang, “Sansha City 3rd Anniversary of the City’s Establishment, Multiple Infrastructure Projects Started and Finished (Pictures);” 杜颖 [Du Ying], 西沙垃圾收转工程将投用 [“Xisha Trash Collection and Transshipment Project Will Be Put Into Use”], 中国新闻网 [China News Net], January 27, 2015, <https://perma.cc/P6UJ-V4AP>; “Sansha Mayor: Woody Island 1,000-ton Seawater Desalination Project Already Completed;” Zhao, “Hainan Province Sansha City Strengthens Inter-Island Transportation Construction.”

¹⁰² Wang and Wang, “Sansha City Yongxing Integrated Wharf First Phase Delivered for Use.”

¹⁰³ 王子谦 [Wang Ziqian], 三沙市设市三周年 多项基础设施工程开竣工(图) [“Sansha City 3rd Anniversary of the City’s Establishment, Multiple Infrastructure Projects Started and Finished (Pictures)”], 凤凰网 [ifeng Net], July 25, 2015, <https://perma.cc/MR9F-RW2A>; 枉源 [Wang Yuan], 三沙: 垃圾自产自“消”为岛礁环保加注绿色动能 [“Sansha: Trash is Self-Produced and Self-‘Eliminated’ Making Raising Green Kinetic Energy for Island and Reef Environmental Protection”], 中国日报 [China Daily], June 10, 2018, <https://perma.cc/RWF8-2Z7X>; 【图】祖国最南端的城市——三沙市 [“(Pictures) The Motherland’s Southernmost City - - Sansha City”], 搜狐 [Sohu], July 25, 2018, <https://perma.cc/REH6-BKT2>; Google Earth, June 3, 2019.

¹⁰⁴ 彭子娥 [Peng Zi’e], 三沙市举行岛际交通艇“晋卿”号交接仪式 [“Sansha City Holds Inter-Island Transportation Boat ‘Jin Qing’ Transfer Ceremony”], 人民网 [People Net], November 2, 2016, <https://perma.cc/U2LT-2852>.

¹⁰⁵ 刘操 [Liu Cao], 三沙赵述岛码头竣工投用 [“Sansha Tree Island Wharf Completed and Put Into Use”], 新华网 [Xinhua Net], January 3, 2017, <https://perma.cc/GDD7-3ETA>.

¹⁰⁶ 三沙赵述岛建成新能源智能微网海水淡化工程 [“Sansha Tree Island Builds New Energy Smart Microgrid Seawater Desalination Project”], 太阳能发电网 [Solar Energy Generation Net], March 3, 2017, <https://perma.cc/94E3-B4NQ>.

constructed seawater desalination plants across the Paracel Islands.¹⁰⁷ At the end of 2017, Sansha started building another transportation and supply ship, the 8,000-ton *Sansha 2* (三沙 2 号), which was commissioned in August 2019.¹⁰⁸ See **Figure 5**, below.

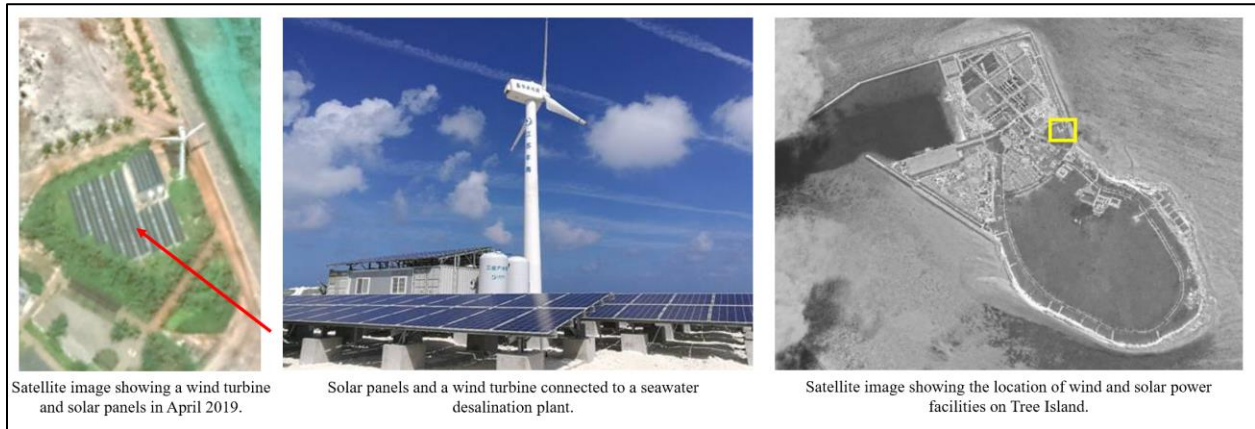


Figure 4. Solar power and wind power facilities on Tree Island¹⁰⁹



Figure 5. Sansha City's transportation and supply ships¹¹⁰

Sansha City appears to have contributed to the development of infrastructure and transportation in the Spratly Islands as well, though the extent of the city's role remains ambiguous. For one matter, publicly available automatic identification system (AIS) data confirm that both the *Sansha 1* and the

¹⁰⁷ 赵叶苹 [Zhao Yeping], 三沙设市 5 年用电负荷增长 10 倍 [“In the 5 Years Since Sansha Was Established Electricity Use Load Has Increased 10-Fold”], 新华网 [Xinhua Net], August 25, 2017, <https://perma.cc/4ZFN-79M9>.

¹⁰⁸ 刘博 [Liu Bo], “三沙 2 号” 交通补给船完成首航 [“Sansha 2’ Transportation and Supply Ship Completed First Voyage”], 新华网 [Xinhua Net], August 21, 2019, <https://perma.cc/SF4V-NFU5>; Zachary Haver, “China’s New 8,000-Ton South China Sea Supply Ship,” *The Diplomat*, August 22, 2019, <https://thediplomat.com/2019/08/chinas-new-8000-ton-south-china-sea-supply-ship/>.

¹⁰⁹ “Sansha Tree Island Builds New Energy Smart Microgrid Seawater Desalination Project;” Google Earth, April 3, 2019.

¹¹⁰ 随时可以去南海！三沙市永兴机场公务航班首航 [“You Can Go To The South China Sea At Any Time! Sansha City Yongxing Airport Official Business Flight First Flight”], 新浪网 [Sina Net], December 23, 2016, <https://perma.cc/CX54-SLAU>; 涂超华 [Tu Chaohua], 郑玮娜 [Zheng Weina], and 魏骅 [Wei Hua], “三沙 1 号” 交通补给船首航实现南海交通新跨越 [“Sansha 1’ Transportation and Supply Ship First Voyage Realizes South China Sea Transportation New Leap”], 新华网 [Xinhua Net], January 5, 2015, <https://perma.cc/G898-HAHZ>; “三沙 2 号” 交通补给船首航永興島 [“Sansha 2’ Transportation and Supply Ship First Voyage to Woody Island”], 新华网 [Xinhua Net], August 21, 2019, <https://perma.cc/29R6-7M27>.

Sansha 2 have operated in the Spratly Islands.¹¹¹ Moreover, in 2016 the city established a new municipal state-owned enterprise, Sansha City Nansha Islands and Reefs Construction Investment Company Limited (三沙市南沙岛礁建设投资有限公司), that is likely responsible for construction projects in the Spratly Islands.¹¹² Additionally, central authorities have been constructing infrastructure such as lighthouses and fishing supply bases in the Spratly Islands,¹¹³ though whether Sansha contributed to these specific projects is unclear.

A notable example of Sansha City's continued development is its access to additional facilities—or a “hinterland” (腹地)—at Mulan Bay in Wenchang, Hainan.¹¹⁴ This port project reportedly includes eight 10,000-ton berths, two 10,000-ton dry docks, and five berths for ship repair.¹¹⁵ The initial surveying for this project, led by a new municipal state-owned enterprise,¹¹⁶ appears to have started by late 2017.¹¹⁷ In an interview, Sansha's party secretary and mayor indicated that the infrastructure at Mulan Bay will support rights defense on the front lines of the South China Sea.¹¹⁸ According to a municipal official, the facilities will include “a South China Sea comprehensive law enforcement and resource development service support base, a maritime emergency rescue base, a marine economic development zone, and a marine science and technology cooperation zone.”¹¹⁹ The municipal official emphasized that these facilities would provide support for “realizing effective administrative management and resource development in the South China Sea.”¹²⁰ These facilities appear to be intended for maritime militia use as well.¹²¹

With enhanced infrastructure and transportation, Sansha City is now well-positioned to advance China's claims in the South China Sea disputes. These improvements ensure that civilian bureaucrats, members of the PLA, law enforcement personnel, and other residents can effectively

¹¹¹ For example, see Ryan Martinson, Twitter Post, July 16, 2020, <https://twitter.com/rdmartinson88/status/1283843946192478219>.

¹¹² Notably, the company appears to share a phone number with the Sansha City Nansha Management Committee, a body responsible for local government functions in the Spratly Islands. See 海南省劳动保障监察机构投诉电话 [“Hainan Province Labor Security Supervision Organizations Complaint Phone Numbers”], 海南省人民政府网 [Hainan Province People's Government Net], December 3, 2018, <https://perma.cc/9R6A-BWAD>; source documents held by report author.

¹¹³ 航行更安全 航路更畅通——记我国南沙灯塔建设 [“Safer Navigation, More Unimpeded Route - - Noting the Construction of Our Nansha Lighthouses”], 中华人民共和国交通运输部 [PRC Ministry of Transport], June 19, 2015, <https://perma.cc/TVK9-ZKFL>; 国家发展改革委 农业农村部关于印发全国沿海渔港建设规划（2018-2025年）的通知 [“National Development and Reform Commission and Ministry of Agriculture and Rural Affairs Issue Notice on National Coastal Fishing Harbor Construction Plan (2018-2025)”], 中华人民共和国农业农村部 [PRC Ministry of Agriculture and Rural Affairs], May 3, 2018, <https://perma.cc/5GWE-4GVG>.

¹¹⁴ 三沙腹地建设今年启动 将在海南岛建“大本营” [“Sansha Hinterland Construction Starts This Year, Will Build a ‘Major Base Camp’ on Hainan Island”], 凤凰网 [ifeng Net], February 27, 2017, <https://perma.cc/6ZW6-7XQ8>.

¹¹⁵ SFML 综合码头一期工程环境影响评价第一次公示 [“SFML Integrated Wharf First Phase Project Environmental Impact Assessment First Public Announcement”], 南海网 [Hinews Net], April 24, 2018, <https://perma.cc/F5L8-6CN9>.

¹¹⁶ Bidding records indicate heavy involvement from Sansha City Strategic Hinterland Infrastructure Construction Investment Company Limited (三沙市战略腹地基础设施建设投资有限责任公司), which the city established in April 2016. Source documents held by report author.

¹¹⁷ Source documents held by report author; “SFML Integrated Wharf First Phase Project Environmental Impact Assessment First Public Announcement.”

¹¹⁸ “Sansha Hinterland Construction Starts This Year, Will Build a ‘Major Base Camp’ on Hainan Island.”

¹¹⁹ Ibid.

¹²⁰ Ibid.

¹²¹ Kennedy and Erickson, “Riding a New Wave of Professionalization and Militarization;” Andrew S. Erickson, “China Open Source Example: Big Plans for Maritime Militia Base Buildup, as Seen from a Government Proposal Document,” andrewerickson.com, August 30, 2016, <http://www.andrewerickson.com/2016/08/china-open-source-example-big-plans-for-maritime-militia-base-buildup-as-seen-from-a-government-proposal-document/>.

perform their duties on a day-to-day basis from the front lines of the South China Sea. Moreover, improvements like expanded port infrastructure support the operations of the city's maritime law enforcement and maritime militia vessels, which are responsible for continuously monitoring and administering the waters within Sansha's jurisdiction. In this sense, the city's infrastructure and transportation provide the basic foundations for a system of normalized administrative control.

Communications

In addition to physical infrastructure and transportation, the Chinese party-state has also invested heavily in the development of communications infrastructure within Sansha City's jurisdiction.¹²² In cooperation with the provincial and municipal authorities,¹²³ Chinese telecommunications companies have built base stations, satellite equipment, and undersea cables in the Paracel and Spratly Islands that appear to support both civilian and military users.¹²⁴ This infrastructure provides Sansha a vital link to the outside world and facilitates communication within the city's vast jurisdiction.

Efforts to develop Sansha City's communications infrastructure began early. By September 2012, the Hainan Province Communications Administration and China's network operators had drafted the "Sansha City Communications Construction and Network Construction Project Plan."¹²⁵ This plan reportedly aimed to build 51 island base stations, 104 shipborne base stations, and 8 undersea optical cables across the city's jurisdiction.¹²⁶

In the years since, China's state-owned network operators have worked diligently to upgrade and expand Sansha City's communications infrastructure. According to news reports, China Unicom, China Telecom, and China Mobile were among the earliest companies to register in Sansha, obtaining business licenses in January 2013.¹²⁷ Corporate records indicate that all three companies established branches in Sansha in July 2013.¹²⁸ Having already built 2G and 3G networks in the

¹²² For a detailed analysis of China's information capabilities in the Spratly Islands, see J. Michael Dahm, *South China Sea Military Capability Series* (Laurel, MD: Johns Hopkins Applied Physics Laboratory, 2020), <https://www.jhuapl.edu/NewsPublications/ResearchandAnalysis>.

¹²³ 夏冠男 [Xia Guannan] and 王自宸 [Wang Zichen], 海南拟在三沙市新建通信基站跨海光缆 ["Hainan Plans to Build New Communications Base Station Cross-Sea Optical Cables in Sansha City"], 人民网 [People Net], September 13, 2012, <https://perma.cc/JC7N-APSK>.

¹²⁴ J. Michael Dahm, "Inter-Island Communications," in *South China Sea Military Capability Series*, <https://www.jhuapl.edu/Content/documents/Inter-IslandCommunications.pdf>; J. Michael Dahm, "Undersea Fiber-Optic Cable and Satellite Communications," in *South China Sea Military Capability Series*, <https://www.jhuapl.edu/Content/documents/UnderseaFiber-OpticCableandSATCOM.pdf>; 刘梦晓 [Liu Mengxiao], 三沙市多措并举加快信息化建设 ["Sansha City Arranges Simultaneous Acceleration of Informatization Construction"], 中国政府网 [China Government Net], February 23, 2016, <https://perma.cc/AEX2-UKGN>; Xia and Wang, "Hainan Plans to Build New Communications Base Station Cross-Sea Optical Cables in Sansha City;" 王斌 [Wang Bin], 中国电信密集开通西沙 4G 基站 ["China Telecom Intensively Opens Xisha 4G Base Stations"], 中国信息产业网 [China Information Industry Net], August 15, 2016, <https://perma.cc/GHQ8-U29T>; 孙婧 [Sun Jing], 三沙市 7 个岛礁实现 4G 网络全覆盖 ["Sansha City 7 Islands and Reefs Realize 4G Network Coverage"], 海南日报 [*Hainan Daily*], September 15, 2015, <https://perma.cc/NNR3-74QB>.

¹²⁵ Xia and Wang, "Hainan Plans to Build New Communications Base Station Cross-Sea Optical Cables in Sansha City."

¹²⁶ *Ibid.*

¹²⁷ 王子谦 [Wang Ziqian], 海南三沙市首批 11 家企业完成工商注册 ["Hainan Sansha City First Batch of 11 Companies Complete Industrial and Commercial Registration"], 中国新闻网 [China News Net], January 24, 2013, <https://perma.cc/R2NF-8AXQ>.

¹²⁸ Source documents held by report author.

South China Sea,¹²⁹ these companies quickly began working on 4G and 5G networks for the city.¹³⁰ For example, in 2016 China Telecom finished a 4G network covering seven features in the Spratly Islands and started working on 4G infrastructure for the Parcel Islands.¹³¹ Moreover, China Mobile completed Sansha's first 5G base station on Woody Island in April 2019.¹³² China Telecom finished 5G base stations on Woody Island and Fiery Cross Reef in July 2019.¹³³ Additionally, both China Telecom and China Mobile appear to have worked on shipborne communications for the *Sansha I*.¹³⁴

Hainan Comservice has reportedly supported the projects of China Unicom, China Telecom, and China Mobile in Sansha City.¹³⁵ Having established a branch in Sansha in July 2013,¹³⁶ Hainan Comservice functions as an "important support service unit."¹³⁷ In cooperation with municipal authorities and China's network operators, Hainan Comservice carries out surveying, design, and construction for communications projects in the Parcel and Spratly Islands.¹³⁸ For example, Hainan Comservice allegedly undertook the Parcel Islands Submarine Optical Cable Engineering Design and Construction Project in October 2016,¹³⁹ which appears to have linked Woody Island and other features in the Parcel Islands to Hainan via undersea cables.¹⁴⁰ The company also allegedly built Hainan Telecom's 4G base stations in the Spratly Islands.¹⁴¹ As of October 2018, Hainan Comservice had reportedly finished 24 sections of undersea cable, eight base stations across seven islands in the Parcel Islands, and ten base stations across seven features in the Spratly Islands, among other projects.¹⁴²

¹²⁹ Li, Yong, and Tan, "Xinanzhongsha Working Committee Has Been Established for 53 Years, Currently Has 18 Functional Departments," <https://perma.cc/8PS7-AH5N>; 陈琦 [Chen Qi] and 陈异涵 [Chen Yihan], 海南联通 13 小时快速建站 3G 网络覆盖西沙永兴岛 ["Hainan Unicom in 13 Hours Quickly Builds 3G Network Coverage on Xisha Woody Island"], 中国新闻网 ["China News Net"], July 25, 2012, <https://perma.cc/6XYE-Y7KD>; 西沙群岛网络优化 中移动扩大信号覆盖 ["Parcel Islands Network Optimization, China Mobile Expands Signal Coverage"], 观察者 [Observer], June 10, 2012, <https://perma.cc/8UPS-XVEX>.

¹³⁰ Wang, "China Telecom Intensively Opens Xisha 4G Base Stations;" Ruan and Qiao, "China Telecom Opens Hainan Sansha City Fiery Cross Reef and Woody Island 5G Base Stations."

¹³¹ Wang, "China Telecom Intensively Opens Xisha 4G Base Stations."

¹³² 海南移动携手华为将 5G 信号覆盖到祖国最南端 ["Hainan Mobile Joins Hands with Huawei to Bring 5G Signal Coverage to the Motherland's Southernmost Point"], 中国信息产业网 [China Information Industry Net], April 17, 2019, <https://perma.cc/LW6G-D9DY>.

¹³³ Ruan and Qiao, "China Telecom Opens Hainan Sansha City Fiery Cross Reef and Woody Island 5G Base Stations."

¹³⁴ Wang, "China Telecom Intensively Opens Xisha 4G Base Stations;" 冯星 [Feng Xing], "三沙 1 号"轮船将实现移动通信全程网络覆盖 ["'Sansha 1' Ship Will Realize Mobile Communications Whole Journey Network Coverage"], 人民网 [People Net], December 4, 2015, <https://perma.cc/T9YT-M5Y9>.

¹³⁵ Hainan Comservice is owned by China Comservice (中国通信服务股份有限公司). China Telecom is the majority shareholder of China Comservice. China Mobile and China Unicom also own shares in China Comservice. Source documents held by report author.

¹³⁶ Source documents held by report author.

¹³⁷ 海上建基站, 天涯若比邻 ["Building Base Stations at Sea, Close in Spirit Although Far Away"], 中国通信服务 [China Comservice], October 22, 2018, <https://perma.cc/MU95-7ACK>.

¹³⁸ Ibid.

¹³⁹ Ibid.

¹⁴⁰ "Building Base Stations at Sea, Close in Spirit Although Far Away;" Liu, "Sansha City Arranges Simultaneous Acceleration of Informatization Construction;" Drake Long, "China Works On Undersea Cables Between Parcel Island Outposts," Radio Free Asia, June 8, 2020, <https://www.rfa.org/english/news/china/undersea-paracels-06082020190921.html>.

¹⁴¹ "Building Base Stations at Sea, Close in Spirit Although Far Away."

¹⁴² Ibid.

