中国简报 China Brief
a journal of analysis and information
The JAMESTOWN FOUNDATION

VOLUME X • ISSUE 14 • JULY 9, 2010

IN THIS ISSUE:

Houbei Class Type 022 Catamaran

In a Fortnight

Aims and Motives of China's East China Sea Live Fire Drills

By L.C. Russell Hsiao

The Chinese Ministry of National Defense announced on June 24 that all vessels would be prohibited from entering areas located east of Zhoushan to Taizhou city in Zhejiang in the East China Sea from June 30 to July 5. During that time period, the People's Liberation Army Navy (PLAN) conducted a six-day, live ammunition drill in a move that analysts say may be in response to a planned joint exercise between the United States and Republic of Korea (ROK) navies in the Yellow Sea. In spite of a lack of expert agreement over Chinese intentions, one aspect of the exercise seems clear, the combined arms exercise demonstrates the PLA's growing integrated war-fighting capabilities.

The live-fire drill was executed by Fast Attack Craft Unit 91765 of the PLA Navy's East China Sea Fleet, reportedly with support from Unit 92910 (*China Times*, June 29). According to the mouthpiece of the Chinese army, *PLA Daily*, the naval drill in the East China Sea involved squadrons of minesweepers, landing ships, submarine chasers and frigates. The most advanced among the sophisticated array of weaponry is the indigenously-made Houbei class Type 022 catamaran missile fast attack craft, a high-speed stealth missile boat, which experts say is capable of launching covert, long-range attacks (*Global Times*, July 1). The Type 022 has the capacity of being armed with eight YJ-83 anti-ship missiles and possesses a data link antenna for receiving target information from sea- or air-based sensors, which enables an 'over-the-horizon' strike capability against surface targets, among others. According to defense experts, these ultra-fast catamarans are designed to fire cruise missiles at carriers in "hit-and-run" attacks.

China Brief is a bi-weekly journal of information and analysis covering Greater China in Eurasia.

China Brief is a publication of The Jamestown Foundation, a private non-profit organization based in Washington D.C. and is edited by L.C. Russell Hsiao.

The opinions expressed in China Brief are solely those of the authors, and do not necessarily reflect the views of The Jamestown Foundation.

The JAMESTOWN FOUNDATION

For comments or questions about *China Brief*, please contact us at hsiao@jamestown.org

1111 16th St. NW, Suite #320
Washington, DC 20036
Tel: (202) 483-8888
Fax: (202) 483-8337

Further reporting of the exercise indicates that the drill involved 10 naval vessels as well as 10 aircraft to form a large combined arms force (*China Times*, July 7). The exercises reportedly entailed tracking and naval vessels shooting at various targets in eight fishery zones within China's exclusive economic zone (EEZ), where Beijing alleges the U.S. military has repeatedly sent ships and aircraft for reconnaissance missions (*People's Daily*, July 1).

A senior official in the PLAN's East Sea Fleet cited by *PLA Daily* stated that the drill has helped improve the Chinese navy's capacity to engage in missions under complex electromagnetic condition. Furthermore, the drill deepens new war fighting strategies and tested the military's integrated defense capabilities (*China Times*, July 7). The official's statement suggests that the Chinese military has been making strides in overcoming its weakness in electromagnetic defense at sea. More importantly, it follows in line with Chinese efforts toward training under "complex electromagnetic conditions," which necessitates such activities as jamming, electronic attacks, reconnaissance and electronic deception.

The timing of the live-fire exercise gains salience against the backdrop of a planned U.S. and ROK combined military drill in early June that was intended to counter North Korea's sinking of the ROK warship *Cheonan* in late March. The exercise may involve the deployment of the USS George Washington, the U.S. Nimitz class aircraft carrier. Soon after the PLAN drill was announced, the U.S.-ROK anti-submarine exercise was delayed until mid-June, and again postponed to the last week of June. Then on June 28, the ROK again delayed the drill to July in order to ensure U.S. attendance (*People's Daily*, July 2).

