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**BUILDING THE INDIAN COUNTERWEIGHT:
A STRATEGIC DIVISION OF LABOR TO SECURE
LONG-TERM INDIAN OCEAN STABILITY**

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China's rapid development towards a blue water navy threatens U.S. access to the Indian Ocean, a region vital to commerce and energy security. To counter this threat, the United States has sought an alliance with India based on joint training and the sale of advanced weapons technology, facilitating India's quest for sea control capability.

This brief argues that an Indian naval doctrine premised on sea control is shortsighted and undermines its ability to balance against China by accelerating a costly arms race. Instead, the United States and India should agree to an interim division of labor in the Indian Ocean. India would pursue cost-effective sea denial at strategic chokepoints to deter any potential Chinese aggression and reallocate resources towards its economic growth. The United States, in turn, would continue to ensure open sea lines of communication in the short-to-medium term with the goal of increasingly involving India in this effort. This proposed partnership is a proactive intermediate step for achieving long-term stability in the Indian Ocean by fostering the emergence of India as an economically and militarily robust counter to China.

The Threat of Chinese Naval Ambitions and Expansion in the Indian Ocean Region

Due to its strategic vulnerability at the Malacca Straits, China has adopted an expansionist naval strategy to secure commercial trade and energy resources in the Indian Ocean.¹

The following characteristics of China's naval expansion threaten U.S. interest in the region:

- *Acquisition of Offensive and Denial Capabilities:* Since 2000, the PLAN has doubled the number of vessels entering into service. In addition to its ten 093 class nuclear submarines, China plans to develop five aircraft carriers by 2020.² The military has also unveiled new anti-access/area denial (A2/AD) technology, including the DF-21D anti-ship ballistic missile (ASBM) and J-20 stealth fighter, which can penetrate even the most advanced U.S. naval defense systems.³
- *Naval Presence near the Strait of Hormuz:* Currently, China is building a deep water port at Gwadar, only 250 miles from the Strait of Hormuz. Upon completion, China will be

able to both monitor U.S. naval activity and potentially threaten access to Persian Gulf oil supplies.⁴

- *Growing Influence in the Indian Ocean:* China is establishing a number of friendly ports in littoral states, such as Myanmar and Bangladesh, under its “String of Pearls” strategy. Since many of the ports serve as surveillance and logistical facilities, these sites provide the support necessary for the PLAN to execute disruptive submarine warfare against opponents’ sea lines of communication (SLOCs).⁵

With such offensive capability and technological sophistication, China could potentially disrupt critical Indian Ocean SLOCs, through which 20% of world energy resources and 45% of global commerce must transit.⁶ Without a regional counterweight, the United States would have to shoulder the burden of checking China’s growing naval capabilities.

Responding to Chinese Expansion: Indian Sea Control

To counter China’s naval expansion, India is also pursuing blue water capabilities under a sea control strategy. This strategy not only encompasses the ability to impose sea denial, but also requires a costly and extensive navy to ensure dominance outside of coastal waters.⁷

Current Indian naval strategy has the following three primary components:

- *Power Projection through Carrier Fleets:* By 2020, India expects to have three aircraft carriers in service, two of which will be indigenously built.⁸ A three carrier fleet will enable India to maintain one carrier group on each seaboard to respond to diverse combat contingencies.⁹
- *Efforts to Control the Malacca Straits:* India plans to expand the Andaman and Nicobar Command (ANC)—stationed approximately 1,000 miles from the Malacca Straits—into the Far Eastern Naval Command in 2012. This command would require 12,000 additional troops; six primary airbases; and advanced fighter squadrons, including the Sukhoi, Jaguar, Mirage-2000, and MiG aircrafts.¹⁰ Moreover, the Andaman and Nicobar islands will likely host two floating docks of Navy (FDN) by 2014, allowing India to dock all naval vessels except aircraft carriers and oil tankers.¹¹
- *Expansion of Submarine Fleet:* India is currently building six indigenous Scorpene “next-generation” submarines under French supervision with plans for six more in the near future. Moreover, India aims to develop a 5-6 indigenous, nuclear submarine fleet. Its first nuclear-propelled submarine, the INS *Arihant*, debuted in July, 2009.¹²

U.S. Alliance-Seeking and the Expansion of Indian Military Capability

The United States seeks an alliance with India to contain China's expanding military capability while avoiding direct confrontation with a valuable trading partner. To date, the United States has used weapon sales and joint training exercises to foster a closer relationship with India and expand its military capability.