Sansha City's use of 5G offers an example of how communications infrastructure supports the city's mission. On April 11, 2019, the city's first 5G base station came into use on Woody Island.¹⁴³ Built by China Mobile, this base station reportedly uses Huawei's AAU equipment based on the 2.6GHz band and can achieve a single user downlink peak rate of 1.7Gbps.¹⁴⁴ On April 12, a doctor roughly 340 kilometers (211 miles) away on Hainan used the city's 5G network to successfully conduct a "5G telemedicine ultrasound imaging application test."¹⁴⁵ On September 29, 2019, the Sansha City People's Hospital on Woody Island and the Hainan branch of the PLA General Hospital opened up a 5G telemedicine clinic.¹⁴⁶ Before these telemedicine services were available, Sansha's residents had to endure an arduous journey of at least 340 kilometers (211 miles) to receive advanced medical care.¹⁴⁷ Now residents have access to such care right on Woody Island, a notable improvement to the city's self-sufficiency.

In addition to supporting telemedicine services, Sansha City's improved communications offer a number of benefits. This infrastructure provides network coverage on occupied islands and reefs, enables military-civilian communication, provides voice and data communications for the city's vessels, facilitates video surveillance, supports the tourism and fishing industries, and aids maritime rescue operations.¹⁴⁸ In other words, these capabilities facilitate the city's day-to-day operations, help Sansha monitor its broad jurisdiction, and help the city effectively coordinate the defense of China's maritime claims. Like its physical infrastructure and transportation, Sansha's communications infrastructure forms the backbone of its system of normalized administrative control.

Corporate Ecosystem

Since 2012, the leaders of Sansha City have systematically mobilized companies in support of the city's development, fostering a vibrant corporate ecosystem. This ecosystem includes companies from all over China that bid on city contracts as well as companies registered in Sansha itself. These companies provide a range of useful goods and services that facilitate the city's daily operations and support the implementation of major policy initiatives.

Sansha City uses a public procurement process to mobilize corporate entities. Publicly available bidding data indicates that Chinese companies have been competing for city contracts for years.¹⁴⁹ For example, companies appear to have submitted bids to provide maritime law enforcement ships, unmanned maritime law enforcement vessels, ship management platforms, medical equipment, military-civilian meteorological information sharing platforms, seawater desalination facilities, telecommunications infrastructure, and harbor management services.¹⁵⁰ Companies have also submitted bids for research and planning contracts, including contracts to assess military-civil fusion

¹⁴³ "Hainan Mobile Joins Hands with Huawei to Bring 5G Signal Coverage to the Motherland's Southernmost Point."

¹⁴⁴ Ibid.

¹⁴⁵ 中国移动开通三沙首个 5G 基站 ["China Mobile Opens Sansha's First 5G Base Station"], 新华网 [Xinhua Net], April 13, 2019, <https://perma.cc/3Q5L-YSYF>.

¹⁴⁶ 郭程 [Guo Cheng] and 蒲晓旭 [Pu Xiaoxu], 中国最南端地级市三沙开通 5G 远程全门诊 ["China's Southernmost Prefecture-Level City Sansha Opens 5G Telemedicine Outpatient Services"], 新华网 [Xinhua Net], September 30, 2019, <https://perma.cc/G6RK-RV9M>.

¹⁴⁷ Ibid.

¹⁴⁸ "Building Base Stations at Sea, Close in Spirit Although Far Away;" Feng, "Sansha 1' Ship Will Realize Mobile Communications Whole Journey Network Coverage;" Wang, "China Telecom Intensively Opens Xisha 4G Base Stations; Xia and Wang, "Hainan Plans to Build New Communications Base Station Cross-Sea Optical Cables in Sansha City;" "Paracel Islands Network Optimization, China Mobile Expands Signal Coverage;" "Hainan Mobile Joins Hands with Huawei to Bring 5G Signal Coverage to the Motherland's Southernmost Point;" Liu, "Sansha City Arranges Simultaneous Acceleration of Informatization Construction."

¹⁴⁹ Source documents held by report author.

¹⁵⁰ Source documents held by report author.

in Sansha and contracts to monitor political trends and other developments in the South China Sea disputes.¹⁵¹ This public procurement process also supports the city's day-to-day business, allowing Sansha to acquire air conditioners, office supplies, diesel fuel, food, and anything else that it needs.¹⁵²

In some cases, Sansha City has established close relationships with outside contractors. For instance, in December 2018, Sansha signed a “strategic cooperation framework agreement” with China Satcom,¹⁵³ a leading satellite services provider and a subsidiary of the state-owned China Aerospace Science and Technology Corporation (CASC).¹⁵⁴ In this agreement, China Satcom pledged to use its satellite communications technology to facilitate telemedicine services on the city's islands and ships.¹⁵⁵ Publicly available bidding records suggest that the Sansha Shipping Administration (三沙市船务管理局) had previously rented satellite services from China Satcom for the *Sansha 1* transportation and supply ship.¹⁵⁶

In addition to working with outside contractors, the leaders of Sansha City have enticed hundreds of companies to register in the city. With under three square kilometers of land,¹⁵⁷ the limited space available on Woody Island should have constrained the scope of corporate activity in Sansha. However, from the city's earliest days, municipal authorities have allowed companies to register in Sansha but operate in a different location.¹⁵⁸ The city formalized this approach as the “register in Sansha, pay taxes to Sansha, brand as Sansha, operate elsewhere” (注册在三沙、税收给三沙、品牌属三沙、经营在异地) model.¹⁵⁹ According to the Hainan Province Taxation Administration, 483 tax-paying entities had registered in Sansha City by June 2019.¹⁶⁰ Publicly available corporate data

¹⁵¹ Source documents held by report author.

¹⁵² Source documents held by report author.

¹⁵³ 我市与中国卫通集团签署合作框架协议 [“Our City Signs Cooperation Framework Agreement with China Satcom Group”], 三沙旅游网 [Sansha Tourism Net], December 30, 2018, <https://perma.cc/QMU6-KK25>.

¹⁵⁴ 公司简介 [“Introduction to the Company”], 中国卫通集团股份有限公司 [China Satellite Communications Company Limited], <https://perma.cc/QAY2-3B55>.

¹⁵⁵ “Our City Signs Cooperation Framework Agreement with China Satcom Group.”

¹⁵⁶ Source documents held by report author.

¹⁵⁷ Official statistics from Hainan province indicate that Sansha had 2.25 square km of urban area in 2014 and 2.45 square km of urban area in 2017. Chinese media reports suggest that after land reclamation efforts Woody Island measured up to about 2.6 square kilometers by late 2014. Rough measurements of Woody Island via satellite imagery produce similar numbers. See 海南统计年鉴-2015 [“Hainan Statistical Yearbook-2015”], 海南省统计局 [Hainan Province Statistics Bureau]; 海南统计年鉴-2018 [“Hainan Statistical Yearbook-2018”], 海南省统计局 [Hainan Province Statistics Bureau]; 永兴岛面积 16 个月扩大 40% 机场跑道明显加长 [“Woody Island Area in 16 Months Expanded by 40 Percent, Airport Runway Clearly Lengthened”], 新浪网 [Sina Net], December 25, 2014, <https://perma.cc/LN3W-JAGX>.

¹⁵⁸ 毛鹏飞 [Mao Pengfei], 海南省批准两家企业在三沙市登记注册 [“Hainan Province Approves Two Companies to Register in Sansha City”], 人民网 [People Net], September 19, 2012, <https://perma.cc/R335-QBXH>; 李学山 [Li Xueshan] and 段欣毅 [Duan Xinyi], 三沙市发放第二批工商营业执照 注册企业达 21 家 [“Sansha City Issues Second Batch of Industrial and Commercial Operating Licenses, Registered Companies Have Reached 21”], 人民网 [People Net], July 21, 2013, <https://perma.cc/387J-R6UP>.

¹⁵⁹ Wang, “Hainan Sansha City First Batch of 11 Companies Complete Industrial and Commercial Registration;” 傅勇涛 [Fu Yongtao], 三沙: 首批进口货物入关 企业缴纳首笔海关税款 [“Sansha: First Batch of Imported Goods Enters, Companies Pay the First Customs Taxes”], 凤凰网 [ifeng Net], August 20, 2014, <https://perma.cc/52NL-8YZ6>; 尤梦瑜 [You Mengyu], 《海南日报》: 政府培育 “造沃土” 企业扎根 “初长成” [“Hainan Daily”: Government Cultivates ‘Create Fertile Land’ Companies Take Root ‘Initial Growth’], 三沙市人民政府网 [Sansha City People's Government Net], December 30, 2015, <https://perma.cc/JY7Z-JPFH>; 缪影影 [Miao Yingying], 三沙注册企业达 93 家注资逾 11 亿 [“Sansha Registered Companies Reaches 92 Injecting Over 1.1 Billion”], 海南省人民政府网 [Hainan Province People's Government Net], June 16, 2016, <https://perma.cc/4FWC-2E6T>; Liao, “Sansha Bureau Innovative Collection and Management Method Replaces Roads with the Internet.”

¹⁶⁰ Liao, “Sansha Bureau Innovative Collection and Management Method Replaces Roads with the Internet.”

confirms that at least 446 companies had registered in the city by June 2019 (see **Table 1**, below).¹⁶¹ These companies have reported a cumulative ¥8.4 billion (\$1.2 billion) in registered capital (see **Figure 6**, below).¹⁶² Thanks to these companies, the city’s tax revenue allegedly surpassed ¥100 million (\$14 million) for the first time in 2014,¹⁶³ reaching ¥700 million (\$100 million) in 2015.¹⁶⁴

Table 1. Registrations in Sansha City as of June 10, 2019¹⁶⁵

Year	Pre-2012	2012	2013	2014	2015	2016	2017	2018	2019 (June)
New Registrations	7	14	38	94	95	40	59	83	16
Cumulative Registrations	7	21	59	153	248	288	347	430	446

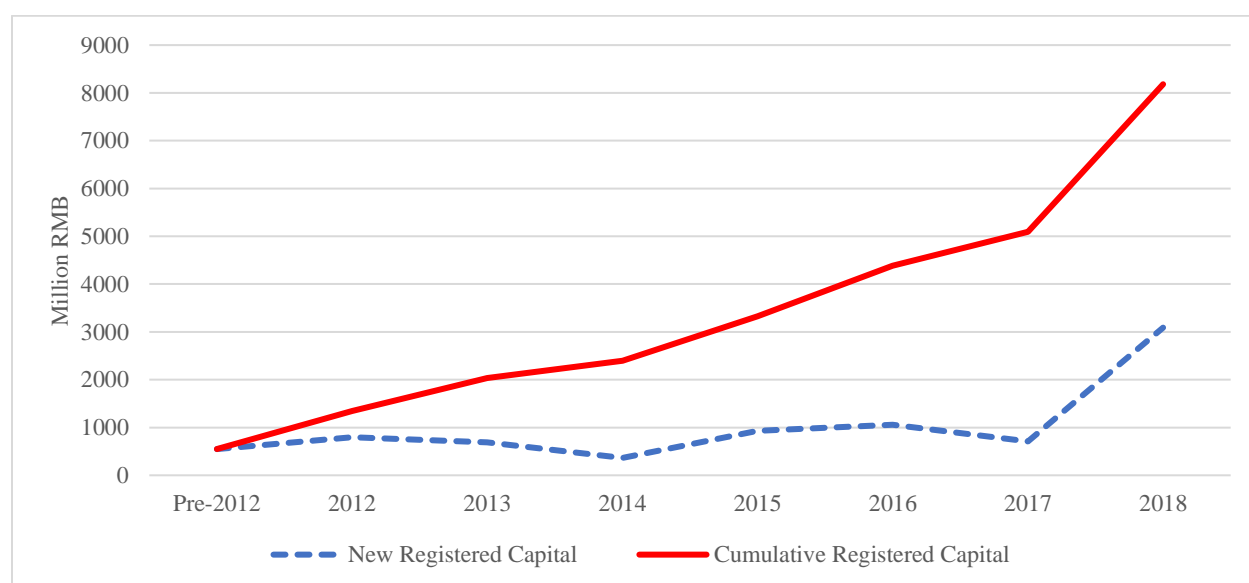


Figure 6. Registered capital in Sansha City by the end of 2018¹⁶⁶

The majority of companies registered in Sansha City appear to operate outside the city’s jurisdiction. In June 2019, the Hainan Province Taxation Administration reported that roughly 75 percent of companies registered in Sansha were operating elsewhere.¹⁶⁷ Publicly available corporate data show that, while every company registered in Sansha has an address in the city, about 70 percent of these

¹⁶¹ Data collected as of June 10, 2019. Source documents held by report author.

¹⁶² Data collected as of June 10, 2019. Source documents held by report author.

¹⁶³ 海南三沙市税收上亿 海洋油气税收取得突破 [“Hainan Sansha City Taxes Exceed 100 Million, Offshore Oil and Gas Tax Achieves Breakthrough”], 北京新闻网 [Beijing News Net], January 14, 2015, <https://perma.cc/GFG7-CAYE>.

¹⁶⁴ 高鹏 [Gao Peng], 三沙探索邮轮旅游新业态 积极开展新邮轮引进工作(组图) [“Sansha Explores Cruise Tourism New Forms, Actively Launch New Cruise Ships Introduction Work”], 三沙市人民政府网 [Sansha City People’s Government Net], January 1, 2016, <http://www.sansha.gov.cn/page.php?xuh=5008>.

¹⁶⁵ Source documents held by report author.

¹⁶⁶ Source documents held by report author.

¹⁶⁷ Liao, “Sansha Bureau Innovative Collection and Management Method Replaces Roads with the Internet.”

companies have an additional address.¹⁶⁸ Aside from a single company that lists two addresses in Sansha, all of these companies report a second address on Hainan Island.¹⁶⁹ In some cases, companies list their second address on Hainan as their “actual place of operation” (实际经营场所).¹⁷⁰ Over 60 percent of the companies registered in Sansha (286 companies) list the Xisha Hotel on Woody Island as their address (see **Figure 7**, below), which is clearly incapable of accommodating hundreds of corporate entities.¹⁷¹ Officials have even proposed making Sansha a destination for corporate offshoring, comparing the city to offshore financial centers such as the British Virgin Islands and the Cayman Islands.¹⁷²



Figure 7. The Xisha Hotel on Woody Island¹⁷³

Though most of the companies registered in Sansha City operate outside its jurisdiction, many still appear to provide valuable services for the city. For instance, the city has invested in a “companies plus fishermen” model to promote aquaculture.¹⁷⁴ Sansha Hailan Blue Pearl Culturing Company Limited (三沙海蓝蓝珍珠养殖有限公司) is one of the companies that has participated in this program.¹⁷⁵ This company has cooperated with fishermen living in the Crescent Group, reportedly investing ¥20 million (\$3 million) to develop pearl, sea cucumber, and grouper culturing.¹⁷⁶ Likewise, Sansha Meiji Fisheries Development Company Limited (三沙美济渔业开发有限公司) is heavily involved in the development of aquaculture in the Spratly Islands.¹⁷⁷ The expansion of aquaculture in the Parcel Islands feeds into the city’s broader push to encourage fishermen to switch production away from traditional fishing, participate in the tourism industry, and establish long-term

¹⁶⁸ Data collected as of June 10, 2019. Source documents held by report author.

¹⁶⁹ Data collected as of June 10, 2019. Source documents held by report author.

¹⁷⁰ Data collected as of June 10, 2019. Source documents held by report author.

¹⁷¹ Data collected as of June 10, 2019. Source documents held by report author.

¹⁷² “Recommendations on Supporting Sansha City to Implement Offshore Company Registrations;” 杨国英 [Yang Guoying], 三沙能成为中国版“开曼群岛”吗? [“Could Sansha Become China’s Cayman Islands?”], 新华网 [Xinhua Net], November 23, 2016, <https://perma.cc/Y3J9-84YF>.

¹⁷³ 遇见我心中最美的南海岛屿——三沙永兴岛 [“Meet the Most Beautiful South China Sea Island in My heart - - Sansha Woody Island”], 腾讯网 [Tencent Net], Retrieved from <https://perma.cc/P93S-88RD>; Google Earth, November 12, 2018.

¹⁷⁴ Xia, “Sansha’s Economy Accelerates, Registered Companies Break 100.”

¹⁷⁵ Gao, “Sansha Explores Cruise Tourism New Forms, Actively Launch New Cruise Ships Introduction Work.”

¹⁷⁶ Ibid.

¹⁷⁷ “Mischief Reef Grouper Ocean Cultivation, A Beautiful Low Aquatic Product Landscape Line.”

residency.¹⁷⁸ In the Spratly Islands, the development of aquaculture helps Sansha maintain a continuous civilian presence.¹⁷⁹ See **Figure 8**, below.

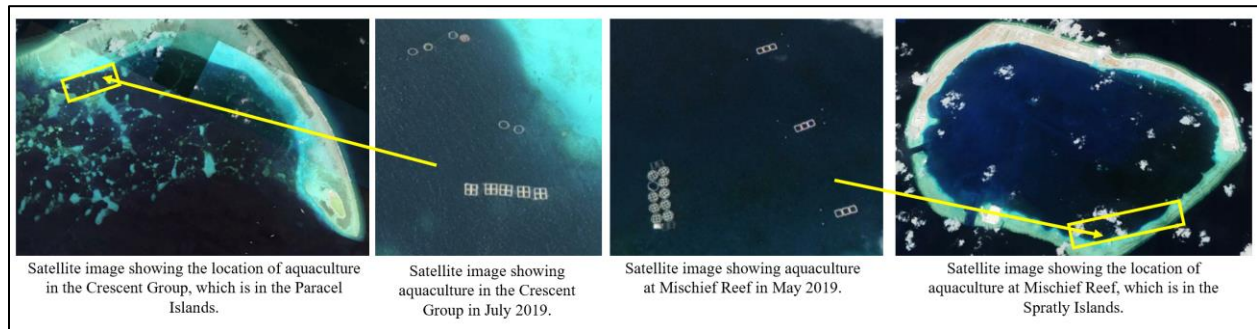


Figure 8. Aquaculture in Sansha City¹⁸⁰

Small-scale fishing enterprises, private companies, and state-owned enterprises are all present in Sansha City. Roughly one quarter of the companies in Sansha appear to be small-scale fishing enterprises registered as “individual industrial and commercial households” (个体工商户).¹⁸¹ The remaining 75 percent of companies in the city are largely a mix of private and state-owned enterprises.¹⁸² At first glance, the balance between private and state-owned enterprises appears skewed toward private enterprises.¹⁸³ By June 2019, only 15 companies listed as state-owned enterprises had registered in the city, including six municipal state-owned enterprises established under the Sansha City Finance Bureau (三沙市财政局).¹⁸⁴ Preliminary analysis of these companies’ beneficial ownership, however, reveals a greater degree of state ownership.¹⁸⁵

¹⁷⁸ You, “‘Hainan Daily’: Government Cultivates ‘Create Fertile Land’ Companies Take Root ‘Initial Growth’;” 王辛莉 [Wang Xinli] and 张茜翼 [Zhang Qianyi], 海南政协委员建议开展三沙特色环保旅游 [“Hainan Political Consultative Conference Member Recommends Opening Sansha Characteristic Environmental Protection Tourism”], 中国新闻网 [China News Net], January 28, 2013, <https://perma.cc/EL4Z-26DN>; Gao, “Encourage Fishermen to Permanently Reside on Islands and Reefs! Every Year Living 180 Days Sansha City Government Provides Subsidy;” 三沙警备司令为渔民宣讲十八大 海洋强国引共鸣 [“Sansha Garrison Commander Explains 18th Party Congress for Fishermen, Maritime Great Power Draws Sympathetic Response”], 人民网 [People Net], November 15, 2012, <https://perma.cc/A7H5-FZ54>.

¹⁷⁹ “Recommendations for Accelerating the Promotion of Nansha Fisheries Healthy Aquaculture;” “Mischief Reef Grouper Ocean Cultivation, A Beautiful Low Aquatic Product Landscape Line.”

¹⁸⁰ Google Earth, July 14, 2019; Google Earth, May 13, 2019.