In a meeting with reporters on July 2, General Ma Xiaotian, deputy chief of general staff of the PLA, stated that the location of the upcoming U.S.-ROK drill is very close to China's maritime border, and thus Beijing strongly opposed it. General Ma's comment has been interpreted by some analysts as being related to the presence of the aircraft carrier USS George Washington near Chinese shores (*People's Daily*, July 2).

Yet, according to Liu Jiangping, a Chinese navy expert interviewed by Hong Kong-based *Wen Wei Po*, the drill in the East China Sea is not directed at another country. In fact, Liu argues, naval exercises in the East China Sea have become more common in recent years. Li cites East Sea Fleet exercises in February 2008, July 2009 and the one held in the earlier half of this year, in different areas of the East China Sea. However, Liu emphasized that, even though this particular drill may not be directed at another country, if there is a perceived threat on China's periphery, the PLA will not remain idle (*Wen Wei Po* [Hong Kong], June 29).

Not everyone agrees. "Though the Chinese government did not say anything about the drill, anybody with common sense on military strategy will bet that they are related," said Shi Yinhong, a senior expert on U.S. studies at Beijing-based Renmin University of China (*People's Daily*, July 2).

Xu Guangyu, a senior researcher at the China Arms Control and Disarmament Association, which is described on its website as a non-governmental organization but made up of researchers affiliated with government agency-tied think tanks, told the *Global Times* that the U.S.-ROK military operation would not only escalate tension between the two Koreas, but also exert negative influence on Sino-U.S. military relations. "The joint military drill is not an irreplaceable measure for Washington to support Seoul on punishing Pyongyang over the alleged torpedoing of the warship *Cheonan*," he said (*Global Times*, July 6).

In an apparent reference to General Ma's remarks regarding the Yellow Sea exercise, "China's position on the Yellow Sea issue demonstrates its resolution to safeguard national rights and interests," said Xu Guangqian, a military strategist at the PLA Academy of Military Sciences. "It also reflects that China is increasingly aware of the fact that its strategic space has confronted threats from other countries" (*Global Times*, July 6).

While the Chinese military's announcement of the live-fire drill is a welcome improvement to the PLA's oft-mute approach to military transparency, it should also be seen in the context of a core strategy of Chinese deterrence. Along this line, regular military exercises not only boost the Chinese armed forces' combat capabilities, but also function as a crucial means of conventional deterrence. According to a *Global Times* editorial, "Transparency has a crucial role in maintaining effective deterrence … the capabilities of conventional military drills need to be enhanced to ensure protection of its sovereignty and territorial integrity. Transparency can extend the reach of conventional deterrence" (*Global Times*, July 1).

In the final analysis, the live-fire test appears to reflect a carefully calibrated move by Chinese authorities. It is worth noting what General Ma Xiaotian said at the Shangri-La conference in Singapore on June 5 that, one of the major obstacles in China-U.S. military relations is the "high-intensity surveillance of U.S. warships and planes in the South China Sea and East China Sea"—areas that China defines as its core interests. Against this backdrop, the live-

fire drill not only displays the PLA's growing integrated war-fighting capabilities, but is also a clear demonstration of Chinese deterrence and the growing sophistication of its military strategy.

L.C. Russell Hsiao is Editor of The Jamestown Foundation's China Brief.

***

Beijing's Record Revenue Haul Exacerbates Central-Local Tensions

By Willy Lam

While the world is still angst-ridden with the fragile recovery from the global financial crisis, there seems no end to auspicious tidings coming out of China. Riding on the back of robust exports–which grew by 33.2 percent the first half of the year–China's economy is expected to expand by up to 10 percent in 2010. The Agricultural Bank of China could raise $22.1 billion in the world's biggest initial public offering. Yet some apparently positive news might carry a big sting. Consider the State Administration of Taxation's announcement last week that the central government is due to collect 8 trillion yuan ($1.18 trillion) of revenue this year, or four times that of 2003. This unwonted opulence would appear to insulate China from the scourge of snow-balling public debt, which is bedeviling Greece, Spain, Portugal, and to some extent, Japan and the United States (China News Service, June 30; *New York Times*, June 25: July 6).