U.S. Weapon Transfers to India

Recent U.S. arms transfers to India include:

- 12 P-8I Maritime Patrol and Reconnaissance Aircraft;¹³
- 6 C-130J Hercules Transport Aircraft;¹⁴
- 10 C-17 Globemaster-III Strategic Airlift Aircraft;¹⁵
- 1 USS Trenton Amphibious Transport Dock (Renamed the INS *Jalashwa*);¹⁶

U.S. Arms Suppliers are also competing for a \$10-\$12 billion deal to sell India 126 new multi-role fighters. If acquired, the United States will provide lifetime maintenance and support for these aircrafts.¹⁷

U.S.-India Joint Training Exercises

The United States and India have increased military cooperation throughout the past decade, as evidenced by its participation in nine joint land exercises in 2010-2011 alone. Both nations' air forces and navies are also planning similar programs.¹⁸ Such exercises promote interoperability through the exchange of tactics, techniques, and procedures.

Prominent U.S.-India Joint Operations include:

- Yudh Abhyas, an annual, bilateral conventional-forces training exercise;
- Cope India, a regularly-scheduled, bilateral air-combat exercise;
- Exercise Habu Nag, an annual, bilateral amphibious training exercise;
- Exercise Malabar, an exercise focusing on strategic naval operations;¹⁹
- U.S. Red Flag, an advanced aerial combat exercise for close U.S. allies.

The Flaw of Current Policy: Accelerating a Costly and Unsustainable Arms Race

U.S. policy hinges on the assumption that India will prove able to counter China's growing naval capabilities. India's current naval doctrine, however, accelerates an unsustainable and costly arms race. Underlying economic problems will likely prevent India in the long run from being able to match China's expansion.

The Excessive and Unnecessary Expense of Sea Control

India does not yet require a navy capable of sea control and can avoid the economic burden of developing such capability.

- *The Economic Burden of Sea Control:* Aircraft carriers, the primary vessels required for sea control, are incredibly expensive to acquire and maintain.²⁰ For example, the cost of the INS *Vikramaditya* carrier is valued at \$2.33 billion, approximately 80% of the Indian navy's 2011 acquisition budget.²¹ Although India's indigenously developed carriers are expected to be significantly less expensive, their initial costs still constitute over 25% of the acquisition budget and could likely increase in price during construction.²²
- *Minimal Deterrence Necessary to Protect SLOCs:* China current fleet does not pose a significant threat to either the U.S. or Indian navies in the Indian Ocean, nor will it likely in the near future. Until China reaches a settlement over Taiwan, the first and second island chains will restrict the movement of large naval task forces into the Indian Ocean.²³ Therefore, the most significant naval presence China could hold in the region would be dispersed through the distant nodal ports established under its String of Pearl strategy. As a result, India's geographic advantages would enable it to conduct both naval and aerial operations from land-based stations capable of countering Chinese aggression.²⁴ Thus, India does not need the extensive carrier task forces necessary for sea control.

The Acceleration of Arms Racing

India's current sea control naval doctrine requires a massive expansion of its naval fleet, launching the nation into a maritime "Great Game" with China.²⁵ Its quest for naval dominance in the Indian Ocean has produced a parallel increase in Chinese naval power and activity, which then further provokes Indian naval expansion.

This naval arms racing has led to the buildup of offensive capabilities around strategic chokepoints throughout the Indian Ocean. If this trend continues, the area may soon host competing aircraft carrier fleets and an array of other advanced naval vessels.²⁶ In essence, India's sea control doctrine has already and will continue to accelerate a dangerous, naval arms race with China.

Impeding India's Economic Development

Despite its recent emergence as a world power, India still faces many economic obstacles which hinder its long-term development into a robust counter to China.