¹⁸¹ About 25 percent of the city’s companies are registered as individual industrial and commercial households. Of the 112 individual industrial and commercial households in Sansha, 106 operate in the agriculture, forestry, animal husbandry, and fishery industry. Each of these 106 companies is listed as a “fishing business” (水产捕捞行). Almost all of these fishing businesses were established in 2014 or 2015. Each lists a single address on Woody Island, Tree Island, Drummond Island, Observation Bank, or another occupied feature in the Paracel Islands. Data collected as of June 10, 2019. Source documents held by report author.

¹⁸² Data collected as of June 10, 2019. Source documents held by report author.

¹⁸³ Data collected as of June 10, 2019. Source documents held by report author.

¹⁸⁴ Data collected as of June 10, 2019. Source documents held by report author.

¹⁸⁵ For example, CNPC (Sansha) Oil and Gas Company Limited (中油(三沙)石油天然气有限公司) is listed as an “other limited liability companies” (其他有限责任公司) but is ultimately state-owned. The largest shareholder in CNPC (Sansha) Oil and Gas is CNPC Hainan Sales Company Limited (中石油海南销售有限公司), yet another “other limited liability company.” The three state-owned shareholders of CNPC Hainan Sales Company Limited are PetroChina Company Limited (中国石油天然气股份有限公司), CNOOC Refining Company Limited (中海石油炼化有限责任公司), and Hainan Development Holdings Company Limited (海南省发展控股有限公司).

Private enterprises registered in Sansha City play an important role in the city’s development. For instance, Sansha Highlander Ocean Information Science and Technology Company Limited (三沙海兰信海洋信息科技有限公司) has provided monitoring, communication, and command systems. Sansha Highlander is a subsidiary of Beijing Highlander Digital Technology Company Limited (北京海兰信数据科技股份有限公司),¹⁸⁶ a PLA Navy supplier known for acquiring and “re-innovating” foreign technology to serve China’s military modernization.¹⁸⁷ Documents from Beijing Highlander indicate that Sansha Highlander has developed ship communication and navigation systems, ship to shore management systems, and ocean information monitoring systems for Sansha.¹⁸⁸ Some of the company’s specific projects in Sansha include a fisheries monitoring center,¹⁸⁹ a fisheries law enforcement ship satellite communications system,¹⁹⁰ a monitoring system for Tree Island,¹⁹¹ and maintenance services for the satellite communications system of the Sansha City Comprehensive Law Enforcement *zhidui*¹⁹² (三沙市综合执法支队).¹⁹³ Sansha Highlander has also invested in marine unmanned telemetry and remote sensing.¹⁹⁴ See **Figure 9**, below.

¹⁸⁶ Source documents held by report author.

¹⁸⁷ Marcel Angliviell de la Beaumelle, Benjamin Spevack, and Devin Thorne, “Open Arms: Evaluating Global Exposure to China’s Defense-Industrial Base” (C4ADS, 2019), p. 51.

¹⁸⁸ 北京海兰信数据科技股份有限公司 2013 年度报告 [“Beijing Highlander Digital Technology Company Limited 2013 Annual Report”], September 18, 2013, <https://www.highlander.com.cn/upload/link/1812/f1014350.doc>; 北京海兰信数据科技股份有限公司 2014 年年度报告 [“Beijing Highlander Digital Technology Company Limited 2014 Annual Report”], December 18, 2014, <https://www.highlander.com.cn/upload/link/1812/f1012457.doc>; 北京海兰信数据科技股份有限公司 2015 年年度报告 [“Beijing Highlander Digital Technology Company Limited 2015 Annual Report”], December 18, 2015, <http://www.highlander.com.cn/upload/link/1812/f1011888.docx>.

¹⁸⁹ “Beijing Highlander Digital Technology Company Limited 2015 Annual Report.”

¹⁹⁰ *Ibid.*

¹⁹¹ Source documents held by report author.

¹⁹² According to Kenneth Allen, “there is no good translation for *zhidui*, which is often translated as flotilla, naval ship brigade, and detachment.” Kenneth W. Allen, “Chapter One: Introduction to the PLA’s Organizational Reforms: 2000-2012,” in *The PLA as Organization v2.0.*, eds. Kevin Pollpeter and Kenneth W. Allen (Defense Group Inc.), p. 52.

¹⁹³ Source documents held by report author.

¹⁹⁴ 企业简介 [“Introduction to the Company”], 武汉劳雷船舶科技有限公司 [Wuhan Greenbay Marine Technology Company Limited], Retrieved from <https://perma.cc/HV5N-T9TT>.

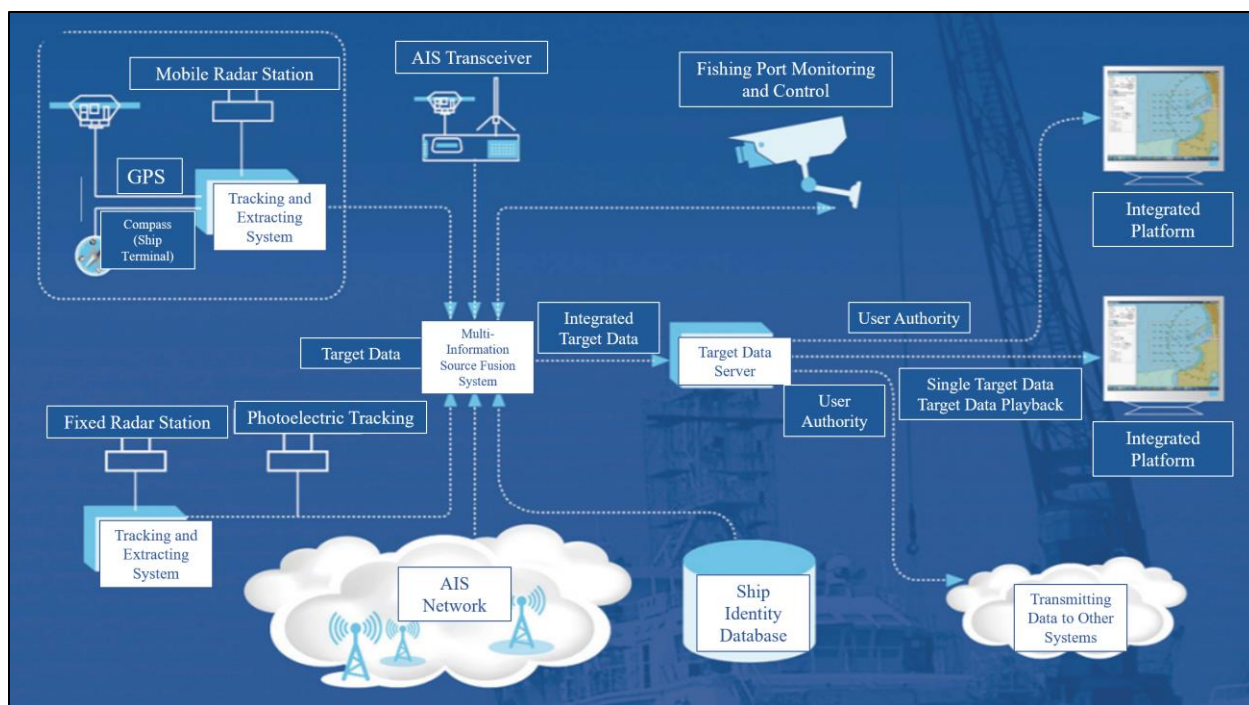


Figure 9. Diagram of an intelligent radar monitoring system advertised by Beijing Highlander (author translation)¹⁹⁵

The municipal state-owned enterprises registered in Sansha City oversee important areas of the city’s development as well. Sansha City Fisheries Development Company Limited (三沙市渔业发展有限公司),¹⁹⁶ for example, appears to support the development of Sansha’s maritime militia force.¹⁹⁷ According to an article by the commander of Sansha’s PLA garrison in *National Defense*,¹⁹⁸ a publication of the PLA Academy of Military Sciences, this company is responsible for organizing Sansha’s maritime militia units and managing their new steel-hulled vessels.¹⁹⁹ In 2015, Hainan’s governor described Sansha City Fisheries Development as having “a new type of crew” with strong rights defense capabilities.²⁰⁰ Publicly available bidding records show that this company is involved in wide range of commercial activity that could possibly support Sansha’s maritime militia, such as procuring maritime satellite phones and purchasing fishing boat firefighting equipment.²⁰¹ Moreover,

¹⁹⁵ This system combines AIS, video surveillance, and other capabilities for use in maritime fisheries law enforcement and other areas. It may be similar to the systems that Sansha Highlander has developed for Sansha City. See “Intelligent Radar Monitoring System,” 北京海兰信数据科技股份有限公司官方网站 [Beijing Highlander Digital Technology Company Limited Website], <http://www.highlander.com.cn/upload/editor/file/20181205/05130821733.pdf>.

¹⁹⁶ The Sansha City Finance Bureau established Sansha City Fisheries Development in February 2015 with ¥100 million (\$14 million) of registered capital. Source documents held by report author.

¹⁹⁷ Kennedy and Erickson, “Riding a New Wave of Professionalization and Militarization.”

¹⁹⁸ An individual named Cai Xihong (蔡喜宏) is one of the article’s authors. An individual named Cai Xihong (蔡喜宏) also served as the commander of the Sansha Garrison. These two individuals named Cai Xihong are likely the same person.

¹⁹⁹ 蔡喜宏 [Cai Xihong] and 洪耀 [Hong Yao], 国防建设巡礼——海南省三沙市 [“National Defense Building Tour - - Hainan Province Sansha City”], 国防 [National Defense], no. 6 (2015), pp. 84-87.

²⁰⁰ 李学山 [Li Xueshan], 刘赐贵三沙调研:力争尽快开通空、海固定航线 [“Liu Cigui’s Sansha Investigation: Strive to Quickly Open Air and Sea Fixed Routes”], 凤凰网 [ifeng Net], June 10, 2015, <https://perma.cc/G3TA-QGVW>.

²⁰¹ Source documents held by report author.

records indicate that the company has facilities at multiple ports, including Yazhou Central Fishing Harbor,²⁰² a port used by Sansha's maritime militia fleet.²⁰³

Corporate activity has fueled the growth of Sansha City. For years, external contractors and companies registered in the city have worked closely with the municipal party-state to implement a wide range of projects. These companies offer valuable technical capabilities, tax revenue, experience, intellectual property, equipment, industry connections, and other resources that support every facet of Sansha's development and day-to-day affairs, including maritime law enforcement and maritime militia operations. The city's capacity to mobilize corporate entities is therefore a crucial component of Sansha's system of normalized administrative control.

Party-State Institutions

Sansha City is responsible for directly administering the bulk of China's claims in the South China Sea, a role that requires strong party-state institutions. Sansha has four primary levels of party-state institutions: city (市), district (区), management committee (管理委员会), and community resident committee (社区居民委员会).²⁰⁴ These institutions generate the city's "political power" (政权) or, in other words, the city's capacity to govern the South China Sea as if it belonged to the Chinese polity. Central, provincial, and municipal authorities have all emphasized the importance of strengthening Sansha's political power.²⁰⁵ Hainan's party secretary, for example, linked building political power to "ensuring the orderly and effective administrative management of Sansha City."²⁰⁶

At the city level, Sansha City reportedly established at least 12 new administrative organs (行政机构) and 18 new public institutions in 2013.²⁰⁷ The municipal party committee and government now oversee a number of different departments, bureaus, and committees that perform a wide range of important duties. For instance, the Sansha City Emergency Management and Comprehensive Administrative Law Enforcement Bureau (三沙市应急管理和综合行政执法局) manages the city's comprehensive law enforcement *zhidui*,²⁰⁸ a maritime law enforcement force that is responsible for

²⁰² Source documents held by report author.

²⁰³ Kennedy and Erickson, "Riding a New Wave of Professionalization and Militarization."

²⁰⁴ 王子谦 [Wang Ziqian] and 王晓斌 [Wang Xiaobin], 海南三沙市成立七连屿工委、管委会 ["Hainan Sansha City Establishes Qilian Islets Working Committee and Management Committee"], 人民网 [People Net], July 24, 2014, <https://perma.cc/5L9V-CAMG>; Zachary Haver, "Sansha and the Expansion of China's South China Sea Administration," Asia Maritime Transparency Initiative, May 12, 2020, <https://amti.csis.org/sansha-and-the-expansion-of-chinas-south-china-sea-administration/>.

²⁰⁵ "Beautiful Chapter by Spring Breeze - - General Secretary Xi Jinping Inspects Hainan Record;" "Luo Baoming Gives Speech at Sansha City Establishment Assembly and Unveiling Ceremony;" 关向东 [Guan Xiangdong] and 王子谦 [Wang Ziqian], 三沙百亿基础设施获中央支持 含机场码头 8 项目 ["Sansha 10 Billion in Infrastructure Receives Central Support, 8 Projects Including Airport and Wharf"], 腾讯网 [Tencent Net], November 2, 2012, <https://perma.cc/8S6A-ANPG>.

²⁰⁶ "Luo Baoming Gives Speech at Sansha City Establishment Assembly and Unveiling Ceremony."

²⁰⁷ 王子谦 [Wang Ziqian], 三沙市推进南沙群岛基层政权建设 ["Sansha City Advances Spratly Islands Grassroots Political Power Construction"], 新浪网 [Sina Net], March 26, 2014, <https://perma.cc/Z9XF-P4BZ>; 符玲 [Fu Ling], 三沙市已建立行政机构 12 个 政权建设迈出坚实步伐 ["Sansha City Has Already Set Up 12 Administrative Organs, Political Power Construction Advancing at a Firm Step"], 新浪网 [Sina Net], March 26, 2014, <https://perma.cc/D2SP-FD7S>; Fu and Liu, "Xiao Jie: Sansha's Construction Will Not Delay for Even a Day;" 洪媛媛 [Hong Yuanyuan], 政权建设覆盖基层 团结共建美好家园 ["Political Power Construction Covers Grassroots, United to Jointly Build a Beautiful Home"], 三沙市人民政府网 [Sansha City People's Government Net], January 7, 2015, <https://perma.cc/LB4K-33BF>.

²⁰⁸ "海南自贸港面向全球招聘人才活动" 三沙市事业单位招聘公告 (第 1 号) ["Hainan Free Trade Port Oriented Toward Whole World Recruiting Talent Activity' Sansha City Public Institutions Recruitment Announcement (#1)"], 三沙市人民政府网 [Sansha City People's Government Net], March 31, 2020, <https://perma.cc/D4HD-ECD8>.

rights defense, fisheries management, and environmental protection operations.²⁰⁹ This bureau also carries out disaster prevention and mitigation and emergency response work in Sansha.²¹⁰ Another example is the Sansha City Shipping Administration (三沙市船务管理局), which oversees the construction and management of the city's transportation and supply ships, inter-island transportation boats, emergency rescue ships, and other such vessels.²¹¹

Sansha City has two districts, both created in April 2020.²¹² The Xisha District (西沙区) People's Government is based on Woody Island and has jurisdiction over the Paracel Islands and Zhongsha Islands.²¹³ The Nansha District (南沙区) People's Government is based on Fiery Cross Reef and has jurisdiction over the Spratly Islands.²¹⁴ Each district assumably has a district party committee as well.²¹⁵ Though publicly available information on these new districts is scarce, the establishment of Xisha District and Nansha District will likely improve Sansha's administrative capacity and expand localized policymaking.²¹⁶

Working committees are party institutions and management committees are their corresponding state institutions.²¹⁷ By mid-2015, Sansha City had established four pairs of working committees (工作委员会) and management committees.²¹⁸ These four pairs of committees have jurisdiction over the Crescent Group, the Qilian Islets (七连屿), Woody Island, and the Spratly Islands (see **Figure 10**, below).²¹⁹ These party-state institutions are allegedly responsible for organizing, coordinating, and managing maritime law enforcement, maritime militia, environmental protection, emergency, disaster prevention, fishing, infrastructure construction, and grassroots party work.²²⁰ Notably, the city's working committees and management committees appear to be part of the chain of command

²⁰⁹ 魏骅 [Wei Hua], 三沙市综合执法支队巡航西沙群岛 ["Sansha City Comprehensive Law Enforcement Zhidui Patrols Paracel Islands"], 中国军网 [China Military Net], August 15, 2015, <https://perma.cc/2U63-PEJK>; "Hainan Free Trade Port Oriented Toward Whole World Recruiting Talent Activity' Sansha City Public Institutions Recruitment Announcement (#1);" 三沙市海洋和渔业局-2019年西沙海域长棘海星应急清理-单一来源公示 ["Sansha City Oceans and Fisheries Buries - 2019 Xisha Sea Area Crown-of-Thorns Starfish Emergency Clean Up – Single Source Announcement"], 海南省政府采购网 [Hainan Province Government Purchasing Net], December 5, 2019, <https://perma.cc/A86R-P3RV>.

²¹⁰ 邓忠赴市应急和综合执法局调研 ["Deng Zhong Goes to City Emergency and Comprehensive Law Enforcement Bureau for Investigation"], 三沙市人民政府网 [Sansha City People's Government Net], August 14, 2020, <https://perma.cc/6W7Y-5JTN>.

²¹¹ "Hainan Free Trade Port Oriented Toward Whole World Recruiting Talent Activity' Sansha City Public Institutions Recruitment Announcement (#1)."

²¹² 民政部关于国务院批准海南省三沙市设立市辖区的公告 ["Announcement of the Ministry of Civil Affairs on the State Council Approving Hainan Province Sansha City to Establish City Jurisdiction Districts"], 中国政府网 [China Government Net], April 18, 2020, <https://perma.cc/XU9X-CKE5>.

²¹³ Ibid.

²¹⁴ Ibid.

²¹⁵ Haver, "Sansha and the Expansion of China's South China Sea Administration."

²¹⁶ Haver, "Sansha and the Expansion of China's South China Sea Administration."

²¹⁷ 杜颖 [Du Ying] and 胡续发 [Hu Xufa], 三沙首个基层政权组织成立 永乐工委管委会挂牌 ["Sansha First Grassroots Political Power Organization Established, Yongle Working Committee and Management Committee Opened"], 人民网 [People Net], July 23, 2013, <https://perma.cc/GD27-UYXG>.

²¹⁸ Zhou, "Islands and Reefs Party Flags are a Special Kind of Red."

²¹⁹ Zhou, "Islands and Reefs Party Flags are a Special Kind of Red."

²²⁰ Du and Hu, "Sansha First Grassroots Political Power Organization Established, Yongle Working Committee and Management Committee Opened;" Wang and Wang, "Hainan Sansha City Establishes Qilian Islets Working Committee and Management Committee;" 王子谦 [Wang Ziqian] and 王晓斌 [Wang Xiaobin], 三沙成立永兴(镇)工委、管委会系第三个派出机构 ["Sansha Establishes Yongxing (Town) Working Committee and Management Committee, The Third Dispatched Organization"], 人民网 [People Net], July 26, 2014, <https://perma.cc/85BQ-CX46>.

in rights defense operations.²²¹ For example, the Qilian Islets Working Committee and the Qilian Islets Management Committee reportedly oversee a public security workstation, a border defense workstation, a comprehensive law enforcement workstation, a maritime militia command center, and a medical aid center.²²² Likewise, one of Sansha’s comprehensive law enforcement vessels appears to be permanently stationed in the Crescent Group under the command of the Crescent Group Working Committee and Crescent Group Management Committee.²²³



Figure 10. Sansha City’s four pairs of management committees and working committees²²⁴

By late 2015, Sansha City had set up ten community resident committees.²²⁵ These ten grassroots organizations have jurisdiction over Tree Island, North Island, Drummond Island, Yagong Island, Observation Bank, Antelope Reef, Mischief Reef, Robert Island, Woody Island, and the military camp (营区) on Woody Island (see **Figure 11**, below).²²⁶ Sansha’s community resident committees appear to be generally responsible for managing the affairs of fishermen, soldiers, and other residents.²²⁷ For instance, the community resident committee in charge of Woody Island’s military camp carries out work in support of the families of soldiers stationed on Woody Island.²²⁸ This work contributes to the city’s broader military-civil fusion and “double support” (双拥) campaign, which includes implementing preferential policies for soldiers and their families.²²⁹

²²¹ Wang, “Working Committee Secretary Says Change.”