Beijing's fast-growing treasury, however, has even been described by the official media as a double-edged sword (Sina.com, June 28; China Economy Net, June 29). Firstly, this has provided conclusive evidence about the severe lack of "distributive justice": that the bulk of wealth generated by 32 years of reform has gone to the central government and big enterprise groups, not to the majority of workers and peasants. Secondly, while the central coffers seem overflowing with cash, more local administrations than ever are on the brink of bankruptcy. The National Auditing Office (NAO) noted earlier this month that 18 provinces, 16 major cities and 36 counties had run up debts of 2.79 trillion yuan ($410.48 million). (The NAO did not disclose details about the fiscal health of other regions.)

Even more worrisome are runaway debts incurred by so-called urban development investment vehicles (UDIVs) or *difang fazhan rongziping*, which are firms either run or backed by local governments that take out bank loans typically backed by land assets. The risk is that in light of the country's currently bubble-prone real estate market, the revenue from land sales, which are used to repay these bank loans, are bound to dry up. The state media has estimated that such debts range from 7 trillion yuan ($1.03 trillion) to upward of 10 trillion yuan ($1.47 trillion) (*New York Times*, March 15: June 24; Sina.com, June 30; Reuters, March 15).

Let us first examine the dearth of distributive and social justice, which is the root cause of the rash of labor and other unrest this year. Apparently anticipating the undercurrents of discontent, Premier Wen Jiabao pledged at this year's National People's Congress (NPC) in March that his cabinet will strive toward a more equitable share of the economic pie for all Chinese. "Let equality and justice shine brighter than the sun," he said. "Let the people live with more dignity" (Xinhua News Agency, March 14; *People's Daily*, March 15).

Yet, the lion's share of national wealth has continued to flow into central coffers as well as large-scale enterprises. In the first five months of the year, revenues accruing to the central government grew by 30.8 percent and profits for big firms soared by 81.6 percent , while the income of workers and farmers went up by a mere 10 percent. In theory, this increase is well above inflation, which was 3.1 percent last May. Yet even the Chinese media admitted that the Consumer Price Index figure hardly reflected spiraling inflation, especially in the cities. For example, apartment rentals in urban centers jumped by nearly 20 percent in the first half of this year (*People's Daily*, July 2; Xinhua News Agency, June 30).

A key reason behind the spate of labor incidents that first struck foreign-owned firms in the spring–and then spread all over China–is that a new generation of Chinese laborers is no longer willing to tolerate the unjust distribution of wealth. Salaries for workers as a percentage of GDP have fallen by 20 percent in the past 22 years. In his May Day address this year, President Hu Jintao vowed that Chinese workers "must be able to work with dignity" (Xinhua News Agency, May 1; China News Service, May 1). Under instructions from the Chinese Communist Party (CCP) leadership, almost all of China's provinces and cities have raised the minimum wage for urban workers. Last week, nine provinces and cities, including Beijing, Shenzhen, Henan, Shaanxi, Anhui and Hainan, lifted their lowest salary scales from 15.8 percent to 31.7 percent. The minimum wage in prosperous cities and provinces such as Beijing, Guangzhou, Shanghai and Jiangsu has breached the 1,000 yuan mark ($147) (*Changjiang Daily*, July 3; *Apple Daily* [Hong Kong], July 2). While these figures seem impressive, they can hardly help workers cope with escalating living costs, especially in coastal cities. Take for instance Guangzhou's minimum wage, which increased

4.4 times from 250 yuan ($36.78) in 1993 to 1,100 yuan ($161.84) earlier this year. During the same period, the average salary in the cosmopolitan city rose by 6 times. More significantly, while Guangzhou's minimum wage was 50 percent of the average paycheck for workers in the early 2000s, the ratio has actually fallen to 30 percent (CCTV News, May 30; Sina.com, June 1).

Chinese scholars warn that Beijing needs to speedily address the "rich government versus poor citizenry" (*guofu minqiong*) dichotomy. According to Jia Kang, a senior researcher at the Ministry of Finance, while the Chinese government's revenue is second only to that of the United States, the per capita income of Chinese citizens ranks behind that of more than 100 countries, including numerous Third World nations. Chinese Academy of Social Science economist Gao Peiyong warned that Beijing should immediately boost citizens' share of the pie through means including lowering taxes for wage-earners and boosting cost-of-living subsidies to the jobless. "The government should significantly expand input in agriculture, education, technology, social welfare and health," Gao told the Chinese press (Xinhua News Agency, July 1; *Wen Wei Po* [Hong Kong], June 30).