Three notable impediments include:

- *Power Shortages:* The World Bank identifies power shortages as the “biggest bottleneck to investment and industrial growth.”²⁷ To date, approximately 20% of all villages remain off-grid, without any access to electricity. Moreover, limited implementation capacities and a shortage of skilled labor create energy shortages of roughly 11%. These inadequacies are estimated to cost India around 6% of its 2010 GDP.²⁸
- *Lack of Proper Sanitation Facilities:* According to the Water and Sanitation Program (WSP), improper sanitation causes India to incur costs associated with disease treatment, premature deaths, lost productivity, and losses in tourist revenue. Combined, these costs accounted for a 4% loss in India's 2010 GDP.²⁹
- *High Malnutrition Rates:* Approximately 40% of children in India are malnourished.³⁰ Because these children tend to develop physical and mental impairments, the World Bank estimates India sacrifices at least 3% of its GDP to productivity losses.³¹

The Failure to Balance in the Long-Run

With its underlying economic barriers, India cannot currently hope to match China's naval expansion in the long-run. By 2030, China's economy is projected to be more than triple the size of India's economy:

- China's 2030 GDP is projected to be \$22.4 trillion, assuming an average growth rate of 5.56%.³² India's 2030 GDP is projected to be \$6.0 trillion, assuming an average growth rate of 6.19%.³³
- China's 2011 defense budget increased by 12.7% to \$91.5 billion.³⁴ In comparison, India's 2011 defense budget increased by 11.59% to \$36.5 billion.³⁵
- Assuming both China and India maintain a defense budget at its current proportion to GDP, China's defense budget will be approximately \$360 billion whereas India's defense budget will only be about \$160 billion in 2030.

Thus, China's disproportionately large economy enables it to devote more resources to its naval expansion. Former Indian naval chief of staff, Arun Prakash, has stated that India is already losing the naval arms race with China.³⁶ The gap the Chinese and Indian

economies—and consequently, the amount each can spend on naval expansion—will only increase with time.

A Strategic Partnership: The India-U.S. Maritime Cooperation Initiative

In order to facilitate India's rise as a strong counterweight to China, the United States should encourage India to agree to an interim and strategic division of labor in the Indian Ocean. This arrangement would allow India to focus on economic development while simultaneously serving as a deterrent to potential Chinese aggression.

The Role of India

Two primary tasks comprise India's responsibilities under the proposed division of labor:

- *Minimal Sea Denial*: Sea denial naval strategies seek to disrupt or deny an adversary's access to key SLOCs. A minimal sea denial strategy uses the bare minimum number of vessels and weaponry necessary to pose a significant threat to an adversary's ability to transit key maritime chokepoints.

India would invest in advanced conventional submarines, long range airpower, long range anti-ship missiles, and C3I capability.³⁷ By capitalizing on India's geographic advantages and China's gross dependence on oil imports and external trade, such investments enable India to threaten China's access to the Indian Ocean through the Malacca and Lombok Straits with relatively few military assets.³⁸ The simple ability to disrupt—even temporarily—these critical SLOCs will serve as a strong deterrent to any potential military aggression.

- *Resource Reallocation to Economic Development*: Avoiding the excessive economic burden of sea control will allow India to focus additional resources on economic development in the short-to-medium term. The World Bank identifies the following two areas as avenues for promoting economic growth by through increased export competitiveness:
 - *Structural Reforms*: To lower the cost of conducting business, India needs to further relax red tape restrictions on Foreign Direct Investments (FDI) in the banking, insurance, and retail trade sectors. India must also institutionalize cross-state monitoring of FDI performance in order to adhere to international standards.³⁹
 - *Infrastructure Investment*: Investment in infrastructure—most prominently, in India's power sector—would increase both productivity levels and standard of living.⁴⁰ For investments to be effective, India would create public-private partnerships (PPPs) worth up to \$500 billion for large-scale building projects.⁴¹

The Role of the United States

The United States would perform the following functions under the proposed division of labor:

- *Ensuring Open SLOCs*: The United States Naval Force Central Command (NAVCENT) will continue to protect open SLOCs throughout the northwestern Indian Ocean through Combined Task Force (CTF) 150, CTF 151, and CTF 152.⁴² As India's naval capabilities mature, the United States will increasingly coordinate with the Indian Navy to include it as a major component and potential leader of these multilateral efforts.⁴³
- *U.S.-India Intelligence Sharing Agreement*: As part of a growing security relationship, the United States and India should agree to an intelligence sharing arrangement to increase incentives for close cooperation between the two naval forces. Provision of satellite imagery to India will help it monitor maritime activity in the region and increase the efficiency in which India allocates its resources.⁴⁴

Policy Benefits

- *Minimizing Offensive Arms Racing and its Dangers*: Focusing on the ability to deter Chinese aggression with minimal military assets, rather than developing the capability to force open sea lines of communication, removes a provocation for further Chinese naval expansion in the Indian Ocean. In addition, a minimal sea denial strategy reduces the number of military vessels operating in crowded shipping lanes and decreases the possibility that unforeseen accidents will lead to a military clash.
- *Enhancing Long-Term Stability*: By curtailing India's naval expenditures in the interim, the proposed partnership allows India to focus on economic development and the removal of underlying barriers that impede its growth. The resulting expansion of the Indian economy lays the needed foundation for building a strong counter to China's growing naval capability.

Policy Criticisms

- *Straining the U.S.-Pakistan Alliance*: U.S.-Indian alignment could make Pakistan even more resistant to cooperation with the United States in combating the Taliban in Pakistan's Federally Administered Tribal Areas and North-West Frontier Province.⁴⁵
 - *Response*: The proposed partnership primarily focuses on maritime cooperation and development of Indian and regional naval capabilities. It does not increase India's land threat to Pakistan and may provide a vehicle for naval cooperation between the two rivals.

- *China's Perception of a U.S.-India Partnership*: Because much of China's insecurity regarding its "Malacca Dilemma" derives from increased cooperation between the United States and India, a formal U.S.-India partnership could further exacerbate China's concerns about its energy security and provoke even more rapid Chinese naval expansion.⁴⁶
 - *Response*: The proposed strategy is based on the minimal deployment of military assets and, therefore, should mitigate the need for or severity of naval arms racing between India and China.

The Need for a Long-Term Strategy for Maintaining Stability in the Indian Ocean

The Indian Ocean is too economically valuable to leave it to chance or even probability that China's ambitions will remain peaceful. As global energy competition increases, the incentives for an aggressive disruption of SLOCs will only increase. Moreover, even if their intentions do remain peaceful, the current clustering of offensive weaponry around narrow chokepoints dramatically increases the probability of naval accidents and misunderstandings which could devolve into military conflict.⁴⁷

Therefore, the United States must act now to minimize the threat of arms racing while simultaneously enhancing the prospects for long-term regional security. Simply put, India is too premature in its economic rise to handle this task on its own. Only through a strategic division of can the United States:

- (1) Secure the open access of SLOCs in both the short- and long-term;
- (2) Ensure both a continued influential position in the Indian Ocean;
- (3) Foster India's emergence as a militarily and economically robust counterweight to China.

¹ Approximately 80% of China's sea-borne petroleum imports must travel through this narrow waterway. Despite efforts to decrease its reliance on this Strait through natural gas pipelines and plans to build a canal at the Isthmus of Kra, a significant amount of its energy needs will still need to pass through this strait. Robert Kaplan, "Center Stage for the 21st Century," *Foreign Affairs*, March/April 2009, <http://www.foreignaffairs.com/articles/64832/robert-d-kaplan/center-stage-for-the-21st-century>.