²²² Wang and Wang, “Hainan Sansha City Establishes Qilian Islets Working Committee and Management Committee.”

²²³ Zhao and Chen, “South China Sea Law Enforcement Forces: Already Has The Capability to Patrol Nansha Sea Area.”

²²⁴ Created using Google Earth.

²²⁵ “Sansha Overview;” Zhou, “Islands and Reefs Party Flags are a Special Kind of Red;” 王玉洁 [Wang Yujie], 三沙永兴岛工委营区社区居委会成立 [“Sansha Woody Island Working Committee Military Camp Community Resident Committee Established”], 环球网 [Huanqiu Net], October 10, 2015, <https://perma.cc/NF6T-V7QW>.

²²⁶ Fu, “Hainan Sansha City Fishermen and Party Members Already Cover All Island and Reef Communities;” 王子谦 [Wang Ziqian] and 王晓斌 [Wang Xiaobin], 三沙市西沙群岛有居民岛礁实现群众自治组织全覆盖 [“Sansha City Paracel Islands Inhabited Islands and Reefs Realize Mass Autonomous Organizations Full Coverage”], 人民网 [People Net], July 22, 2014, <https://perma.cc/KN5H-JEEZ>; Wang, “Sansha Woody Island Working Committee Military Camp Community Resident Committee Established.”

²²⁷ Wang and Wang, “Sansha City Paracel Islands Inhabited Islands and Reefs Realize Mass Autonomous Organizations Full Coverage;” Wang, “Sansha Woody Island Working Committee Military Camp Community Resident Committee Established;” Fu, “Hainan Sansha City Fishermen and Party Members Already Cover All Island and Reef Communities.”

²²⁸ Wang, “Sansha Woody Island Working Committee Military Camp Community Resident Committee Established.”

²²⁹ Liu, “Sansha City Founding 11th National Double Support Model City Records;” 李庆芳 [Li Qingfang], 三沙市荣获“全国双拥模范城” 8月28日揭牌 [“Sansha City Awarded ‘National Double Support Model City’ Unveiled on August 28”], 三沙市人民政府网 [Sansha City People’s Government Net], August 29, 2016, <https://perma.cc/T89Z-KVSG>; 三沙市委书记肖杰: 南海一大批岛礁已绿树成荫、鸡鸭成群 [“Sansha City Secretary Xiao Jie: A Large Number of South China Sea Islands and Reefs Already Have Trees Providing Shade and Groups of Chickens and Ducks”], 观察者 [Observer], September 5, 2016, <https://perma.cc/YCB6-MGJK>.

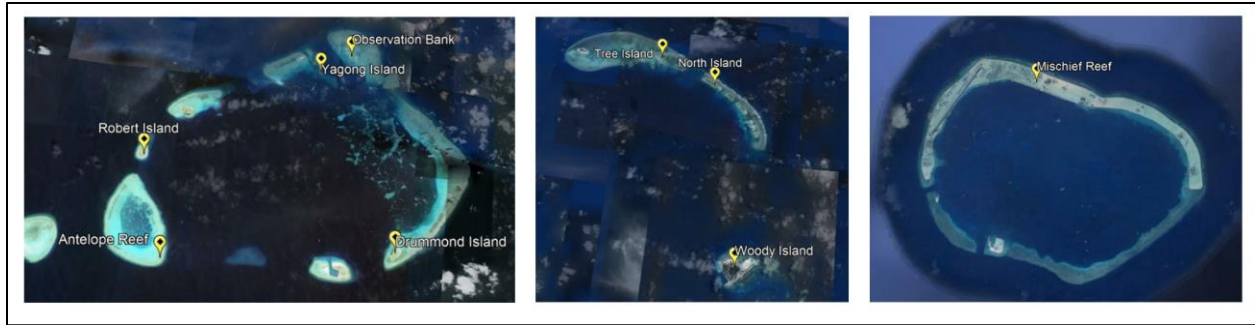


Figure 11. Locations of Sansha City’s ten community resident committees²³⁰

Beyond these four main levels of party-state institutions, Sansha City has also invested in grassroots party building. For example, by late 2016 the city had reportedly established one grassroots party committee (基层党委), six general party branches (党总支), and 79 party branches (党支部), comprising a total of 468 party members.²³¹ These party organizations ensure tight CCP control over Sansha’s operations, including on the city’s fishing boats, maritime law enforcement vessels, and bases in the Spratly Islands.²³² The Mischief Reef Community Party Branch, for example, has allegedly guided the development of aquaculture in the Spratly Islands,²³³ which helps China maintain a continuous civilian presence in the area.²³⁴

Sansha City has developed an increasingly mature judicial system as well. When Sansha was founded in 2012, relevant authorities established a court and prosecution office on Woody Island,²³⁵ both of which answer to the city government.²³⁶ The city later added a second tier to its judicial system,²³⁷ establishing an additional court and prosecution office under its original judicial organs.²³⁸ Moreover, Sansha started building detention facilities in 2015 and finished a new courthouse around late 2017 (see **Figure 12**, below).²³⁹ Sansha’s judicial system allows the city to uphold Chinese law

²³⁰ Created using Google Earth.

²³¹ Wang, “Working Committee Secretary Says Change.”

²³² Zhou, “Islands and Reefs Party Flags are a Special Kind of Red;” Wang, “Working Committee Secretary Says Change;” 彭子娥 [Peng Zi’e], 向国祥代表: 着力探索开放发展休闲渔业 促三沙发展 [“Representative Xiang Guoyang: Try Hard to Explore Opening Up and Developing Recreational Fisheries, Promote Sansha’s Development”], 三沙市人民政府网 [Sansha City People’s Government Net], January 28, 2019, <https://perma.cc/6DW8-FYPC>.

²³³ Fu, “Hainan Sansha City Fishermen and Party Members Already Cover All Island and Reef Communities.”

²³⁴ “Recommendations for Accelerating the Promotion of Nansha Fisheries Healthy Aquaculture.”

²³⁵ Namely, the Hainan Province Sansha City Intermediate People’s Court (海南省三沙市中级人民法院) and the Sansha City People’s Procuratorate (海南省三沙市人民检察院).

²³⁶ 三沙市中级人民法院 [“Sansha City Intermedia People’s Court”], 海南省高级人民法院 [Hainan Province High People’s Court], <https://perma.cc/JQE9-8B3B>; 李轩甫 [Li Xuanfu], 海南省三沙市人民检察院揭牌 立足海岛服务民生 [“Hainan Province Sansha City People’s Procuratorate Opened, Established to Serve the People’s Livelihood on Islands”], 正义网 [Justice Net], July 25, 2012, <https://perma.cc/5NSJ-QNPU>; 李晓梅 [Li Xiaomei], 海南三沙市政权组建正式启动 将直选 60 名人大代表 [“Hainan Sansha City Political Power Building Officially Starts, Will Directly Elect 60 People’s Congress Representatives”], 人民网 [People Net], July 17, 2012, <https://perma.cc/CGA3-Y6K3>.

²³⁷ 王银胜 [Wang Yinsheng] and 方茜 [Fang Qian], 助海南自贸区建设 看法院如何发力 [“Help Hainan Free Trade Zone Construction, See How the Court Uses Shows Strength”], 人民法院报 [People’s Court Daily], May 14, 2019, <https://perma.cc/FK7W-MLRS>; Hong, “Political Power Construction Covers Grassroots, United to Jointly Build a Beautiful Home;” “Sansha City Intermedia People’s Court.”

²³⁸ Namely, the Sansha City Sansha Islands People’s Court (三沙市三沙群岛人民法院) and the Sansha City Sansha Islands People’s Procuratorate (三沙市三沙群岛人民检察院).

²³⁹ Li, “Sansha City Detention Facilities (Guarded Facilities) Construction Starts, Can Detain 56 People;” finished courthouse visible on Google Earth.

within its jurisdiction. For instance, in June 2015 Sansha’s lower court reportedly held the first trial on Woody Island since the founding of Sansha.²⁴⁰ In this case, the court tried and sentenced two defendants for purchasing and transporting endangered wildlife in the Spratly Islands.²⁴¹ The court allegedly stated that “the sentencing in this case makes clear Sansha’s dedication to cracking down on activities that destroy the marine ecological environment.”²⁴²



Figure 12. Woody Island’s new courthouse²⁴³

The expansion of party-state intuitions in Sansha City is among the most significant aspects of the city’s development. For one matter, these institutions oversee other areas of the city’s development, promoting the development of Sansha’s physical infrastructure and transportation, communications, rights defense system, and corporate ecosystem. Additionally, they manage the city’s day-to-day affairs, which includes directing maritime law enforcement operations and certain maritime militia activities. In this sense, Sansha’s party-state institutions provide the political, bureaucratic, and legal resources that the city needs to sustain its system of normalized administrative control. At the same time, Sansha’s party-state institutions also guarantee the primacy of CCP leadership in the city’s system of normalized administrative control.

Rights Defense System

Sansha City has developed a system of rights defense rooted in the concept of military-civil fusion. This rights defense system has three main layers: the PLA, maritime law enforcement forces, and maritime militia forces and fishermen.²⁴⁴ These three layers come together as a system of “military,

²⁴⁰ Song, “Sansha City Sansha Islands People’s Court Hears First Case on Woody Island.”

²⁴¹ Ibid.

²⁴² Ibid.

²⁴³ 「三沙检察」守护祖国最南端 · 喜看三沙检察六年发展巨变 [(Sansha Prosecution) Defending the Motherland’s Southernmost Point – Happy to See Sansha Prosecution 6 Years Development Big Changes], 雪花新闻 [Xuehua News], July 25, 2018, <https://perma.cc/W9N9-E7GK>; Google Earth, June 3, 2019.

²⁴⁴ Wang, “Sansha City Promotes Military, Law Enforcement, and Civilian Joint Defense Mechanism, Constructs Three-Line Maritime Rights Defense Structure;” Zhao and Chen, “South China Sea Law Enforcement Forces: Already Has The Capability to Patrol Nansha Sea Area;” “Recommendations on Integrating Private Enterprise to Develop South China Sea Fisheries;” “Click Sansha City Government Work Report Key Words.”

law enforcement, and civilian joint defense” (军警民联防).²⁴⁵ This arrangement allows Sansha to effectively coordinate the protection of China’s maritime claims in the South China Sea.²⁴⁶

The PLA

The PLA constitutes the top layer of Sansha City’s rights defense system. The Central Military Commission established the PLA Hainan Province Sansha Garrison (中国人民解放军海南省三沙警备区) as a division-level unit (正师级单位) on the same day that China founded Sansha.²⁴⁷ Both in theory and in practice, the Sansha Garrison falls under the leadership of the provincial garrison and municipal party-state.²⁴⁸ For example, Sansha’s party secretary and mayor typically serves as the first secretary of the garrison’s party committee.²⁴⁹ Moreover, the garrison’s commanders and political commissars have at various points served on the standing committee of the city’s party committee.²⁵⁰ As an administrative entity, the Sansha Garrison does not command combat forces in the South China Sea, which belong to other parts of the PLA.²⁵¹ Rather, the Sansha Garrison appears to be responsible for coordinating military-city relations, training and equipping the city’s maritime militia forces, and commanding the “military operations and missions” (军事行动任务) of the city’s maritime militia, among other tasks.²⁵² In this role, the Sansha Garrison may serve as a bridge

²⁴⁵ For more on joint defense, see Kennedy and Erickson, “China Maritime Report No. 1: China’s Third Sea Force, The People’s Armed Forces Maritime Militia: Tethered to the PLA,” p. 4; Conor M. Kennedy and Andrew S. Erickson, “Hainan’s Maritime Militia: China Builds a Standing Vanguard, Pt. 1,” Center for International Maritime Security, March 25, 2017, <http://cimsec.org/hainans-maritime-militia-china-builds-standing-vanguard-pt-1/31556>.

²⁴⁶ Because of the municipal party-state’s involvement, it is also sometimes described as a “party, government, military, law enforcement, and civilian” (党政军警民) or “five in one” (五位一体) system. See 郭诗琳 [Guo Shilin], 祖国“南大门”筑起“钢铁长城” [“The Motherland’s ‘Southern Gate’ Becomes a ‘Great Wall of Steel’”], 三沙市人民政府网 [Sansha City People’s Government Net], July 30, 2016, <https://perma.cc/S5TJ-YSZS>; 洪媛媛 [Hong Yuanyuan], 我市八一拥军慰问团慰问海南省军区、南舰部队 [“Our City’s 8-1 Supporting the Military Greeting Group Greets Hainan Province Garrison and South Sea Fleet Units”], 三沙市人民政府网 [Sansha City People’s Government Net], July 20, 2016, <https://perma.cc/B32Z-XTJE>; 王蓓蓓 [Wang Beibei], 肖杰: 不忘初心 再创全国双拥模范城 [“Xiao Jie: Do Not Forget the Original Aspirations, Recreate National Double Support Model City”], 三沙市人民政府网 [Sansha City People’s Government Net], August 6, 2016, <https://perma.cc/3REV-A369>; Wu, “Wu Shaoyuan: Sansha’s Peculiarity is Becoming More Prominent.”

²⁴⁷ “Luo Baoming Gives Speech at Sansha City Establishment Assembly and Unveiling Ceremony;” Wang and Ceng, “Central Military Commission Approves and Agrees to Organize Sansha Garrison, Is a Division-Level Unit.”

²⁴⁸ Wang and Ceng, “Central Military Commission Approves and Agrees to Organize Sansha Garrison, Is a Division-Level Unit;” “Strive to Write a New Chapter in Military-Civil Fusion-Style Development;” 《2006年中国的国防》白皮书 [“China’s National Defense in 2006’ White Paper”], 中华人民共和国国防部 [PRC Ministry of National Defense], January 6, 2011, <https://perma.cc/88TP-TE57>.

²⁴⁹ 三沙海上民兵连成立 男女民兵肩挎 56 步枪宣誓 [“Sansha Maritime Militia Company Established, Male and Female Militia Members’ Shoulders Carry 56 Rifles and Swear Oaths”], 观察者 [Observer], July 23, 2013, <https://perma.cc/V2VP-7QP9>; 在新的起点上推进三沙警备区全面建设稳步发展 [“From a New Starting Point Advance Sansha Garrison Comprehensive Construction and Steady Development”], 海外网 [Overseas Net], January 29, 2018, <https://perma.cc/5RMN-CQ6Z>; Peng, “Zhang Jun Goes to Sansha Garrison for Investigation.”

²⁵⁰ 朱明江同志简历 [“Comrade Zhu Mingjiang Resume”], 三沙市人民政府网 [Sansha City People’s Government Net], July 1, 2019, <https://perma.cc/KTE7-ACS4>; Wang, Sansha City Promotes Military, Law Enforcement, and Civilian Joint Defense Mechanism, Constructs Three-Line Maritime Rights Defense Structure.”

²⁵¹ Dennis J. Blasko and M. Taylor Fravel, “Much Ado About The Sansha Garrison,” *The Diplomat*, August 23, 2012, <https://thediplomat.com/2012/08/much-ado-about-the-sansha-garrison/>.

²⁵² Wang and Ceng, “Central Military Commission Approves and Agrees to Organize Sansha Garrison, Is a Division-Level Unit;” 张宝印 [Zhang Baoyin] and 贾启龙 [Jia Qilong], 三沙警备区用使命和血性锻造为国守海的维权尖兵 [“Sansha Garrison Uses Mission and Unyielding to Forge the Rights Defense Vanguard for the National Guarding Sea”], 人民网 [People Net], October 11, 2016, <https://perma.cc/Y2NY-GPP5>; Guo, “The Motherland’s ‘Southern Gate’ Becomes a ‘Great Wall of Steel;” 国防部: 三沙警备区主要领导已任命 [“Ministry of National Defense: Sansha

between the municipal party-state and the PLA combat forces stationed within the city's jurisdiction.²⁵³ As such, the "military" component of Sansha's joint defense system likely includes both the Sansha Garrison as well as other PLA entities,²⁵⁴ such as the PLAN South Sea Fleet's Xisha Maritime Garrison (西沙水警区), which is responsible for combat operations and appears to have a close relationship with the city.²⁵⁵

Maritime Law Enforcement Forces

Maritime law enforcement forces provide the middle layer of Sansha City's rights defense system. By early 2013,²⁵⁶ municipal leaders had set up the Sansha City Comprehensive Law Enforcement Bureau (三沙市综合执法局).²⁵⁷ The city appears to have created this new bureau to integrate its existing maritime law enforcement forces.²⁵⁸ At the time, Sansha's party secretary and mayor claimed that the Sansha City Comprehensive Law Enforcement Bureau would build an information sharing platform, coordinate patrols and joint operations, and accumulate experience to inform China's national maritime law enforcement reforms.²⁵⁹ The city appears to have taken this latter goal quite seriously. As part of the Hainan delegation to the 1st Session of the 12th National People's Congress in March 2013, Sansha's party secretary and mayor reportedly suggested selecting the Paracel Islands as an area to test "maritime comprehensive law enforcement management."²⁶⁰

Under the Sansha City Comprehensive Law Enforcement Bureau, the city established the Sansha City Comprehensive Law Enforcement *zhidui*.²⁶¹ In creating this new force, leaders appear to have combined the Sansha City Fisheries Law Enforcement *zhidui* (三沙市渔政支队), China Marine

Garrison Main Leaders Have Been Appointed"], 中华人民共和国国防部 [PRC Ministry of National Defense], July 26, 2012, <https://perma.cc/GRK4-VXGF>.

²⁵³ Wang and Ceng, "Central Military Commission Approves and Agrees to Organize Sansha Garrison, Is a Division-Level Unit;" "Ministry of National Defense: Sansha Garrison Main Leaders Have Been Appointed;" Guo, "The Motherland's 'Southern Gate' Becomes a 'Great Wall of Steel'."

²⁵⁴ For example, see Fei, "Fisheries Administration, Marine Surveillance, and Coast Guard Mechanism Coordination, Sansha Maritime Rights Defense Law Enforcement System is Improving Daily."

²⁵⁵ "Ministry of National Defense: Sansha Garrison Main Leaders Have Been Appointed;" Hong, "Our City's 8-1 Supporting the Military Greeting Group Greets Hainan Province Garrison and South Sea Fleet Units;" Wang, "Sansha City Spring Festival Supporting the Military Greeting Group Goes to Zhanjiang to Green Unit Officers and Soldiers."

²⁵⁶ 曹滢 [Cao Ying], 姜春媛 [Jiang Chuanyuan], and 陶叶 [Tao Ye], 三沙市长肖杰: 九天八夜没走完 晒一小时就脱皮 ["Sansha City Mayor Xiao Jie: 9 Days 8 Nights Did Not Finish, In the Sun for 1 Hour Already Hurt"], 中国新闻网 [China News Net], March 15, 2013, <https://perma.cc/XZ7H-RS9G>.

²⁵⁷ This bureau has possibly operated as the Sansha City Oceans and Fisheries Bureau (三沙市海洋与渔业局) as well. See 三沙市海监支队开展海上综合执法 ["Sansha City Maritime Surveillance Zhidui Launches Maritime Comprehensive Law Enforcement"], 海南省海洋与渔业厅 [Hainan Province Oceans and Fisheries Department], January 6, 2013, <https://perma.cc/Y3CB-VUCE>.

²⁵⁸ Zhao and Chen, "South China Sea Law Enforcement Forces: Already Has The Capability to Patrol Nansha Sea Area;" Cao, Jiang, and Tao, "Sansha City Mayor Xiao Jie: 9 Days 8 Nights Did Not Finish, In the Sun for 1 Hour Already Hurt;" "Sansha City Maritime Surveillance Zhidui Launches Maritime Comprehensive Law Enforcement;" "Hainan Free Trade Port Oriented Toward Whole World Recruiting Talent Activity' Sansha City Public Institutions Recruitment Announcement (#1)."