No less problematic is the contradiction between an increasingly well-heeled central government on the one hand, and impoverished local administrations on the other. Thanks to the success of the dual-tax system introduced by ex-premier Zhu Rongji in the mid-1990s, the central government's share of national revenue has risen to more than 52 percent. This is despite the fact that the central treasury has continued to provide annual transfer payments to poor regions in central and western China. Such subsidies actually rose from 238.90 billion yuan ($35.15 billion) in 1994 to 2.86 trillion yuan ($420.77 billion) last year (Xinhua News Agency, July 1; China Youth Daily, July 2). Yet, the increasing marketization of the economy has made it relatively easy for resourceful local cadres to replenish their treasuries. Furthermore, the easiest way for municipal administrations to raise revenue is to sell land-use rights to real-estate developers. Local governments' dependence on land sales–as well as taxation on properties–is deemed a key reason behind the Wen cabinet's failure to tackle the real-estate bubble through 2009 and early 2010 (Xinhua News Agency, May 13; *Beijing Youth Daily*, January 9).

The imminent bursting of the real-estate bubble, however, has exposed the Achilles' heel of financing grassroots governments. Nowhere is this more evident than in the irresponsible strategies of the estimated 4,000 UDIVs that have been set up since 2008. Aggressive investments initiated by regional cadres to re-energize local economies were initially portrayed by the media as well-timed efforts to complement the State Council's 4 trillion yuan ($588 million) stimulus package unveiled in late 2008. A good number of UDIVs have underwritten *gongyixing* ("public interest") projects in infrastructure and related sectors. It soon became clear, however, that the great majority of UDIVs was solely interested in speculative real-estate deals, many of which began to turn sour this past spring (China News Service, May 17; *Shanghai Daily*, June 29). According to a mid-year report by the NAO, debts sustained by seven provinces, 10 cities and 14 counties have exceeded their total sources of income; in the worst case, debts were 364.77 percent of revenue. Moreover, these 31 local administrations were forced to raise new loans to cover interests charged on old ones. Fears about the wholesale collapse of regional governments' finances have in turn hamstrung Beijing's efforts in rectifying the real-estate and other overheated sectors (Economic Reference News, June 30; Sina.com, June 30; Global Times, July 6).

It is a testimony to the State Council's weak and lax control over the localities that it waited until last month to roll out a circular on "strengthening local governments' management of investment vehicles." The document praised a number of UDIVs for "strengthening infrastructure construction and for doing positive economic work in the face of the global financial crisis." Yet the main thrust of the directive was that banks and financial institutions must exercise due caution when making loans to these firms. The State Council urged banks to "implement vetting procedures according to commercial principles, and to cautiously assess the borrowers' ability and their [possible] sources for repayment." Banks were told not to lend to borrowers with no adequate cash flow (*People's Daily*, June 13; Xinhua News Agency, June 13). This belated instruction implies that many banks had extended credit lines to UDIVs without having done due diligence – and that this state of affairs was tolerated by both regional and central departments for a relatively long time.

What is behind Beijing's failure to ensure that local governments observe a modicum of financial discipline? On the surface, the top party-and-state authorities seem to have ironclad control over the appointment, transfer or dismissal of regional officials. Since the days of ex-president Jiang Zemin, the CCP Department of Organization has used the "personnel card" to rein in recalcitrant and overweening "warlords." Even before he became CCP General Secretary in late 2002, Hu, the head of the Communist Youth League Faction (CYLF), had begun systematically naming CYLF-affiliated cadres to senior slots in the localities. The party secretaries of about half of China's 27 provinces and autonomous regions can be considered alumnae of the powerful League (Apple Daily [Hong Kong], June 11; Asia Times Online, May 1). Yet

factionalism has proven to be no guarantee of either the administrative ability–or the fiscal prudence–of officials.