² The 093 Class Nuclear Submarines (Shang Class) have been enlarged from the original SSN class submarine to allegedly include YJ-82 ASMs, a wide range of ASW equipment, and LACM. "Type 093 (Shang Class) Nuclear-Powered Attack Submarine," *Sino Defense*, April 4, 2009, <http://www.sinodefence.com/navy/sub/type093shang.asp>.) China's current aircraft carrier program seeks to revamp the ex-Soviet *Varyag* carrier and then to develop similarly designed carriers. These carriers will likely carry YJ-63 long-range ASM, medium range SAMs, and Type 730 30-mm CIWS. Moreover, these carrier's air wings will likely consist of the Shenyang Aircraft Corp's copy of the Su-33 aircraft. The Su-33 copy fighter will feature active phased-array radar, 5th-generation AAM, and air-launched versions of the 600-plus km range YJ-63 missiles. (Richard D. Fisher, Jr., "China Has Plans For Five Carriers." *Aviation Week*, January 5, 2011,

http://www.aviationweek.com/aw/generic/story_generic.jsp?channel=dti&id=news/dti/2011/01/01/DT_01_01_2011_p71-272520.xml)

³ Although the drive to develop A2/AD capabilities are in large an effort to discourage U.S. military intervention over Taiwan, the DF-21D ASBM will be able to strike and sink a U.S. aircraft carrier at a range of 2000km with only one missile in less than 12 minutes after launch. "Report: Chinese Develop Special "Kill Weapon" to Destroy U.S. Aircraft Carriers" (U.S. Naval Institute, March 31, 2009), <http://www.usni.org/news-and-features/chinese-kill-weapon>.

⁴ China has contributed 80% of the funding for the construction of the Gwadar deep water port, insisting that its interests in the port are purely commercial. However, China has recently secured both commercial *and* naval access to the port. First and foremost, China will be able to use Gwadar as a listening post to maintain close surveillance on U.S. and Indian Naval activity. Second, Gwadar provides China with a base for large naval ships and submarines. Moreover, the Indian naval analysts argue that this port will enable China and Pakistan to exercise control over key energy routes. Christopher Jaffrelot, "A Tale of Two Ports," *Yale Global*, January 7, 2011, <http://yaleglobal.yale.edu/content/tale-two-ports>.

⁵ You Ji, "Dealing with the Malacca Dilemma: China's Effort to Protect its Energy Supply," *Strategic Analysis* 31, No. 3, 2007, 484.

⁶ Ellen Laipson and Amit Pandya, *The Indian Ocean: Resource and Governance Challenges*, (Stimson Center, 2009), 68, http://www.stimson.org/images/uploads/research-pdfs/Indian_Ocean-Chapter_6_Laipson.pdf.

⁷ *Freedom to Use the Seas: India's Maritime Military Strategy* (Integrated Headquarters Ministry of Defense, 2007), http://indiannavy.nic.in/maritime_strat.pdf.

⁸ The INS *Viraat* is set to be decommissioned after 2012, but the INS *Viramaditya* is planned to be placed in service by then. In addition, India plans to construct two indigenous aircraft carriers under "Project 71." The first, known by the acronym IAC, is set to be commissioned by 2014/2015. While details surrounding the IAC-II are unclear, it is suggested that it will be commissioned by 2020 at the latest.

⁹ Iskander Rehman argues that these aircraft carriers can be useful in conducting anti-piracy operations in deep water and anti-submarine warfare by reconfiguring the vessels' air wings. Iskander Rehman, "India's Future Aircraft Carrier Force and the Need for Strategic Flexibility," *Institute for Defence Studies & Analyses*, June 1, 2010, http://www.idsa.in/idsacomments/IndiasFutureAircraftCarrierForceandtheNeedforStrategicFlexibility_irehman_010610.

¹⁰ Rajat Pandit, "Strategically-important A&N Command to get a boost," *The Times of India*, February 6, 2010, http://articles.timesofindia.indiatimes.com/2010-02-06/india/28115911_1_anc-airfield-andamans.

¹¹ The Andaman and Nicobar Command (ANC) already hosts India's FDN-1, which is able to dock all Indian naval vessels except aircraft carriers and oil tankers. The FDN-2, which will be ready by 2014, is slightly smaller, but will play a vital role in increasing the number of vessels which can be docked at the ANC. Anantha Krishnan, "Indian Navy to Get Another Floating Dock By 2014," *Aviation Week*, September 28, 2010, http://www.aviationweek.com/aw/generic/story_generic.jsp?topicName=india&id=news/awx/2010/09/28/awx_09_28_2010_p0-257672.xml.