²⁵⁹ Cao, Jiang, and Tao, "Sansha City Mayor Xiao Jie: 9 Days 8 Nights Did Not Finish, In the Sun for 1 Hour Already Hurt."

²⁶⁰ 李志健 [Li Zhijian], 三沙市长: 现有常住人口 833 人 希望特殊户籍政策 ["Sansha City Mayor: Currently Has a Permeant Population of 833 People, Hopes for a Special Household Registration Policy"] 凤凰网 [ifeng Net], March 7, 2013, <https://perma.cc/93ZB-ZSWL>.

²⁶¹ "Hainan Free Trade Port Oriented Toward Whole World Recruiting Talent Activity' Sansha City Public Institutions Recruitment Announcement (#1)."

Surveillance Sansha *zhidui* (中国海监三沙支队), and possibly other forces.²⁶² Armed with a growing fleet of ships, the Sansha City Comprehensive Law Enforcement *zhidui* is responsible for rights defense, fisheries management, environmental protection, and other similar missions.²⁶³ The Sansha City Comprehensive Law Enforcement *zhidui* and Sansha City Comprehensive Law Enforcement Bureau's forces appear to operate as "Sansha Comprehensive Law Enforcement" (SCLE).²⁶⁴

In late 2019, Sansha City further reformed the SCLE. In accordance with provincial guidance, Sansha established the Leading Small Group for Comprehensive Administrative Law Enforcement Reform (综合行政执法改革领导小组).²⁶⁵ Around the same time, the city appears to have reorganized the Sansha City Comprehensive Law Enforcement Bureau, transforming it into the Sansha City Emergency Management and Comprehensive Administrative Law Enforcement Bureau.²⁶⁶ This bureau appears to be an amalgamation of Sansha's comprehensive law enforcement, market supervision, environmental protection, transportation, and agricultural law enforcement teams that is responsible for "administrative law enforcement matters across the whole city."²⁶⁷

The SCLE currently commands a fleet of four maritime law enforcement ships in addition to a number of smaller boats.²⁶⁸ This fleet includes the *Sansha City Comprehensive Law Enforcement 1* (三沙市综合执法 1 号), the *Sansha City Comprehensive Law Enforcement 2* (see **Figure 13**, below), the *Sansha City Comprehensive Law Enforcement 3*, and the *Sansha City Comprehensive Law*

²⁶² Zhao and Chen, "South China Sea Law Enforcement Forces: Already Has The Capability to Patrol Nansha Sea Area;" Cao, Jiang, and Tao, "Sansha City Mayor Xiao Jie: 9 Days 8 Nights Did Not Finish, In the Sun for 1 Hour Already Hurt;" "Sansha City Maritime Surveillance Zhidui Launches Maritime Comprehensive Law Enforcement;" "Hainan Free Trade Port Oriented Toward Whole World Recruiting Talent Activity' Sansha City Public Institutions Recruitment Announcement (#1)."

²⁶³ 魏骅 [Wei Hua], 三沙市综合执法支队巡航西沙群岛 ["Sansha City Comprehensive Law Enforcement Zhidui Patrols Paracel Islands"], 中国军网 [China Military Net], August 15, 2015, <https://perma.cc/SQB9-X7BK>; "Hainan Free Trade Port Oriented Toward Whole World Recruiting Talent Activity' Sansha City Public Institutions Recruitment Announcement (#1);" "Sansha City Oceans and Fisheries Buries - 2019 Xisha Sea Area Crown-of-Thorns Starfish Emergency Clean Up – Single Source Announcement."

²⁶⁴ 西沙归来不看海，从此马代是路人，游海南三沙永兴岛 ["Xisha Return Without Looking at the Sea, Since Then Maldives is a Stranger, Visiting Hainan Sansha Woody Island"], 6parkbbs, February 11, 2020, <https://perma.cc/WMG6-WNW8>.

²⁶⁵ 三沙市人民政府关于 2019 年度法治政府建设情况的报告 ["Sansha City People's Government Report on 2019 Rule of Law Government Building Situation"], 三沙市人民政府网 [Sansha City People's Government Net], May 21, 2020, <https://perma.cc/KUT8-PG7W>.

²⁶⁶ Ibid.

²⁶⁷ Ibid.

²⁶⁸ 三沙举行“海空立体”联合搜救演练 ["Sansha Holds 'Sea-Air Three Dimensional' Joint Rescue Exercise"], 中国军网 [China Military Net], June 10, 2017, <https://perma.cc/TP78-A9F7>; 傅勇涛 [Fu Yongtao] and 赵颖全 [Zhao Yingquan], 三沙市综合执法 1 号船交付使用 将在三沙海域开展巡航 ["Sansha City Comprehensive Law Enforcement 1 Delivered for Use, Will Start Patrols in Sansha's Sea Area"], 中国政府网 [China Government Net], May 21, 2015, <https://perma.cc/M2GE-C355>.

Enforcement 4.²⁶⁹ The fleet's fifth ship is currently under construction.²⁷⁰ Under the command of the SCLE, these vessels routinely patrol Sansha's waters and intercept foreign fishing boats and other vessels.²⁷¹



Figure 13: Sansha City's comprehensive law enforcement vessels²⁷²

The *Sansha Comprehensive Law Enforcement 1* is the most capable of Sansha's maritime law enforcement cutters. Before being transferred to Sansha,²⁷³ this ship appears to have operated as the *Yuzheng 310* (中国渔政 310) under China Fisheries Law Enforcement and the CCG 3210 under the CCG (see **Figure 14**, below).²⁷⁴ During this period, the *Yuzheng 310*/CCG 3210 was active in the

²⁶⁹ Fu and Zhao, "Sansha City Comprehensive Law Enforcement 1 Delivered for Use, Will Start Patrols in Sansha's Sea Area;" 三沙市增加 4 艘综合执法船 ["Sansha City Adds 4th Comprehensive Law Enforcement Ship"], 海洋科普 [Ocean Popular Science], March 26, 2016, <https://perma.cc/63B6-KPEN>; Zhao and Chen, "South China Sea Law Enforcement Forces: Already Has The Capability to Patrol Nansha Sea Area;" 陈永彬: 浅谈三沙市岛礁灭火救援体系 建设的发展方向 ["Chen Yongbin: Discussing Sansha City Islands and Reefs Firefighting and Rescue System, the Development Direction of Construction"], 海南省消防救援总队官方网站 [Hainan Province Firefighting and Rescue Zongdui Official Website], January 8, 2019, <https://perma.cc/E8KV-33DU>.

²⁷⁰ 武船建造三沙市 1000 吨级综合执法船顺利上船台 ["Wuchang Shipbuilding Industry Group Building Sansha City 1,000-Ton Scale Comprehensive Law Enforcement Ship Smoothly on Ship Building Berth"], 国际船舶网 [Eworldship], October 19, 2020, <https://perma.cc/3ELV-4JKG>; 武船集团承建三沙市 1000 吨级综合执法船顺利开工 ["Wuchang Shipbuilding Industry Group Contracted 1,000-Ton Scale Comprehensive Law Enforcement Ship Smoothly Starts Construction"], 观察者 [Observer], December 4, 2019, <https://perma.cc/GXT2-LMW7>.

²⁷¹ Liu, "These Sea Protectors Are Really Not Simple;" Hong, "Political Power Construction Covers Grassroots, United to Jointly Build a Beautiful Home;" Liu, "2015 End of Year Sansha City Special Interest News Review."

²⁷² 海南三沙市在西沙海域首次举行海空应急救援演练 ["Hainan Sansha City Holds First Sea-Air Emergency Rescue Exercise in Paracel Islands Sea Area"], 玉环新闻网 [Yuhuan News Net], July 15, 2016, <https://perma.cc/P2KY-F2BP>; 於陵子 4869 [Yu Lingzi 4869], "南海城管" ——你听过三沙市综合执法局吗? ["South China Sea Enforcement Official' - - Have You Heard of the Sansha City Comprehensive Law Enforcement Bureau?"], 知乎 [Zhihu], <https://perma.cc/FGM5-BEK9>.

²⁷³ 洪媛媛 [Hong Yuanyuan], "三沙市综合执法 1 号" 船交付使用 ["Sansha City Comprehensive Law Enforcement 1' Ship Delivered For Use"], 中国新闻网 [China News Net], May 20, 2015, <https://perma.cc/65FY-QDZ3>.

²⁷⁴ 三沙市综合执法支队-中国渔政 310 (三沙市综合执法 1 号) 船购买船舶保险项目-合同公告 ["Sansha City Comprehensive Law Enforcement Zhidui - China Yuzheng 310 (Sansha City Comprehensive Law Enforcement 1) Ship Purchasing Ship Insurance Project - Contract Announcement"], 海南省政府采购网 [Hainan Province Government Purchasing Net], November 12, 2019, <https://perma.cc/52RE-RQL2>; China's People's Liberation ARMY (PLAN), Coast Guard, and Government Maritime Forces 2019-2020 Recognition and Identification Guide, Office of Naval Intelligence, February 19, 2020, https://www.oni.navy.mil/Portals/12/Intel%20agencies/China_Media/2020_China_Recece_Poster_UNCLAS.jpg?ver=2020

South China Sea and participated in a number of notable operations, including the 2012 Scarborough Shoal standoff.²⁷⁵ According to reports, this ship is about 100 meters long and 14 meters wide, has a displacement of 2,600 tons, has a range of 6,000 nautical miles, and is equipped with a helicopter pad and hanger, detention facilities, and medical facilities.²⁷⁶ When the *Sansha Comprehensive Law Enforcement 1* was transferred to Sansha in May 2015, the deputy director of the Sansha City Comprehensive Law Enforcement Bureau emphasized that this new ship would allow Sansha to patrol the Spratly Islands.²⁷⁷ Since 2015, the *Sansha Comprehensive Law Enforcement 1* has operated across the city's jurisdiction, including in the Paracel Islands, Zhongsha Islands, and Spratly Islands.²⁷⁸



Figure 14. The *Yuzheng 310* (left), the CCG 3210 (middle), and the *Sansha City Comprehensive Law Enforcement 1* (right)²⁷⁹

The SCLE's fleet operates in coordination with the CCG. In 2015, the Sansha City Comprehensive Law Enforcement Bureau signed a cooperative agreement with the 3rd *zhidui* of the Hainan contingent of the CCG (海南海警第三支队).²⁸⁰ In this agreement, the two sides pledged to “further combine law enforcement resources” to “strengthen maritime rights defense law enforcement” and “jointly defend the security and stability of Sansha's maritime space.”²⁸¹ More specifically, they agreed to “strengthen the division of labor and coordination in Sansha's maritime law enforcement” and to “strengthen law enforcement coordination through methods like information resource sharing,

[-02-19-081430-327](#); Ristian A. Supriyanto, Shahrizan Lockman, and Koh Swee Lean Collin, “China's Rift With Indonesia in the Natunas: Harbinger of Worse to Come?” *The Diplomat*, March 25, 2016, <https://thediplomat.com/2016/03/chinas-rift-with-indonesia-in-the-natunas-harbinger-of-worse-to-come/>.

²⁷⁵ Supriyanto, Lockman, and Koh, “China's Rift With Indonesia in the Natunas: Harbinger of Worse to Come?”; “China patrol ship reaches waters off Huangyan Island,” *China Daily*, April 20, 2012, <https://perma.cc/MMU7-KSVY>; Ryan D. Martinson, “The Lives of a Chinese Gunboat,” U.S. Naval Institute *Proceedings* 142/6/1,360 (June 2016), <https://www.usni.org/magazines/proceedings/2016/june/lives-chinese-gunboat>; China Power Team, “Are Maritime Law Enforcement Forces Destabilizing Asia,” *China Power*, August 26, 2020, <https://chinapower.csis.org/maritime-forces-destabilizing-asia/>.

²⁷⁶ Hong, ““Sansha City Comprehensive Law Enforcement 1' Ship Delivered For Use;” Fu and Zhao, “Sansha City Comprehensive Law Enforcement 1 Delivered for Use, Will Start Patrols in Sansha's Sea Area.”

²⁷⁷ Hong, ““Sansha City Comprehensive Law Enforcement 1' Ship Delivered For Use;” Fu and Zhao, “Sansha City Comprehensive Law Enforcement 1 Delivered for Use, Will Start Patrols in Sansha's Sea Area.”

²⁷⁸ Wei, “Sansha City Comprehensive Law Enforcement Zhidui Patrols Paracel Island;” 洪媛媛 [“Hong Yuanyuan”], 三沙市综合执法 1 号船首次巡航执法中沙群岛 [“Sansha City Comprehensive Law Enforcement 1st Patrol Law Enforcement in Zhongsha Islands”], 环球网 [Huanqiu Net], May 26, 2015, <https://perma.cc/UP2N-P2FV>; Liu, “2015 End of Year Sansha City Special Interest News Review;” Ryan Martinson, Twitter Post, July 16, 2020, <https://twitter.com/rdmartinson88/status/1283843946192478219>.

²⁷⁹ 揭秘中国最牛渔政船：造价 1.87 亿可续航 60 昼夜 [“Unmasking China's Greatest Fisheries Law Enforcement Ship: Cost 197 Million and Can Continuously Sail for 60 Days and Nights”], 腾讯网 [Tencent Net], July 20, 2012, <https://perma.cc/H35J-ZDP9>; 澳媒称越南渔船及海警船现身黄岩岛 试探中国反应 [“Australian Media Said Vietnamese Fishing Boats and Coast Guard Ships Appeared at Scarborough Shoal, Testing China's Reaction”], 新浪网 [Sina Net], April 6, 2017, <https://perma.cc/Y4F3-GQJ5>; Hong, ““Sansha City Comprehensive Law Enforcement 1' Ship Delivered For Use.”

²⁸⁰ Mou, “Sansha Comprehensive Law Enforcement Bureau and Hainan Coast Guard Sign Law Enforcement Coordination Agreement.”

²⁸¹ *Ibid.*

case handling cooperation, team training, joint meetings, and integrated exercises.”²⁸² In the years since, the 3rd *zhidui* of the Hainan contingent of the CCG and the SCLE appear to have worked together closely.²⁸³ For instance, in December 2015, the *Sansha Comprehensive Law Enforcement 1* sighted a foreign fishing vessel near Bremen Bank while sailing to the Spratly Islands.²⁸⁴ After reporting to the command center of the 3rd *zhidui*, the *Sansha Comprehensive Law Enforcement 1* allegedly approached the foreign vessel and began driving it out of the area.²⁸⁵ Half an hour later, a CCG ship arrived to expel the foreign vessel from China’s claimed waters.²⁸⁶ In this manner, the SCLE appears to supplement the CCG, which is still responsible for the bulk of operations across the South China Sea.²⁸⁷

Maritime Militia Forces and Fishermen

Professionalized maritime militia forces form the bottom layer of Sansha City’s rights defense system.²⁸⁸ Sansha established a new maritime militia force in July 2013.²⁸⁹ With provincial support, the Sansha Garrison quickly expanded and professionalized the city’s new maritime militia force.²⁹⁰ Over the next several years, hundreds of new members joined this militia.²⁹¹ By July 2016, the militia allegedly had over 1,800 members and more than 100 vessels.²⁹² Moreover, Sansha established a maritime militia presence on at least nine island and reefs, including Mischief Reef in the Spratly Islands, via militia “national flag teams” (国旗班).²⁹³

To support this new maritime militia, the city has built several “five in one” (五所合一) buildings in the Paracel Islands.²⁹⁴ Each of these building contains a militia post, a wartime command post, a resident committee office, a storm shelter, and a cultural activity center.²⁹⁵ The “five in one” building

²⁸² Ibid.

²⁸³ Liu, “2015 End of Year Sansha City Special Interest News Review;” “China’s Sansha City Comprehensive Law Enforcement Ship Unites With Coast Guard to Drive Away an Infringing Foreign Fishing Boat.”

²⁸⁴ “China’s Sansha City Comprehensive Law Enforcement Ship Unites With Coast Guard to Drive Away an Infringing Foreign Fishing Boat.”

²⁸⁵ Ibid.

²⁸⁶ Ibid.

²⁸⁷ Martinson, “Echelon Defense: The Role of Sea Power in Chinese Maritime Dispute Strategy;” “Are Maritime Law Enforcement Forces Destabilizing Asia;” “Still on the Beat: China Coast Guard Patrols in 2020,” Asia Maritime Transparency Initiative, December 4, 2020, <https://amti.csis.org/still-on-the-beat-china-coast-guard-patrols-in-2020/>.

²⁸⁸ For more on China’s maritime militia, also called the People’s Armed Forces Maritime Militia (PAFMM), see Kennedy and Erickson, “China Maritime Report No. 1: China’s Third Sea Force, The People’s Armed Forces Maritime Militia: Tethered to the PLA.” For a comprehensive account of the development of the Sansha Maritime Militia, see Kennedy and Erickson, “Riding a New Wave of Professionalization and Militarization.”

²⁸⁹ 朱永 [Zhu Yong], 三沙海上民兵连成立 战士肩挎 56 步枪宣誓 [“Sansha Maritime Militia Company Established, Male and Female Militia Members’ Shoulders Carry 56 Rifles and Swear Oaths”], 中国日报 [China Daily], July 23, 2013, <https://perma.cc/J49S-YKCR>.

²⁹⁰ “Foreign Fishing Boats Break Into Sansha Garrison, Saw Militia Wearing Camouflage and Turned Around and Fled;” Wu, “Wu Shaoyuan: Sansha’s Peculiarity is Becoming More Prominent;” Zhang and Jia, “Sansha Garrison Uses Mission and Unyielding to Forge the Rights Defense Vanguard for the National Guarding Sea;” Cai and Hong, “National Defense Building Tour - - Hainan Province Sansha City;” Kennedy and Erickson, “Riding a New Wave of Professionalization and Militarization.”

²⁹¹ “Foreign Fishing Boats Break Into Sansha Garrison, Saw Militia Wearing Camouflage and Turned Around and Fled.”

²⁹² Guo, “The Motherland’s ‘Southern Gate’ Becomes a ‘Great Wall of Steel.’”

²⁹³ 三沙市成立岛礁民兵国旗班 [“Sansha City Establishes Island and Reef Militia National Flag Teams”], 中国政府网 [China Government Net], September 30, 2014, <https://perma.cc/5QVB-FDW6>.

²⁹⁴ 洪媛媛 [Hong Yuanyuan], 三沙多座“五所合一”综合楼成为岛礁“避风港” [“Sansha’s Various ‘Five in One’ Integrated Buildings Have Become Island and Reef ‘Refuges’”], 凤凰网 [ifeng Net], October 21, 2016, <https://perma.cc/8R2Z-HKMJ>; Liu, “Sansha City Founding 11th National Double Support Model City Records.”

²⁹⁵ Hong, “Sansha’s Various ‘Five in One’ Integrated Buildings Have Become Island and Reef ‘Refuges.’”

on Tree Island appears to be the site of an “informatized militia post” (信息化民兵哨所) that monitors its area using radar, AIS, and video surveillance.²⁹⁶ Given that Beijing Highlander (discussed above) advertises an intelligent radar monitoring system that integrates similar components and that Sansha Highlander built a monitoring system for Tree Island, the Highlander network may have contributed to the development of Tree Island’s informatized militia post.²⁹⁷ See **Figure 15**, below.



Figure 15. The “five in one” building on Tree Island²⁹⁸

Members of Sansha City’s maritime militia have a number of responsibilities. Their missions include continuously declaring China’s sovereignty, performing reconnaissance, cooperating with Sansha’s maritime law enforcement forces, aiding maritime rescue efforts, and supporting combat operations.²⁹⁹ The city’s militia forces now operate “large, steel-hulled vessels” and “deploy from multiple ports around Hainan at the same time,” conducting routine 45-day deployments to “maintain continuous presence near many Chinese-claimed land features in the South China Sea.”³⁰⁰ By early 2016, Sansha’s militia forces had reportedly sailed over 30,000 nautical miles on more than 250 voyages in support of maritime law enforcement, detecting and handling over 350 vessels.³⁰¹ The

²⁹⁶ Hou, “Informatized Militia Post Set Up on South China Sea Island-Reef;” 侯坤 [Hou Kun] and 阳宗峰 [Yang Zhongfeng], 三沙民兵瞪大眼睛巡南海 [“Sansha Militiamen Patrolling the South China Sea with Staring Eyes”], 中国军网 [China Military Net], January 27, 2016, <https://perma.cc/G3TV-YURH>.