Regional cadres' deficient fiscal discipline could in turn exacerbate the masses' dissatisfaction with party-and-state apparatus. After all, a lot of the programs geared toward beefing up the social security net and raising the peasants' standard of living, which Premier Wen has proclaimed with great fanfare, have to be implemented by grassroots government units. In addition, debt-ridden local administrations often dig into social-welfare and education funds to bankroll dubious investments in the real estate and stock markets–or to cover interests on bank loans. Should this state of affairs continue, social unrest will worsen as Beijing's grip over regional warlords becomes more tenuous. The voluminous revenues accruing to central coffers will only give the CCP leadership a false sense of security–a dangerous premise going into the nation's deepening contradictions.

Willy Wo-Lap Lam, Ph.D., is a Senior Fellow at The Jamestown Foundation. He has worked in senior editorial positions in international media including Asiaweek newsmagazine, South China Morning Post, and the Asia-Pacific Headquarters of CNN. He is the author of five books on China, including the recently published "Chinese Politics in the Hu Jintao Era: New Leaders, New Challenges." Lam is an Adjunct Professor of China studies at Akita International University, Japan, and at the Chinese University of Hong Kong.

***

Advances in China – Latin America Space Cooperation

By R. Evan Ellis

In China's first white paper on the country's relationship with Latin America released in November 2008, the only reference to cooperation on space issues accounts for a portion of one sentence within the long document: "The Chinese side will also strengthen cooperation with Latin America and the Caribbean in aeronautics and astronautics … and other areas of shared interest" (*People's Daily Online*, November 6, 2008). Yet, just one month before the Chinese government released the white paper, China Great Wall Industries Corporation (CGWIC) launched into orbit the first wholly indigenous-built satellite for a Latin American customer. In the four years since 2006, China has made major inroads in space cooperation with Latin America, launching its third satellite in a collaborative venture with Brazil, launching a wholly Chinese-built telecommunications satellite for Venezuela, contracting with Bolivia for a similar satellite, launching a new Beijing-based regional space cooperation organization that includes Peru, and pursuing significant space-related projects in Argentina and Chile. As these examples suggest, advancement in China-Latin America space cooperation is occurring, although largely out of the public eye, and is important, following a pattern shaped by the varied interests and space-related capabilities of Latin American states, as well as the growing ideological divisions in the region.

For the PRC, space-related initiatives in Latin America are oriented to support the development of this strategically important sector while strengthening partnerships with countries that it regards as important. This paper focuses on three categories of Latin American countries with which the PRC has space-related interactions: (1) populist regimes acquiring satellites, (2) other countries developing limited space capabilities, and (3) Brazil as an emerging regional power with a multidimensional space program.

Populist Regimes Purchasing Chinese Satellite Systems

China's most significant advances in space cooperation in Latin America have been with populist regimes politically disposed to do business with the PRC, yet restricted in obtaining technology from the West.

In 2005, Venezuela signed a contract with CGWIC for a telecommunications satellite (*El Universal* [Venezuela], January 10, 2009), the first satellite to be completely developed and launched by China for a Latin American client [1]. The total project cost to Venezuela was $406 million (*El Mercurio* [Chile], October 30, 2008), including $241 million for the satellite itself (*El Universal* [Venezuela], January 10, 2009). As part of the venture, Uruguay came to hold rights to 10 percent of the satellite's bandwidth in exchange for allowing the use of an orbit reserved for Uruguay (*Asia Times Online,* August 6, 2009).

The satellite became operational on January 10, 2009 (*El Universal,* January 10, 2009), although reports from mid-2009 indicate possible technical problems (*Asia Times Online,* August 6, 2009). Venezuela and China also plan to launch a second satellite, for reconnaissance, in 2013 (*El Universal*, April 5, 2009).

Beyond its commercial and technical value, the Venesat-1 project provided the PRC with significant opportunities to build relationships with the new cadre of Venezuelan space professionals created by the program (*Venezuelanaysis,* August 18, 2008). As part of the project, China trained 150 Venezuelans in the PRC to operate the satellite from its ground stations in Guárico and southeastern Bolivar states, in addition to giving scholarships to 30 Venezuelans to write doctoral dissertations in China on related topics (*Venezuelanaysis,* August 18, 2008).