¹² "Submarine Proliferation: India Current Capabilities," *Nuclear Threat Initiative*, October 2010, <http://www.nti.org/db/submarines/india/index.html>

¹³ After a US\$2.1 billion deal in 2009 for the transfer of eight Boeing P-81 Aircrafts, the Indian Navy decided to purchase four additional aircrafts in February 2011. The P-8I Poseidon, with 1,200+ nautical mile range, will play a vital role in long-range anti-submarine warfare against China. Moreover, the aircraft will also conduct critical intelligence and surveillance operations. "Indian Navy to Order Four Additional Boeing P-8I Poseidon Reconnaissance Aircraft," *India Defense*, February 3, 2011, <http://www.india-defence.com/reports-4986>.

¹⁴ In 2007, India signed a US\$1 billion deal to purchase six C-130J Hercules Airlifters, possessing the ability to conduct precision low-level flying operations and critical airdrops. This aircraft can carry up to eight 463L pallets, 97 medical litters, 24 CDS bundles, 128 combat troops, and 92 paratroops. "India's Lockheed Martin C-130J Super Hercules Airlifter," *Lockheed Martin*, <http://www.lockheedmartin.com/products/c130/india/index.html>.

¹⁵ Boeing sold India ten C-17 Globemaster III aircrafts in early 2010 for approximately US\$5.8 billion. The C-17 will replace aging supply chain aircrafts and will increase airlift capacity. Moreover, India's humanitarian assistance and disaster relief capabilities will increase largely with the acquisition of these aircrafts. "India Requests C-17 Globemaster III Aircraft," *Defense Talk*, April 28, 2010, <http://www.defencetalk.com/india-requests-c-17-globemaster-iii-aircraft-25970/>.

¹⁶ With the ability to carry 968 troops, six UH-3H utility helicopter an, and four LCMs, The INS Jalashwa plays a vital role in India's power project platform, the transport and launching of expeditionary forces, and large-scale humanitarian missions. Marissa Kaylor, "Indian Navy Commissions INS Jalashwa at Naval Station Norfolk," *U.S. Navy*, June 22, 2007, http://www.navy.mil/search/display.asp?story_id=30207.

¹⁷ Sunil Dasgupta and Stephen Cohen, "Arm Sales for India," *Foreign Affairs*, March/April 2011, <http://www.foreignaffairs.com/articles/67462/sunil-dasgupta-and-stephen-p-cohen/arms-sales-for-india>.

¹⁸ Chinese naval analysts note that India's peninsular formation and location at the heart of the Indian Ocean enables the nation to dominate the entirety of the Indian Ocean very easily, calling it a "never-sinking aircraft carrier." "India, U.S. Armies to Conduct Nine Joint Land Exercises," *India Defense Online*, April 6, 2010, <http://indiadefenceonline.com/1788/india-u-s-armies-to-conduct-nine-joint-land-exercises/>.

¹⁹ Exercise Malabar is typically a bilateral exercise between the United States and India to increase training in anti-submarine warfare, surface warfare maneuvers, and air defense. However, the Indian Navy extended an invitation to the Japan maritime Self-Defense Force to participate in Exercise Malabar 09. U.S. 7th Fleet Public Affairs, "U.S. 7th Fleet to Conduct Exercise Malabar 09 with Japan, Indian Navies," *U.S. Navy*, April 23, 2009, http://www.navy.mil/search/display.asp?story_id=44602. Exercise Malabar 07 also saw participation by Japan, Australia, and Singapore. "Malabar 2007: India, United States, Japan, Australia, Singapore Begin Massive 5-Day Naval Exercises." *India Defense*, September 3, 2007, <http://www.india-defence.com/reports-3519>. Such extension of invitation signals India's desire to use regional allies to balance against China's growing naval ambitions.

²⁰ To illustrate, the average annual life-cycle cost of maintaining the USS *Nimitz*, the oldest aircraft carrier in the United States' fleet, is estimated to be \$444 million. "CNV-68 Nimitz-Class: Overview," *Federation of American Scientists*, <http://www.fas.org/programs/ssp/man/uswpns/navy/aircraftcarriers/cvn68nimitz.html>.