²⁹⁷ “Intelligent Radar Monitoring System;” source documents held by report author.

²⁹⁸ 黄艺 [Huang Yi], 三沙赵述岛渔民告别油毡房喜迁新居 [Sansha Tree Island Fishermen Say Goodbye to Linoleum Houses and Happily Move to New Residences], 中国新闻网 [China News Net], October 1, 2019, <https://perma.cc/A3V7-TFT3>; CTITV News, 20180731 中天新聞 世界最年轻城市! 海南三沙碧波万里一明珠 [“20180731 Zhongtian News, World’s Youngest City! Hainan Sansha Blue Waves Far Away Pearl”], YouTube, July 30, 2018, <https://www.youtube.com/watch?v=3MP7b-GTPtQ>; Google Earth, May 26, 2019.

²⁹⁹ Cai and Hong, “National Defense Building Tour - - Hainan Province Sansha City.”

³⁰⁰ Conor M. Kennedy, “Gray Forces in Blue Territory: The Grammar of Chinese Maritime Militia Gray Zone Operations,” in *China’s Maritime Gray Zone Operations*, p. 171.

³⁰¹ Hou and Yang, “Sansha Militiamen Patrolling the South China Sea with Staring Eyes.”

Sansha Garrison is likely responsible for commanding the majority of maritime militia operations,³⁰² though local party-state organs can reportedly direct certain militia activities as well.³⁰³

Ordinary fishermen are also part of the bottom layer of Sansha City's rights defense system. Thanks to a provincial initiative that began in 2010, the majority of the Chinese fishing vessels operating within Sansha's jurisdiction are equipped with the BeiDou (北斗) satellite navigation system.³⁰⁴ Unlike the Global Position System (GPS), BeiDou "offers an imbedded S-band, two-way short-message service."³⁰⁵ Moreover, Sansha reportedly uses voice communications equipment to coordinate with fishing vessels.³⁰⁶ Thanks to these capabilities, the fishermen sailing in Sansha's waters form a living surveillance network that feeds intelligence back to the authorities on Woody Island.³⁰⁷

Military, Law Enforcement, and Civilian Joint Defense

Sansha City has worked to integrate the three layers of its rights defense system. By the end of 2013, Sansha had set up a military, law enforcement, and civilian maritime joint defense coordination center (军警民海上联防协调中心) and created a military, law enforcement, and civilian joint defense management mechanism (军警民联防管控机制).³⁰⁸ Around the same time, the city reportedly acquired new information collection, processing, and distribution platforms and command platforms oriented toward joint defense.³⁰⁹ In July 2015, Sansha started building a new military, law enforcement, and civilian joint defense command center (军警民联防指挥中心).³¹⁰ This command center reportedly performs joint defense command (联防指挥), joint work (联合办公), and combat

³⁰² Wang and Ceng, "Central Military Commission Approves and Agrees to Organize Sansha Garrison, Is a Division-Level Unit; "Ministry of National Defense: Sansha Garrison Main Leaders Have Been Appointed;" Kennedy and Erickson, "China Maritime Report No. 1: China's Third Sea Force, The People's Armed Forces Maritime Militia: Tethered to the PLA, p. 3" "Foreign Fishing Boats Break Into Sansha Garrison, Saw Militia Wearing Camouflage and Turned Around and Fled."

³⁰³ 王蓓蓓 [Wang Beibei], 三沙市: 世界最深海洋蓝洞周边 1 海里禁开发旅游 ["Sansha City: Development and Tourism Banned Within 1 Nautical Mile of World's Deepest Ocean Blue Hole"], 中国经济网 [China Economy Net], October 9, 2016. <https://perma.cc/5YK2-9MPW>.

³⁰⁴ 陈雪怡 [Cheng Xueyi], 海南万艘渔船装北斗卫星导航 成渔民 "护身符" ["Hainan Ten Thousand Fishing Boats Equipped with BeiDou Satellite Navigation Become Fishermen's 'Talisman'"], 新华网 [Xinhua Net], June 21, 2017, <https://perma.cc/PBY5-HF2K>; 海南省海洋厅北斗卫星导航通信系统项目绩效自评报告 ["Hainan Province Oceans Department BeiDou Satellite Navigation Communications System Project Performance Self-Assessment Report"], 海南省人民政府网 [Hainan Province People's Government Net], March 1, 2012, <https://perma.cc/F9AC-E58F>; Fei, "Fisheries Administration, Marine Surveillance, and Coast Guard Mechanism Coordination, Sansha Maritime Rights Defense Law Enforcement System is Improving Daily."

³⁰⁵ Dahm, "Undersea Fiber-Optic Cable and Satellite Communications."

³⁰⁶ Fei, "Fisheries Administration, Marine Surveillance, and Coast Guard Mechanism Coordination, Sansha Maritime Rights Defense Law Enforcement System is Improving Daily."

³⁰⁷ Fei, "Fisheries Administration, Marine Surveillance, and Coast Guard Mechanism Coordination, Sansha Maritime Rights Defense Law Enforcement System is Improving Daily;" "Hainan Province Oceans Department BeiDou Satellite Navigation Communications System Project Performance Self-Assessment Report."

³⁰⁸ Fu and Liu, "Xiao Jie: Sansha's Construction Will Not Delay for Even a Day;" "Strive to Write a New Chapter in Military-Civil Fusion-Style Development;" Fu, "Sansha Goes to the Front Lines of South China Sea Rights Defense;" Liu Biyao, "Sansha City Mayor Xiao Jie: Improving the People's Livelihood is the Highest Priority of Sansha's Development."

³⁰⁹ Wang, "Sansha City Promotes Military, Law Enforcement, and Civilian Joint Defense Mechanism, Constructs Three-Line Maritime Rights Defense Structure."

³¹⁰ "Sansha Military, Law Enforcement, and Civilian Joint Defense Command Center Starts Construction;" "Strive to Write a New Chapter in Military-Civil Fusion-Style Development."

readiness materials storage (战备物资存储) functions.³¹¹ It also appears to fuse intelligence collected by militia outposts through radar, AIS, and video surveillance.³¹² See **Figure 16**, below.



Figure 16. Sansha City’s Military, Law Enforcement, and Civilian Joint Defense Command Center³¹³

In effect, Sansha City appears to have centralized the command of its maritime law enforcement and maritime militia forces. For instance, according to the director of the political department of the Sansha Garrison, when members of the city’s maritime militia discover a foreign fishing vessel, they immediately report the vessel to the Sansha Garrison.³¹⁴ The garrison then “unites” the military, law enforcement, and civilians to deal with the vessel.³¹⁵ Similarly, when Chinese fishermen operating in Sansha’s jurisdiction sight a vessel, they can use BeiDou to contact the city.³¹⁶ After the Sansha Garrison verifies the vessel’s location, it allegedly reports this information the SCLE.³¹⁷ The SCLE then issues orders to the nearest maritime law enforcement ship.³¹⁸

This rights defense system allows Sansha City to effectively coordinate or otherwise participate in joint exercises and operations with a range of different forces. For example, in January 2014 Sansha’s first “joint maritime comprehensive administrative law enforcement emergency response exercise” reportedly involved the Sansha City Comprehensive Law Enforcement Bureau, the Sansha Garrison, the China Coast Guard 3rd *zhidui* (中国海警第三支队),³¹⁹ and the Xisha Border Defense *zhidui* (西沙边防支队).³²⁰ In June 2015, the *Sansha Comprehensive Law Enforcement 1* allegedly worked with the Ministry of Transport’s *Nanhaijiu 111* (南海救 111), the Sansha Public Security Border Defense *zhidui* (三沙公安边防支队), and the Sansha Maritime Safety Administration (三沙

³¹¹ “Sansha Military, Law Enforcement, and Civilian Joint Defense Command Center Starts Construction.”

³¹² Hou, “Informatized Militia Post Set Up on South China Sea Island-Reef;” Hou and Yang, “Sansha Militiamen Patrolling the South China Sea with Staring Eyes.”

³¹³ 杨曦 [Yang Xi], 三沙：军警民联防指挥中心永兴岛奠基开工建 [“Sansha: Military, Law Enforcement, and Civilian Joint Defense Command Center on Woody Island Groundbreaking Starts Construction”], 南海网 [Hinews Net], July 25, 2015, <https://perma.cc/N8ZD-A4CG>; Google Earth, December 6, 2017.

³¹⁴ “Foreign Fishing Boats Break Into Sansha Garrison, Saw Militia Wearing Camouflage and Turned Around and Fled.”

³¹⁵ Ibid.

³¹⁶ Fei, “Fisheries Administration, Marine Surveillance, and Coast Guard Mechanism Coordination, Sansha Maritime Rights Defense Law Enforcement System is Improving Daily.”

³¹⁷ Ibid.

³¹⁸ Ibid.

³¹⁹ The “China Coast Guard 3rd *zhidui*” likely refers to the 3rd *zhidui* of the Hainan contingent of the CCG.

³²⁰ 王子谦 [Wang Ziqian], 三沙市首次举行海上综合行政执法应急演练 [“Sansha Holds First Maritime Comprehensive Administrative Law Enforcement Emergency Exercise”], 人民网 [People Net], January 1, 2014, <https://perma.cc/KZ7X-4EW2>.

海事局) to deal with a vessel that had caught fire while sailing to the Spratly Islands to illegally harvest giant clam shells, which involved taking the vessel’s crew back to Woody Island for investigation and processing.³²¹ In July 2016, the *Sansha City Comprehensive Law Enforcement 2*, the *Sansha 1* transportation and supply ship, and two of Sansha’s maritime militia vessels appear to have participated in a joint emergency response exercise that involved ten different units, 13 vessels, a helicopter, and over 200 people (see **Figure 17**, below).³²² In May 2018, Sansha’s maritime law enforcement forces likely participated in a joint patrol with PLA Navy and CCG vessels in the Paracel Islands.³²³



Figure 17. July 2016 joint emergency response exercise³²⁴

Sansha City’s forces appear to have a particularly strong operational relationship with the CCG. For example, Sansha’s maritime militia guarded areas of the Paracel Islands during the HYSY 981 standoff (which involved both the CCG and PLA) in 2014,³²⁵ escorted (along with the CCG) the Chinese survey ship *Haiyang Dizhi 8* as it operated in Vietnam’s exclusive economic zone in mid-2019,³²⁶ and has regularly operated in the Spratly Islands and at Scarborough Shoal alongside the CCG.³²⁷ Moreover, during the HYSY 981 standoff, Sansha’s party committee, government, and garrison reportedly set up a command post to coordinate with the CCG and other forces.³²⁸ Likewise,

³²¹ Liu, “These Sea Protectors Are Really Not Simple.”

³²² “Hainan Sansha City Holds First Sea-Air Emergency Rescue Exercise in Paracel Islands Sea Area,” Kennedy and Erickson, “Riding a New Wave of Professionalization and Militarization.”

³²³ 薛成清 [Xue Chengqing], 军警民联合编队首次巡逻西沙岛礁, 历时 5 天 4 夜 [“Military, Law Enforcement, and Civilian Joint Biandui First Patrol in the Xisha Islands and Reefs, Duration of 5 Days and 4 Nights”], 新华网 [Xinhua Net], May 20, 2018, <https://perma.cc/F89G-VHWP>.

³²⁴ “Hainan Sansha City Holds First Sea-Air Emergency Rescue Exercise in Paracel Islands Sea Area,” “Hainan Sansha City Holds First Sea-Air Emergency Rescue Exercise in Paracel Islands Sea Area,” <https://perma.cc/DQ8J-PSY9>; Kennedy and Erickson, “Riding a New Wave of Professionalization and Militarization.”

³²⁵ Kennedy and Erickson, “Riding a New Wave of Professionalization and Militarization;” Cai and Hong, “National Defense Building Tour - - Hainan Province Sansha City;” Devin Thorne and Ben Spevack, “Ships of State: Chinese Civil-Military Fusion and the HYSY 981 Standoff,” Center for International Maritime Security, January 23, 2019, <http://cimsec.org/ships-of-state-chinese-civil-military-fusion-and-the-hysy-981-standoff/39490>.

³²⁶ Ryan Martinson, Twitter Post, July 13, 2019, <https://twitter.com/rdmartinson88/status/1150197331121311745>; “UPDATE: China Risks Flare-Up Over Malaysian, Vietnamese Gas Resources,” Asia Maritime Transparency Initiative, December 13, 2019, <https://amti.csis.org/china-risks-flare-up-over-malaysian-vietnamese-gas-resources/>.

³²⁷ Conor M. Kennedy and Andrew S. Erickson, “Hainan’s Maritime Militia: All Hands on Deck for Sovereignty, pt. 3,” Center for International Maritime Security, April 26, 2017, <http://cimsec.org/hainans-maritime-militia-hands-deck-sovereignty-pt-3/32085>.

³²⁸ Kennedy and Erickson, “Riding a New Wave of Professionalization and Militarization;” Cai and Hong, National Defense Building Tour - - Hainan Province Sansha City.”

as previously noted, the SCLE works closely with the CCG, an arrangement that includes sharing information and carrying out joint operations.³²⁹ As such, the city's forces appear to supplement the CCG, which is still responsible for the bulk of China's front line operations in the South China Sea, particularly in the Spratly Islands.³³⁰

Despite its close ties with the CCG, Sansha City's joint defense system remains a tool for enforcing the will of the local party-state. For example, in October 2016, the Crescent Group Management Committee released a notice pertaining to the management of the Dragon Hole,³³¹ the deepest underwater sinkhole in the world.³³² This notice reportedly banned fishing, tourism, and other such activities within one nautical mile of the Dragon Hole.³³³ To enforce this policy, the Crescent Group Management Committee is responsible for monitoring the Dragon Hole and its surrounding waters and coordinating the "actual control" of this area with comprehensive law enforcement, border defense, and militia personnel.³³⁴ In this manner, Sansha's maritime law enforcement and maritime militia forces allow the city to physically assert its jurisdiction and enforce local policies.

The development of Sansha City's rights defense system allows the city to play a meaningful role on the front lines of the South China Sea disputes. Maritime law enforcement and maritime militia forces under the city's PLA garrison and municipal party-state form the core of this rights defense system. Through this system, which is organized around the principles of military-civil fusion and joint defense, Sansha monitors and controls its vast maritime jurisdiction. In this sense, the city's rights defense system allows the municipal party-state to exercise normalized administrative control over the South China Sea.

Case Study: Sansha City's Investments in Smart Microgrid Technology

This case study examines Sansha City's efforts to develop and use smart microgrid (智能微电网) technology on Woody Island. Given the difficult environmental conditions on Woody Island and the island's remote location,³³⁵ Sansha's system of normalized administrative control would likely not exist without Woody Island's smart microgrid. This technology allows Woody Island to effectively accommodate a growing population of civilian, law enforcement, and military personnel and ensures the continuous operation of important facilities like computer rooms and seawater desalination plants. The city's approach toward smart microgrids demonstrates how municipal authorities are

³²⁹ Mou, "Sansha Comprehensive Law Enforcement Bureau and Hainan Coast Guard Sign Law Enforcement Coordination Agreement;" Liu, "2015 End of Year Sansha City Special Interest News Review;" "China's Sansha City Comprehensive Law Enforcement Ship Unites With Coast Guard to Drive Away an Infringing Foreign Fishing Boat."

³³⁰ Martinson, "Echelon Defense: The Role of Sea Power in Chinese Maritime Dispute Strategy;" "Are Maritime Law Enforcement Forces Destabilizing Asia;" Drake Long, "China Lurks Around Disputed South China Sea Features For Months on End," *Radio Free Asia*, October 26, 2020, <https://www.rfa.org/english/news/china/southchinasea-lurking-10262020174503.html>.

³³¹ Wang, "Sansha City: Development and Tourism Banned Within 1 Nautical Mile of World's Deepest Ocean Blue Hole."

³³² Katie Mettler, "Researchers just discovered the world's deepest underwater sinkhole in the South China Sea," *The Washington Post*, July 26, 2016, <https://www.washingtonpost.com/news/morning-mix/wp/2016/07/26/researchers-just-discovered-the-worlds-deepest-underwater-sinkhole-in-the-south-china-sea/>; Stephanie Pappas, "South China Sea Blue Hole Could Be World's Deepest," *Scientific American*, July 29, 2016, <https://www.scientificamerican.com/article/south-china-sea-blue-hole-could-be-world-s-deepest/>.

³³³ Wang, "Sansha City: Development and Tourism Banned Within 1 Nautical Mile of World's Deepest Ocean Blue Hole."

³³⁴ *Ibid.*

³³⁵ Huang, "Sansha Establishes Power Supply Bureau."

working to improve the city's self-sufficiency, implement military-civil fusion, and use Woody Island as a model for the development of other occupied features in the Paracel and Spratly Islands.

After Sansha City was established in 2012, central, provincial, and municipal officials quickly prioritized upgrading Woody Island's power supply system.³³⁶ In the city's early days, Woody Island appears to have largely relied on diesel generators, which were easily damaged and required regular deliveries of fuel from Hainan.³³⁷ According to the deputy director of Sansha's power supply bureau, the original power supply system on Woody Island wasted energy, polluted the environment, provided low quality power, and was unreliable and expensive.³³⁸ These deficiencies caused hardships for Sansha residents and seriously inhibited the development of Sansha's settlement on Woody Island.³³⁹

To overcome Woody Island's power supply issues, Sansha City invested in smart microgrid technology. Microgrids offer localized power generation, storage, and distribution, integrate distributed energy resources like solar and wind, and can operate without connection to a centralized power grid.³⁴⁰ Smart microgrids are microgrids that integrate control systems, sensors, and other information technology to further optimize performance.³⁴¹ Because they are so resilient,

³³⁶ Guan and Wang, "Sansha City Eight Major Infrastructure Projects Received Central Support, Total Investment Surpasses Ten Billion;" 致公党海南省委建议: 进一步打造“光伏岛” [“Zhi Gong Party Hainan Province Committee Recommends: Further Build ‘Photovoltaic Islands’”], 海南天能 [Hainan Tianneng], March 22, 2013, <https://perma.cc/DGH5-B2HD>; Huang, “Sansha Establishes Power Supply Bureau.”

³³⁷ Zhu, Jiang, and Liu, “Sansha City Woody Island Smart Microgrid: Makes Island Power Supply Reliable Comparable to a City;” 缪影影 [Miao Yingying] and 杜颖 [Du Ying], 电网成功升压改造 [“Power Grid Successfully Boosted and Transformed”], 三沙市人民政府网 [Sansha City People's Government Net], March 10, 2015, <https://perma.cc/LH7X-8DTV>.

³³⁸ Zhu, Jiang, and Liu, “Sansha City Woody Island Smart Microgrid: Makes Island Power Supply Reliable Comparable to a City.”

³³⁹ “Approach China's Southernmost Micro Photovoltaic Power Station - - Hainan Tianneng Power Sansha Woody Island Photovoltaic Microgrid Project;” Zhu, Jiang, and Liu, “Sansha City Woody Island Smart Microgrid: Makes Island Power Supply Reliable Comparable to a City.”

³⁴⁰ “How Microgrids Work,” U.S. Department of Energy, June 17 2013, <https://www.energy.gov/articles/how-microgrids-work>; “Microgrids and Vehicle-Grid Integration,” Lawrence Berkeley National Laboratory, <https://gridintegration.lbl.gov/microgrids-vehicle-grid-integration>; “Microgrids,” Center for Climate and Energy Solutions, <https://www.c2es.org/content/microgrids/>; Elisa Wood, “What is a Microgrid?” Microgrid Knowledge, June 24, 2020, <https://microgridknowledge.com/microgrid-defined/>.