²¹ Indian-Military.org, "Russia to Upgrade Admiral Gorshkov for India on Time," May 5, 2010, <http://www.indian-military.org/news-archives/indian-navy-news/776-russia-to-upgrade-admiral-gorshkov-for-india-on-time.html>.

²² "Indian Navy," *Indian Defense News*, <http://www.defencenews.in/indian-navy.html>.

²³ Feng Liang and Duan Tingzhi, "Characteristics of China's Sea Geostrategic Security Strategy in the New Century," *Zhongguo Junshi Kexue* [Chinese Military Science], January 1, 2007, p. 22-29; See also Bai Yalin, "Island Chains and the Chinese Navy," *Dangdai Haijun* [Modern Navy], October 2007, p. 18.

²⁴ Iskander Rehman, "China's String of Pearls and India's Enduring Tactical Advantage," *Institute for Defence Studies and Analyses*, June 8, 2010, http://www.idsa.in/idsacomments/ChinasStringofPearlsandIndiasEnduringTacticalAdvantage_irehman_080610.

²⁵ Economic rivalry for influence over the similar markets, a history of violent border disputes, and particularly strategic vulnerabilities create a relationship of mistrust and suspicion between Indian and China and lead to what Kaplan calls a maritime "Great Game." To illustrate, China's construction of the Gwadar deep water port exacerbated India's fears about its dependence on the Strait of Hormuz—known as the "Hormuz Dilemma"—for approximately 20% of its energy needs. Thus, India's responded by expanding the ANC near the mouth of the Malacca Strait, exacerbating China's fears about its own "Malacca Dilemma." See Kaplan, "Center Stage."

²⁶ In fact, China already plans to station the Varyag carrier at its southernmost naval base on the Hainan Island. See Fisher, "China Has Plans."

²⁷ *India's Power Sector* (The World Bank Group, 2011), <http://www.worldbank.org.in/WBSITE/EXTERNAL/COUNTRIES/SOUTHASIAEXT/INDIAEXTN/0,,contentMDK:22545935~pagePK:141137~piPK:141127~theSitePK:295584,00.html>.

²⁸ *Ibid.*

²⁹ It is estimated that only 50% of India's urban population has access to sanitary excreta disposal facilities, 28% to a sewage system. To illustrate, a 2010 UN study showed that more people in India have access to cellular phones than proper sanitation facilities. *The Economic Impacts of Inadequate Sanitation in India*, (Water and Sanitation Program, 2006), <http://www.wsp.org/wsp/node/1150>.

³⁰ To put this number in perspective, a 40% percentage rate in child malnutrition is higher than the rate in most sub-Saharan Africa.. India's Integrated Childhood Development Services (ICDS) has largely failed in its effort to cut the malnutrition in half by 2015 due to substantial operational challenges, including inadequate skilled workers, equipment shortages, and lack of funding. Michele Grangnolati, Meera Shekar, Monica Das Gupta, Caryn Bredenkamp, and Yi-Kyoung Lee, *India's Undernourished Children: A Call for Reform and Action* (World Bank, 2005), 7-8.

³¹ *Ibid.*, 8.

³² Dadush, Uri, and Bennett Stancil. "The G20 in 2050." *Carnegie Endowment for International Peace*. <http://www.carnegieendowment.org/ieb/?fa=show&id=24195>.

³³ Ibid.

³⁴ For more on China's dramatic increase in its 2011 defense budget, see Reuters, "China's 2011 Defense Budget Rises Nearly 13% to \$91.5 Billion," *CNBC*, March 3, 2011,

http://www.cnbc.com/id/41898717/China_s_2011_Defense_Budget_Rises_Nearly_13_to_91_5_Billion.

³⁵ For more on India's dramatic increase in its 2011 defense budget, see IANS, "Union Budget 2011: 11% Hike in Defense Allocation," *The Times of India*, February 28, 2011, <http://timesofindia.indiatimes.com/home/union-budget-2011/Union-Budget-2011-11-hike-in-defence-allocation/articleshow/7594077.cms>.

³⁶ "The Elephant at Sea: India's Maritime Strategy," *Woodrow Wilson International Center for Scholars*, March 10, 2010, http://wilsoncenter.org/index.cfm?fuseaction=news.item&news_id=604113.

³⁷ India is largely already in the process of obtaining and/or developing the proposed technology under this strategy—such as Sukhoi 35 fighters and the French-designed Scorpene class submarines. The difference under a minimal sea denial strategy lies in reducing the number of vessels employed particularly around the Malacca Straits to lessen China's security concerns and thus remove further provocation of rapid, aggressive naval expansion. However, the primary departure from India's current acquisition plans is the deferring of the drive for multiple aircraft carriers and nuclear submarines to a later date. Just as aircraft carriers, nuclear submarines are both incredibly expensive and unnecessary for the current naval threats India faces. To illustrate, the INS *Airhan* cost India approximately \$2.9 billion dollars—constituting over 80% of the 2011 naval acquisition budget—to develop. Moreover, the primary advantages of nuclear submarines over advanced-conventional submarines lie in the increased distance and duration of operations that can be performed. Once again, however, India's geographic advantages remove the need for such ability, especially in the short-to-medium term. See John Le Fever, "India Joins Elite Group with Launch of INS Arihant Nuclear Sub," *Thaindian News*, July 26, 2009, http://www.thaindian.com/newsportal/india-news/india-joins-elite-group-with-launch-of-the-ins-arihant-nuclear-sub_100223340.html.

³⁸ Literature on the security of China's energy transit from the Indian Ocean largely ignores the value of the Lombok Strait, located between the Bali and Lombok islands in Indonesia. Because Very Large Crude Carriers must pass through this wider and deeper Strait, this sea route is almost of equal importance as the Malacca Straits in terms of volume of oil shipped. See Ian Storey, "China's 'Malacca Dilemma,'" *China Brief* 6, no. 8, 2006, http://www.jamestown.org/programs/chinabrief/single/?tx_ttnews%5Btt_news%5D=31575&tx_ttnews%5BbackPid%5D=196&no_cache=1.

³⁹ *OECD Investment Policy Reviews: India* (Organization for Economic and Development, December 2009). http://www.oecd.org/document/50/0,3343,en_2649_34893_44153906_1_1_1_1,00.html.

⁴⁰ *India Economic Update* (The World Bank: Economic Policy and Poverty Team South Asia Region, December 2010). <http://siteresources.worldbank.org/INDIAEXTN/Resources/295583-1298351570365/IndiaEconomicUpdateDecember2010LATEST.pdf>.

⁴¹ Sachin Sandhir, *Policy and Procedural Reforms* (Royal Institution of Chartered Surveyors, July 2010), http://www.rics.org/site/scripts/documents_info.aspx?categoryID=637&documentID=856&pageNumber=4

⁴² India's increasing economic dependence on this region is most typically cited for the need for sea control. However, these CTFs already ensure the safe transit of India's energy and sea-borne trade from West Africa and Persian Gulf against both conventional and nonconventional threats. "Combined Maritime Forces," (U.S. Naval Forces Central Command), <http://news.rediff.com/column/2009/sep/24/china-worried-over-us-india-military-cooperation.htm>.

⁴³ Although CFTs are ultimately responsible to the NAVCENT and U.S. 5th Fleet, these task forces are all headed separately by different states participating in these multilateral patrol efforts.

⁴⁴ Rehman, "China's String of Pearls."

⁴⁵ This criticism is based on past reaction of Pakistan to increased U.S.-Indian cooperation. The Obama administration argues that Pakistan became more intent on the expansion of its forces against India—and consequentially more ambivalent about its efforts in the Global War on Terror—after George W. Bush offered assistance to India's civilian nuclear program in 2005. See Dasgupta, "Arms Sales for India."

⁴⁶ D.S. Rajan, "China Worried over U.S.-India Military Cooperation," *Rediff News*, September 24, 2009, <http://news.rediff.com/column/2009/sep/24/china-worried-over-us-india-military-cooperation.htm>.

⁴⁷ "Into the Wide Blue Yonder," *The Economist*, June 5, 2008,

http://www.economist.com/node/11496828?story_id=E1_TTQJGRNR.