³⁴¹ “Grid Modernization and the Smart Grid,” U.S. Department of Energy, <https://www.energy.gov/oe/activities/technology-development/grid-modernization-and-smart-grid>; “SPIDERS JCTD Smart Cyber-Secure Microgrids,” U.S. Department of Energy, <https://www.energy.gov/eere/femp/spiders-jctd-smart-cyber-secure-microgrids>; Michelle Donahue, “Smart Microgrids: The Future of Sustainable Power,” *PCMag*, April 22, 2020, <https://www.pcmag.com/news/smart-microgrids-the-future-of-sustainable-power>; Molly Lempriere, “Smart neighbourhood, smart microgrid,” *Energy Storage News*, April 27, 2020, <https://www.energy-storage.news/blogs/smart-neighbourhood-smart-microgrid>.

independent, and efficient,³⁴² smart microgrids are uniquely capable of operating in challenging environments like the South China Sea.³⁴³

By August 2012, Sansha City authorities were already aiming to build a “smart, efficient, reliable, and green” microgrid on Woody Island.³⁴⁴ According to early reports, planners envisioned a grid that could withstand the challenging environmental conditions on Woody Island, namely its high temperatures, salinity, and humidity and strong sunshine, heavy precipitation, and destructive typhoons.³⁴⁵ At the time, the city allegedly planned to build a new transmission network, integrate renewable energy resources like solar, and use waste heat recovered from diesel and liquified natural gas power generation.³⁴⁶

Hainan Tianneng Power Company Limited (海南天能电力有限公司) appears to have led the early development of this smart microgrid.³⁴⁷ According to publicly available corporate records, this company’s sole shareholder is Hainan Holdings Energy Company Limited (海南海控能源股份有限公司),³⁴⁸ a subsidiary of the state-owned Hainan Development Holdings Company Limited (海南省发展控股有限公司).³⁴⁹ Hainan Tianneng Power claims to specialize in developing, financing, researching, planning, building, and operating new energy power projects, including solar energy, wind energy, pumped storage, hydropower, biomass energy, geothermal energy, tidal energy, and waste-to-energy projects.³⁵⁰ It established a subsidiary in Sansha in 2014.³⁵¹

Hainan Tianneng Power organized the initial work on Woody Island’s smart microgrid through the Sansha City 500kW Independent Photovoltaic Power Generation Demonstration Project (三沙市

³⁴² For these reasons, the U.S. military has also invested in microgrids and smart microgrids. For example, see Tom Swanson, “U.S. Military Could Save Over \$1 Billion and Boost Energy Security, New Research Finds,” Pew Charitable Trusts, January 12, 2017, <https://www.pewtrusts.org/en/research-and-analysis/articles/2017/01/12/us-military-could-save-over-1-billion-and-boost-energy-security-new-research-finds>; Claire Volkwyn, “Spending on US military microgrids to exceed \$1 billion by 2026,” *Smart Energy International*, November 1, 2017, <https://www.smart-energy.com/regional-news/north-america/us-military-microgrids-2026/>; “SPIDERS JCTD Smart Cyber-Secure Microgrids;” S.B. Van Broekhoven, N. Judson, S.V.T. Nguyen, and W.D. Ross, *Microgrid Study: Energy Security for DoD Installations*, Technical Report 1164 (Lincoln Laboratory, 2012), <https://apps.dtic.mil/dtic/tr/fulltext/u2/a565751.pdf>; “Pacific Energy Assurance Renewables Laboratory (PEARL),” HTDC, <https://www.htdc.org/pacific-energy-assurance-renewables-laboratory-pearl/>.

³⁴³ Huang, “Sansha Establishes Power Supply Bureau;” “The Most Beautiful Sea Controller” -- Tianneng Power Company Limited Sansha Power Station Operations and Maintenance Staff Wang Haixing.”

³⁴⁴ Ibid.

³⁴⁵ Ibid.

³⁴⁶ Ibid.

³⁴⁷ “Approach China’s Southernmost Micro Photovoltaic Power Station -- Hainan Tianneng Power Sansha Woody Island Photovoltaic Microgrid Project;” 海南首个独立光伏智能微电网项目建成发电 [“Hainan’s First Independent Photovoltaic Smart Microgrid Project Completed and Generating Electricity”], 国务院国有资产监督管理委员会 [State Council State-Owned Assets Supervision and Administration Commission], January 8, 2014, <https://perma.cc/XW3H-W6YR>; 张中宝 [Zhang Zhongbao] and 梁振君 [Liang Zhenjun], 三沙光伏电站获评 2014 中国特色光伏电站 [“Sansha Photovoltaic Power Station Chosen as 2014 Chinese Characteristics Photovoltaic Power Station”], 凤凰网 [ifeng Net], October 21, 2014, <https://perma.cc/WU2V-QCPJ>.

³⁴⁸ Formerly known as Hainan Tianhui Energy Company Limited (海南天汇能源股份有限公司). See 大事记 [“Record of Major Events”], 海南海控能源股份有限公司 [Hainan Holdings Energy Company Limited], <https://perma.cc/B3HY-BVEL>; source documents held by report author.

³⁴⁹ Source documents held by report author; 公司介绍 [“Introduction to the Company”], 海南天能 [Hainan Tianneng], <https://perma.cc/49Y7-WYSN>.

³⁵⁰ “Introduction to the Company”, Hainan Tianneng.

³⁵¹ The subsidiary is called Sansha Tianneng Power Company Limited (三沙天能电力有限公司). Source documents held by report author.

500kW 独立光伏发电示范项目).³⁵² In April 2013, for example, Hainan Tianneng Power led a “technical plan evaluation meeting” for this project.³⁵³ This meeting reportedly involved representatives from the Sansha government and experts from the Chinese Academy of Sciences (CAS) Guangzhou Institute of Energy Conversion (中科院广州能源研究所), the Sansha City Power Supply Bureau (三沙市供电局), and other organizations.³⁵⁴ During this meeting, the assembled experts reviewed assessments of Woody Island’s load characteristics, climate, and other factors and reviewed designs for the microgrid’s topology, control system, and operation strategy.³⁵⁵ These designs allegedly focused on building a microgrid based on distributed photovoltaics.³⁵⁶ The Sansha City 500kW Independent Photovoltaic Power Generation Demonstration Project came into use in late 2013 or early 2014.³⁵⁷ This project ultimately integrated photovoltaic modules (solar panels) installed on the roofs of buildings in downtown Woody Island, 1000kwh lithium iron phosphate batteries for storage and buffering, and smart microgrid control technology.³⁵⁸ See **Figure 18**, below.



Figure 18: Photovoltaics on Woody Island³⁵⁹

After completing this demonstration project, Hainan Tianneng Power continued working on Woody Island’s smart microgrid. For one matter, Hainan Tianneng Power personnel stationed on the island appear to be responsible for carrying out continuous equipment maintenance, inspections, repairs,

³⁵² 海南天能电力有限公司组织召开“三沙市 500kW 独立光伏发电示范项目”技术方案评审会 [“Hainan Tianneng Power Company Limited Organizes and Convenes ‘Sansha City 500kW Independent Photovoltaic Power Generation Demonstration Project’ Technical Plan Evaluation Meeting”], 海南天能 [Hainan Tianneng], April 19, 2013, <https://perma.cc/UW3D-NJPB>.

³⁵³ Ibid.

³⁵⁴ Ibid.

³⁵⁵ Ibid.

³⁵⁶ Ibid.

³⁵⁷ Ning, Hainan’s First Independent Photovoltaic Smart Microgrid Finished Construction and is Operating in Sansha;” 长江设计院承建三沙市 500kW 独立光伏发电示范项目建成运营 [“Changjiang Planning Institute Contracted 500kW Independent Photovoltaic Power Generation Demonstration Project Completed and Operating”], 北极星太阳能光伏网 [Beijixing Solar Photovoltaics Net], January 7, 2014, <https://perma.cc/Z7BA-3YFT>.

³⁵⁸ “Approach China’s Southernmost Micro Photovoltaic Power Station -- Hainan Tianneng Power Sansha Woody Island Photovoltaic Microgrid Project.”

³⁵⁹ 海南西沙建成光伏智能微电网提供可再生清洁能源 [“Hainan Xisha Built Photovoltaic Smart Microgrid to Provide Renewable Clean Energy”], BIPV 中国 [BIPV China], January 2, 2014, <https://perma.cc/D3V5-KB88>; Google Earth, June 3, 2019.

and upgrades in support of the grid’s operation.³⁶⁰ Moreover,³⁶¹ by mid-2017 Hainan Tianneng Power had launched the Sansha City “Internet Plus” Intelligent Energy Demonstration Project (三沙市永兴岛“互联网+”智慧能源示范项目) with the blessing of the National Energy Administration.³⁶² The company appears to be working on this project with Huawei, PLA Unit 91892,³⁶³ the CAS Guangzhou Institute of Energy Conversion, the Sansha government, the city’s power supply bureau, and other organizations (see **Figure 19**, below).³⁶⁴ According to Hainan Tianneng Power, this project is an effort to build a “new development model” for the energy industry that closely links energy production, transmission, supply, and consumption to the internet.³⁶⁵



Figure 19: Photo taken at a July 2017 forum on the Sansha City “Internet Plus” Intelligent Energy Demonstration Project³⁶⁶

An initial report from late 2018 indicates that the Sansha City “Internet Plus” Intelligent Energy Demonstration Project will have two phases.³⁶⁷ The first phase will supposedly involve photovoltaics, storage, and diesel generators deployed in civilian areas of Woody Island.³⁶⁸ The

³⁶⁰ “The Most Beautiful Sea Controller” - - Tianneng Power Company Limited Sansha Power Station Operations and Maintenance Staff Wang Haixing.”

³⁶¹ “‘Internet Plus’ Intelligent Energy, Beautiful Sansha’s Energy Guarantee;” 海南天汇能源股份有限公司 2017 年度报告 [“Hainan Tianhui Energy Company Limited 2017 Annual Report”].

³⁶² The National Energy Administration, which falls under the National Development and Reform Commission, selected Hainan Tianneng Power’s project as an early “Internet Plus” Intelligent Energy (Energy Internet) Demonstration Project (“互联网+”智慧能源（能源互联网）示范项目). See 国家能源局公示首批能源互联网示范项目 [“National Energy Administration Publicizes First Batch of Energy Internet Demonstration Projects”], 大云网 [Dayun Net], March 6, 2017, <https://perma.cc/FH3F-4JZN>.

³⁶³ PLA United 91892 appears to maintain a presence on Woody Island. For example, see 刘江宇 [Liu Jiangyu], 我市春节拥军慰问团慰问驻市部队 [“Our City Spring Festival Supporting Military Greeting Group Visits Troops Stationed in the City”], 三沙市人民政府网 [Sansha City People’s Government Net], January 22, 2020, <https://perma.cc/6AH3-99V9>.

³⁶⁴ “‘Internet Plus’ Intelligent Energy, Beautiful Sansha’s Energy Guarantee.”

³⁶⁵ Ibid.

³⁶⁶ Ibid. The photo in Figure 19 shows representatives from Huawei, PLA Unit 91892, and Sansha’s government.

³⁶⁷ 湖北工程公司三沙市永兴岛“互联网+”智慧能源示范项目设计咨询合同 [“Hubei Engineering Company Sansha City Woody Island ‘Internet Plus’ Intelligent Energy Demonstration Project Planning Consulting Contract”], 中国储能网 [China Energy Storage Net], October 10, 2018, <https://perma.cc/82KW-F5ND>.

³⁶⁸ Ibid.

second phase will encompass photovoltaics and storage deployed in the island’s military barracks area.³⁶⁹ Once finished, the Sansha City “Internet Plus” Intelligent Energy Demonstration Project will allegedly “realize the interconnection of energy data across the island.”³⁷⁰ In particular, the project apparently aims to build an “island-wide energy internet” (全岛能源互联网) that integrates distributed photovoltaics, diesel generators, energy storage, a distribution network, and loads like seawater desalination equipment and smart charging piles.³⁷¹

In addition to supporting Hainan Tianneng Power’s “internet plus” project, Sansha City is striving to upgrade Woody Island’s smart microgrid in other significant ways. According to the “Hainan Province Smart Grid 2019-2021 Construction Project List,” Hainan Power Grid Company Limited (海南电网有限责任公司) is currently running three main smart grid projects in Sansha (see **Table 2**, below).³⁷² Hainan Power Grid is the state-owned parent company of the Sansha City Power Supply Bureau.³⁷³

Table 2. Hainan Power Grid’s 2019-2021 Smart Grid Projects in Sansha City.³⁷⁴

Project Name (English)	Project Name (Chinese)	2019 Investment	2020 Investment	2021 Investment	Cumulative Three-Year Investment
Island energy supply model and key technologies research and application	海岛供能模式及关键技术研究及应用	¥2.4 million (\$343,000)	¥0 (\$0)	¥0 (\$0)	¥2.4 million (\$343,000)
Research and application of island power grid supply key technologies, including pavement photovoltaics plus dynamic charging model	含路面光伏+动态充电模式的岛屿电网供电关键技术研究及应用	¥280 million (\$40 million)	¥77.4 million (\$11 million)	¥0 (\$0)	¥357.4 million (\$51 million)
Island smart microgrid key technologies research and demonstration application, including wave energy generation systems	含波浪能发电系统的海岛智能微网关键技术研究及示范应用	¥25.6 million (\$3.7 million)	¥0 (\$0)	¥0 (\$0)	¥25.6 million (\$3.7 million)

³⁶⁹ Ibid.

³⁷⁰ Ibid.

³⁷¹ Ibid.

³⁷² 海南智能电网 2019-2021 年建设项目明细表 [“Hainan Smart Grid 2019-2021 Construction Project List”], 海南省发展和改革委员会 [Hainan Province Development and Reform Commission], May 29, 2019, <https://perma.cc/75ZP-3AZ7>; 关于印发《海南智能电网 2019-2021 年建设方案》的通知 [“Notice on Issuing the ‘Hainan Smart Grid 2019-2021 Construction Plan’”], 海南省发展和改革委员会 [Hainan Province Development and Reform Commission], May 29, 2019, <https://perma.cc/8V37-LT5X>.

³⁷³ According to publicly available corporate records, the Sansha Power Supply Bureau is a branch of Hainan Power Grid Company Limited, a company owned entirely by China Southern Power Grid Company Limited (中国南方电网有限责任公司), a state-owned enterprise. Source documents held by report author.

³⁷⁴ “Hainan Smart Grid 2019-2021 Construction Project List.”

Hainan Power Grid's wave power project is particularly notable, as it suggests that Woody Island's smart microgrid could soon integrate additional distributed energy resources.³⁷⁵ This project focuses on "carrying out practical application research on eagle-type [鹰式] wave energy power generation systems."³⁷⁶ More specifically, it involves studying the performance of eagle-type wave power generation systems in the waters near Woody Island, researching how to connect wave energy systems to island grids using submarine cables, and evaluating possible combinations of generators, wind turbines, photovoltaics, natural gas, and wave power based on the needs of outlying islands, among other activities.³⁷⁷

Hainan Power Grid's research on the use of eagle-type wave power generation systems in Sansha City appears to be well underway. In January 2020, the Sansha Power Supply Bureau applied to patent "a distribution network relay protection method for wave energy power generation" (一种含波浪能发电的配电网继电保护方法).³⁷⁸ In October 2020, satellite imagery revealed a wave power platform operating off the coast of Woody Island.³⁷⁹ Several clues suggest that this platform was one of the CAS Guangzhou Institute of Energy Conversion's eagle-type wave power generation systems. For one matter, the CAS Guangzhou Institute of Energy Conversion has already worked on Woody Island's smart microgrid with Hainan Tianneng Power, Hainan Power Grid, and the Sansha government.³⁸⁰ Moreover, experts at the CAS Guangzhou institute of Energy Conversion have been studying, developing, and testing eagle-type wave power generation systems for years (see **Figure 20**, below).³⁸¹ Additionally, in June 2020, the CAS Guangzhou Institute of Energy Conversion invited bids for a contract to tow its eagle-type Pioneer 1 (先导一号) platform to the Parcel Islands.³⁸² For these reasons, the wave power system sighted near Woody Island in October 2020 is

³⁷⁵ The Sansha City Power Supply Bureau, Hainan Tianneng Power, and other relevant entities have long planned to integrate multiple distributed energy resources into Woody Island's smart microgrid. For example, see Huang, "Sansha Establishes Power Supply Bureau;" "Approach China's Southernmost Micro Photovoltaic Power Station - - Hainan Tianneng Power Sansha Woody Island Photovoltaic Microgrid Project;" "'Internet Plus' Intelligent Energy, Beautiful Sansha's Energy Guarantee;" Zhu, Jiang, and Liu, "Sansha City Woody Island Smart Microgrid: Makes Island Power Supply Reliable Comparable to a City."

³⁷⁶ "Hainan Smart Grid 2019-2021 Construction Project List."

³⁷⁷ Ibid.

³⁷⁸ Source document held by report author.

³⁷⁹ Drake Long, "Wave Power: China Uses Offshore Renewable Energy for Paracels Outpost," *Radio Free Asia*, October 8, 2020, <https://www.rfa.org/english/news/china/paracels-wave-power-10082020184119.html>.

³⁸⁰ "Hainan Tianneng Power Company Limited Organizes and Convenes 'Sansha City 500KW Independent Photovoltaic Power Generation Demonstration Project' Technical Plan Evaluation Meeting;" "'Internet Plus' Intelligent Energy, Beautiful Sansha's Energy Guarantee."

³⁸¹ You Yage and Sheng Songwei, Novel floating eagle type wave power generating device with semi-submersible characteristic (US20140338321A1), Google Patents, 2012, <https://perma.cc/2DEL-QVFQ>; 鹰式波浪能装置“万山号”建造完成并顺利转场 ["Eagle-Type Wave Energy Apparatus 'Wanshan' Construction Completed and Smoothly Transferred"], 中国科学院广州分院 [CAS Guangzhou Institute of Energy Conversion], July 23, 2015, <https://perma.cc/F2T8-9FKE>; Zhang Ya-qun, Sheng Song-wei, You ya-ge, Huang Zhen-xin, and Wang Wen-sheng, "Study of Hydrodynamic Characteristics of A Sharp Eagle Wave Energy Converter," *China Ocean Engineering* 31, no. 3 (2017), <https://link.springer.com/article/10.1007/s13344-017-0043-0>; 广州能源所“可移动波浪能发电平台”技术通过成果评价 ["Guangzhou Institute of Energy Conversation 'Mobile Wave Energy Power Generation Platform' Technology Passes Results Evaluation"], 中国科学院广州能源研究所 [CAS Guangzhou Institute of Energy Conversion], June 25, 2019, <https://perma.cc/Y3WR-5UCD>; “南海兆瓦级波浪能示范工程建设”项目首台 500kW 鹰式波浪能发电装置“舟山号”正式交付 ["'South China Sea Megawatt-Level Wave Energy Demonstration Project Construction' Project First 500kW Eagle-Type Wave Energy Power Generation Apparatus 'Zhoushan' Official Delivered"], 中国科学院广州能源研究所 [CAS Guangzhou Institute of Energy Conversion], July 1, 2020, <https://perma.cc/46WA-4QEV>.

³⁸² 中国科学院广州能源研究所“鹰式-先导一号”波能装置西沙海域拖航投放作业服务采购项目竞争性磋商 ["CAS Guangzhou Institute of Energy Conversion 'Eagle-Type Pioneer 1' Wave Energy Apparatus Xishia Sea Area

likely a CAS Guangzhou Institute of Energy Conversion platform like the 260kW Pioneer 1 or the newer 500kW Zhoushan (舟山号).³⁸³

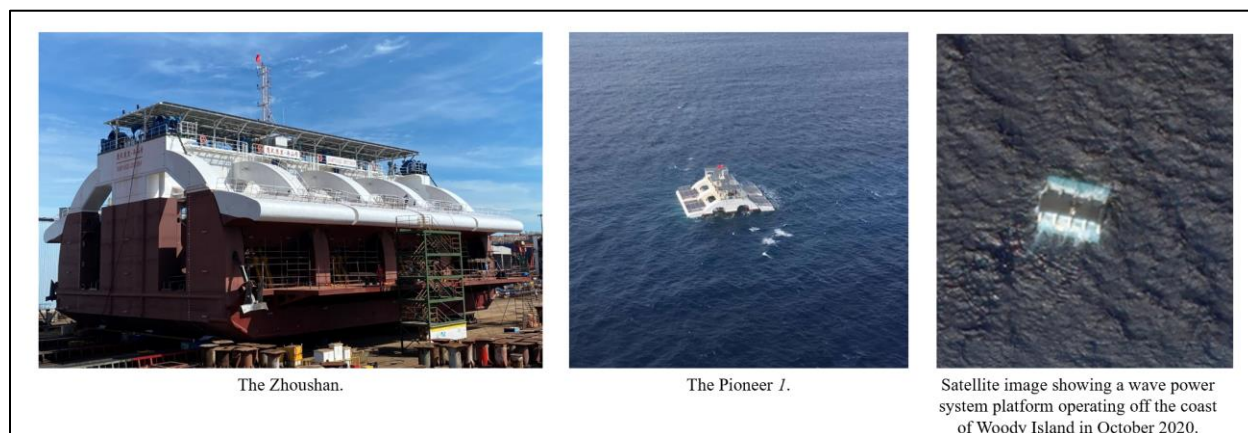


Figure 20. The CAS Guangzhou Institute of Energy Conversion’s wave power systems³⁸⁴

The development of a smart microgrid on Woody Island is significant for several reasons. For one matter, this smart microgrid guarantees a continuous supply of high-quality power for critical facilities across Woody Island. Before the island had a fully functioning smart microgrid, typhoons and other environmental factors regularly caused power outages and other disruptions, which constrained Sansha’s development.³⁸⁵ During peak consumption periods, for example, the city allegedly had to shut off power to non-essential buildings to keep the island’s most important facilities running.³⁸⁶ Thanks to its new smart microgrid, Woody Island no longer relies solely on fragile diesel generators and deliveries of fuel from Hainan.³⁸⁷ Leveraging distributed energy resources, energy storage, and smart control systems, this smart microgrid ensures that the island’s computer rooms, seawater desalination plant, harbors, cold stores, sewage treatment plant, airport, and other such facilities remain operational.³⁸⁸ As such, this smart microgrid enables Woody Island to function as the headquarters of Sansha’s system of normalized administrative control.

Towing Boat Delivery Operation Service Purchasing Project Competitive Negotiations”], 国家级政府采购专业网 [National Government Purchasing Specialized Net], April 1, 2020, <https://perma.cc/9RVD-69ZP>.

³⁸³ Long, “Wave Power: China Uses Offshore Renewable Energy for Paracels Outpost;” “‘South China Sea Megawatt-Level Wave Energy Demonstration Project Construction’ Project First 500kW Eagle-Type Wave Energy Power Generation Apparatus ‘Zhoushan’ Official Delivered.”

³⁸⁴ “‘South China Sea Megawatt-Level Wave Energy Demonstration Project Construction’ Project First 500kW Eagle-Type Wave Energy Power Generation Apparatus ‘Zhoushan’ Official Delivered;” “Guangzhou Institute of Energy Conversation ‘Mobile Wave Energy Power Generation Platform’ Technology Passes Results Evaluation;” Long, “Wave Power: China Uses Offshore Renewable Energy for Paracels Outpost.”

³⁸⁵ Zhu, Jiang, and Liu, “Sansha City Woody Island Smart Microgrid: Makes Island Power Supply Reliable Comparable to a City;” “‘The Most Beautiful Sea Controller’ - - Tianneng Power Company Limited Sansha Power Station Operations and Maintenance Staff Wang Haixing;” Miao and Du, “Power Grid Successfully Boosted and Transformed.”

³⁸⁶ Miao and Du, “Power Grid Successfully Boosted and Transformed.”

³⁸⁷ Zhu, Jiang, and Liu, “Sansha City Woody Island Smart Microgrid: Makes Island Power Supply Reliable Comparable to a City.”

³⁸⁸ “Approach China’s Southernmost Micro Photovoltaic Power Station - - Hainan Tianneng Power Sansha Woody Island Photovoltaic Microgrid Project;” 王子谦 [Wang Ziqian], 中国首个远海岛屿智能微电网在三沙建成 [“China’s First Outlying Islands Smart Microgrid Completed in Sansha”], 凤凰网 [ifeng Net], May 28, 2018, <https://perma.cc/7Y3H-2RGS>; Zhu, Jiang, and Liu, “Sansha City Woody Island Smart Microgrid: Makes Island Power Supply Reliable

Moreover, the development and use of this smart microgrid is rooted in Sansha City's approach to military-civil fusion. According to an official from the Hainan Province Development and Reform Commission, "the overall planning of intelligent energy projects requires the Sansha City government and troops stationed on the island to mutually integrate."³⁸⁹ Indeed, this grid is a product of cooperation between the municipal party-state, PLA units, private and state-owned companies, research institutes, and other entities.³⁹⁰ Likewise, Woody Island's smart microgrid appears to support both military and civilian users.³⁹¹ For instance, city officials have indicated that smart microgrid projects are an effective solution to the power supply problems that had previously constrained both military and civilian activity on Woody Island.³⁹² In this manner, Sansha's investment in smart microgrid technology demonstrates how all aspects of the city's development ultimately contribute to defense goals.

Additionally, the development of Woody Island's smart microgrid will likely as serve a model for other settlements in the Paracel and Spratly Islands. For example, Sansha's deputy mayor has admitted that "in the future, the microgrid model will hopefully expand to the Paracel Islands and other islands."³⁹³ Likewise, the deputy director of the Sansha City Power Supply Bureau has stated that "we will replicate this model on other islands."³⁹⁴ Indeed, by the end of 2015 solar panels and wind turbines had already been installed on Johnson Reef in the Spratly Islands (see **Figure 21**, below).³⁹⁵ Additionally, by early 2017, Sansha had built a smart microgrid system that integrates wind and solar on Tree Island in the Paracel Islands.³⁹⁶ Moreover, given that dispatchers on Hainan Island can remotely manage Woody Island's microgrid via submarine optical cables,³⁹⁷ Woody Island itself may someday function as the control center for a network of microgrids across the city's jurisdiction.³⁹⁸ As such, the development of smart microgrid technology on Woody Island demonstrates how China will likely consolidate its claims across the Paracel Island and Spratly Islands in the future.

Comparable to a City;" 赵叶苹 [Zhao Yeping], 三沙永兴岛供电网形成“双环” [“Sansha Woody Island Power Supply Grid Forms ‘Double Ring’”], 中国政府网 [China Government Net], December 12, 2017, <https://perma.cc/2F3W-M3U2>.

³⁸⁹ “‘Internet Plus’ Intelligent Energy, Beautiful Sansha’s Energy Guarantee.”

³⁹⁰ “‘Internet Plus’ Intelligent Energy, Beautiful Sansha’s Energy Guarantee; Liu, “Sansha City Founding 11th National Double Support Model City Records.”

³⁹¹ Liu, “Sansha City Founding 11th National Double Support Model City Records;” Huang, “Sansha Establishes Power Supply Bureau;” “Approach China’s Southernmost Micro Photovoltaic Power Station - - Hainan Tianneng Power Sansha Woody Island Photovoltaic Microgrid Project.”

³⁹² “Approach China’s Southernmost Micro Photovoltaic Power Station - - Hainan Tianneng Power Sansha Woody Island Photovoltaic Microgrid Project;” Ning, “Hainan’s First Independent Photovoltaic Smart Microgrid Finished Construction and is Operating in Sansha.”

³⁹³ “Approach China’s Southernmost Micro Photovoltaic Power Station - - Hainan Tianneng Power Sansha Woody Island Photovoltaic Microgrid Project.”

³⁹⁴ Zhu, Jiang, and Liu, “Sansha City Woody Island Smart Microgrid: Makes Island Power Supply Reliable Comparable to a City.”

³⁹⁵ Changes visible on Google Earth; Peter Zhou, 你对中国三沙市南沙区了解吗? 永暑礁变永暑岛, 一直在变大 [“Do You Understand China Sansha City Nansha District? Fiery Cross Reef Becomes Fiery Cross Island, Continuously Becoming Larger”], YouTube, May 14, 2020, <https://www.youtube.com/watch?v=LtmxC19B5UY>.

³⁹⁶ “Sansha Tree Island Builds New Energy Smart Microgrid Seawater Desalination Project.”

³⁹⁷ Zhu, Jiang, and Liu, “Sansha City Woody Island Smart Microgrid: Makes Island Power Supply Reliable Comparable to a City;” Wang, “China’s First Outlying Islands Smart Microgrid Completed in Sansha.”

³⁹⁸ Wang, “China’s First Outlying Islands Smart Microgrid Completed in Sansha;” Long, “Wave Power: China Uses Offshore Renewable Energy for Paracels Outpost.”

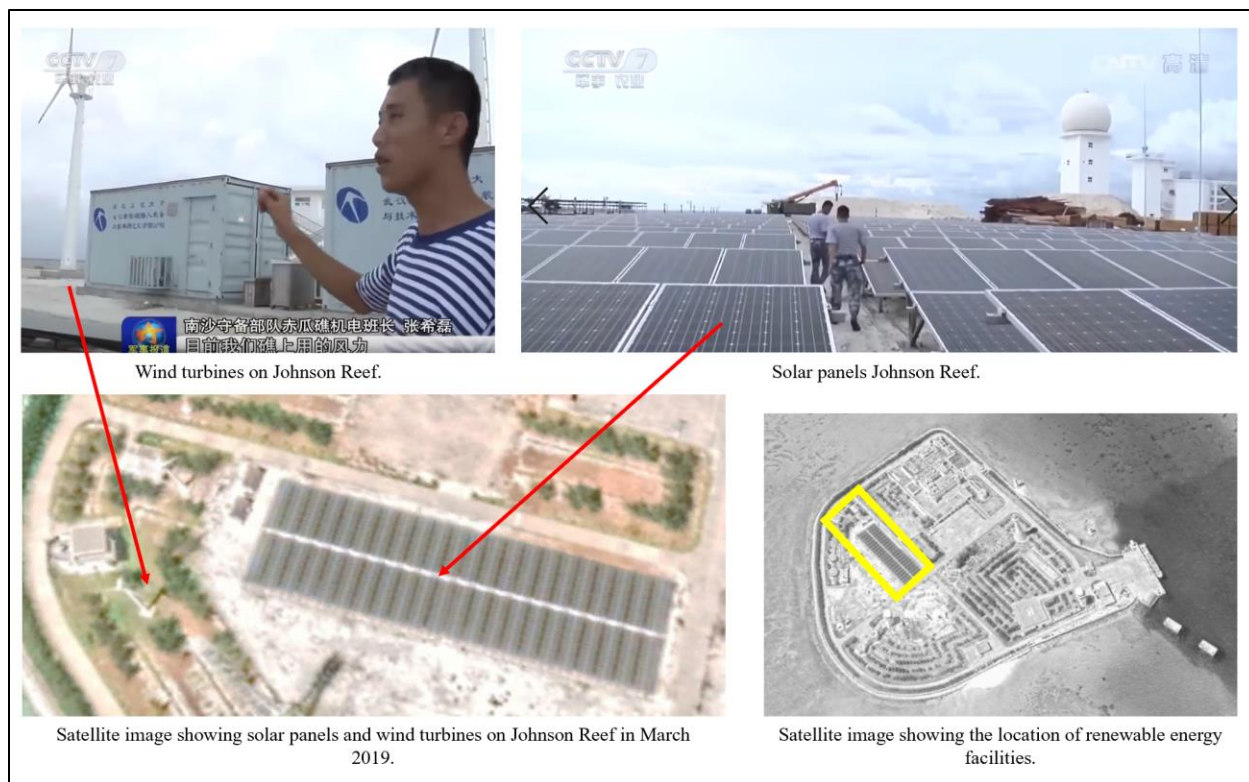


Figure 21. Solar and wind power facilities in the Spratly Islands³⁹⁹

Conclusion

In 2012, China established Sansha City to govern the bulk of its territorial and maritime claims in the South China Sea. Sansha is responsible for strengthening China’s administrative control over contested areas, implementing military-civil fusion, and carrying out the daily work of rights defense, stability maintenance, environmental protection, and resource development. Since the city’s creation, central, provincial, and local authorities have worked in coordination to develop Sansha’s physical infrastructure and transportation, communications, corporate ecosystem, party-state institutions, and rights defense system.

Added together, the various areas of Sansha City’s development form a system of normalized administrative control. Improvements to the city’s physical infrastructure and transportation have transformed Woody Island and other occupied features into increasingly self-sufficient hubs of Chinese activity. The development of Sansha’s communications infrastructure has effectively shrunk the city’s huge jurisdiction, allowing local leaders to monitor and govern vast swathes of maritime space with ease. The city’s growing corporate ecosystem supports nearly every aspect of the city’s daily operations and long-term development. The expansion of party-state institutions in Sansha allows municipal authorities to directly govern areas of the South China Sea and ensures the primacy of CCP interests in local decision-making. The city’s new rights defense system gives local leaders the ability to physically assert Sansha’s jurisdiction at the expense of China’s neighbors.

After just over eight years, Sansha City’s development shows no signs of stopping. The city’s priorities remain the same: promoting military-civil fusion, improving maritime law enforcement and

³⁹⁹ Peter Zhou, “Do You Understand China Sansha City Nansha District? Fiery Cross Reef Becomes Fiery Cross Island, Continuously Becoming Larger;” Google Earth, March 21, 2019.

administrative capacity, constructing infrastructure, protecting the environment, and defending China's maritime rights and interests.⁴⁰⁰ Between the start of 2019 and the end of 2020, the city started building a new comprehensive law enforcement ship,⁴⁰¹ established Xisha District and Nansha District,⁴⁰² tested wave energy platforms off the coast of Woody Island,⁴⁰³ commissioned the *Sansha 2* transportation and supply ship,⁴⁰⁴ carried out ecological protection work in the Paracel Islands,⁴⁰⁵ brought 5G network coverage to the Paracel and Spratly Islands,⁴⁰⁶ reorganized its comprehensive law enforcement bureau,⁴⁰⁷ continued developing its settlements in the Paracel Islands,⁴⁰⁸ expanded Woody Island through new dredging,⁴⁰⁹ and continued promoting cooperation with corporate entities and the CCG.⁴¹⁰ Likewise, central and provincial organs have released various plans that involve Sansha, including plans to develop recreational fisheries in the city's jurisdiction,⁴¹¹ incorporate the city's islands and reefs into a new information sharing network,⁴¹² and integrate the city into a new province-wide transportation system.⁴¹³

Thus far, the leaders of Sansha City appear to have concentrated on developing settlements and capabilities in the Paracel Islands. For this reason, the city's system of normalized administrative

⁴⁰⁰ 洪媛媛 [Hong Yuanyuan], 我市召开专题会议研究推进“十四五”规划编制工作 [“Our City Convenes Special Topic Meeting to Research and Advance ‘14th Five Year Plan Compiling Work”], 三沙市人民政府网 [Sansha City People's Government Net], September 2, 2020, <https://perma.cc/L4KR-JSY6>; 刘江宇 [Liu Jiangyu], 邓忠主持召开专题会研究“十四五”规划推进工作 [“Deng Zhong Presides Over Convened Special Topic Research ‘14th Five-Year’ Plan Advancement Work”], 三沙市人民政府网 [Sansha City People's Government Net], August 16, 2020, <https://perma.cc/V9WD-N47V>.

⁴⁰¹ “Wuchang Shipbuilding Industry Group Building Sansha City 1,000-Ton Scale Comprehensive Law Enforcement Ship Smoothly on Ship Building Berth;” “Wuchang Shipbuilding Industry Group Contracted 1,000-Ton Scale Comprehensive Law Enforcement Ship Smoothly Starts Construction.”

⁴⁰² Haver, “Sansha and the Expansion of China's South China Sea Administration.”

⁴⁰³ Long, “Wave Power: China Uses Offshore Renewable Energy for Paracels Outpost.”

⁴⁰⁴ Haver, “China's New 8,000-Ton South China Sea Supply Ship.”

⁴⁰⁵ “Sansha City People's Government Report on 2019 Rule of Law Government Building Situation;” “Sansha City Oceans and Fisheries Buries - 2019 Xisha Sea Area Crown-of-Thorns Starfish Emergency Clean Up – Single Source Announcement.”

⁴⁰⁶ Ruan and Qiao “China Telecom Opens Hainan Sansha City Fiery Cross Reef and Woody Island 5G Base Stations.”

⁴⁰⁷ “Sansha City People's Government Report on 2019 Rule of Law Government Building Situation.”

⁴⁰⁸ 王惠浪 [Wang Huilang], 市领导赴赵述岛调研项目进展情况 [“City Leaders Visit Tree Island to Investigate Project Progress Situation”], 三沙市人民政府网 [Sansha City People's Government Net], November 23, 2020, <https://perma.cc/3JYG-E893>; Drake Long, “Small China Islets in South China Sea Show Signs of New Construction,” *Radio Free Asia*, November 5, 2020, <https://www.rfa.org/english/news/china/southchinasea-artificial-11052020175409.html>.

⁴⁰⁹ Drake Long, “China Resumes Dredging at Woody Island in the Paracels,” *Radio Free Asia*, June 26, 2020, <https://www.rfa.org/english/news/china/paracels-dredging-06262020195544.html>.

⁴¹⁰ 张军会见中国葛洲坝集团股份有限公司总经理宋领一行 [“Zhang Jun Meets With China Gezhouba Group Company Limited General Manager Song Ling”], 三沙市人民政府网 [Sansha City People's Government Net], November 13, 2020, <https://perma.cc/962Y-BW9M>; Hong, “Deng Zhong Meets with Pingan Group Party Committee Deputy Secretary Du Peng;” 彭子娥 [Peng Zi'e], 邓忠会见海南海警局政委徐发军一行 [“Deng Zhong Meets With Hainan Coast Guard Bureau Political Commissar Xu Fajun”], 三沙市人民政府网 [Sansha City People's Government Net], November 6, 2020, <https://perma.cc/M4TB-WBYS>.

⁴¹¹ 海南省休闲渔业发展规划（2019-2025年） [“Hainan Province Recreational Fisheries Development Plan (2019-2025)”], 海南省发展和改革委员会 [Hainan Province Development and Reform Commission], September 2019, <https://perma.cc/5WDP-YNYK>.

⁴¹² 智慧海南总体方案（2020-2025年） [“Intelligent Hainan Overall Plan (2020-2025)”], 海南省人民政府网 [Hainan Province People's Government Net], August 14, 2020, <https://perma.cc/8KDK-H9YH>.

⁴¹³ 梁振君 [Liang Zhenjun], 国家发改委公布《海南现代综合交通运输体系规划》 [“National Development and Reform Commission Announces ‘Hainan Modern Integrated Transportation System Plan’”], 海南省人民政府网 [Hainan Province People's Government Net], October 1, 2020, <https://perma.cc/8LAW-UP9U>.

control is strongest in the Paracel Islands, where local officials are in charge of managing the bulk of day-to-day affairs. The establishment of the city's Nansha District, which is headquartered on Fiery Cross Reef and has jurisdiction over the Spratly Islands, suggests that city officials may soon play a greater role in the Spratly Islands. Just as it has served as a model for the development of other occupied features in the Paracel Islands, the development Woody Island could soon guide (or is already guiding) civilian development on Chinese-occupied features in the Spratly Islands. However, because reliable publicly available information on China's activities in the Spratly Islands is scarce, whether (or to what degree) the city's system of normalized administrative control will fully expand to the Spratly Islands remains an open question.

Ultimately, Sansha City has become an important component of China's strategy in the South China Sea. Working alongside the PLA and CCG on the front lines of the disputes, local leaders are in charge of administering contested areas on a day-to-day basis, which includes developing China's settlements on occupied features and preventing other claimants from operating freely within contested waters. In entrusting these responsibilities to the municipal party-state and supporting the city's development, Beijing has revealed that its ambitions extend beyond dominating the South China Sea via CCG and PLA Navy operations. Through Sansha's system of normalized administrative control, China is gradually transforming contested areas of the South China Sea into de facto Chinese territory.

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