China's second satellite development and launch contract in the region is with Bolivia. On April 2, the Evo Morales government contracted the Chinese Aerospace Science and Technology Corporation (CASC) to develop and launch the telecommunications satellite "Tupac Katari" (*Satellite Today,* April 6). As with Venesat-1, the project will include the development of the satellite and its launch from China by CGWIC (*El Comercio* [Peru], April 1), as well as the training of Bolivian personnel to operate it (*Satellite Today, April 6)* from two ground stations to be built in Bolivia- one in Pampahasi and one in La Guardia in the department of Santa Cruz (*Satellite Today, April 6)*. The total cost will be approximately $300 million, of which all but 15 percent will be financed by Chinese banks (*El Mercurio, April 3)*.

The Venezuelan and Bolivian satellite projects are important for the PRC's satellite program. They allow it to prove the reliability of its launch services and satellite technology, gain experience in doing business in the space sector of the region, and position it to compete for the business of other countries in which China has fewer ideological inroads.

Other Countries Developing Limited Space Capabilities

In addition to Venezuela and Bolivia, China has sought to build relationships on space issues with at least three other Latin American countries possessing relevant technologies or programs: Argentina, Chile and Peru, and possibly Mexico.

In November 2004, during the visit of President Hu Jintao, Argentina signed a framework agreement on space cooperation with China that included an expression of interest by the PRC to provide Argentina with commercial launch services and satellite components and other technology. A more specific agreement signed in May 2005 covered possible Chinese technical support and equipment for the Argentine satellite manufacturer INVAP, in support of its ARSAT program [2]. In the end, however, INVAP contracted with Astrium and Thales Alenia Space for the satellite (*SpaceNews,* June 28), while the French firm Arianespace was selected to launch it (*SpaceNews,* June 28).

Beyond ARSAT, China National Astronomical Observatories (NAO) and the China National Academy of Sciences (NAS) have collaborated with San Juan University in Argentina to construct a satellite laser ranging facility (People's Daily Online, September 9, 2005*)*, with plans for ongoing collaboration there in the future [3]. China is also investigating the construction of a space antenna in the Argentine provinces of Neuquén, Mendoza or Rio Negro. A PRC delegation will travel there in July 2010 to evaluate possible sites (*Space Daily*, June 9), with the possibility that the PRC would leverage this investment to win other space-related work in Argentina.

Recent news stated that Adolfo Italiano, a representative of the provincial government of Neuquen, Argentina, has noted that China is in conversation with his country for the installation of a space antenna. Chinese officials also reportedly visited two other Argentine provinces, Rio Negro and Mendonza, before traveling to Chile. China is already constructing an antenna in Mendonza, which will debut in 2012 (NASA Spaceflight, June 14).

As in Argentina, China has also sought to participate in the construction and launch of a Chilean satellite, the *Sistema Satelital de Observación de la Tierra* (SSOT), although the development contract was ultimately awarded to the European firm EADS Astrium (EADS Astrium Official Website, February 9), and the launch contract was awarded to Arianespace (*SpaceNews,* December 21, 2008). Sites in Chile have also been evaluated for a future Chinese space antenna.

In Mexico, although there has been little interaction to date with China on space issues, the April 2010 legislation establishing a Mexican Space Agency (*El Universal*, April 20) creates important new opportunities for Mexican-Chinese space collaboration, as does Mexico's role in hosting the "Space Conference of the Americas," in November 2010 (Official Website of the Mexican Space Agency, May 11).

In the case of Peru, the nation was one of the founding members of the Beijing-based "Asia-Pacific Space Cooperation Organization" (APSCO), when it was established in October 2005 (*Space Daily,* October 12, 2006). Peruvians have participated in various APSCO activities, such as its space navigation course, and its foreign minister has visited its headquarters (APSCO official website, March 29).

Brazil as an Emerging Regional Power with a Multidimensional Space Program

China's most longstanding and multidimensional space cooperation in Latin America has been with Brazil. This cooperation began in the late 1980s, at a time in which the new U.S.-led Missile Technology Control Regime (MTCR) was beginning to constrain Brazil's ability to obtain space-related materials and components from the United States and other participating countries. This loaned particular importance to an offer by the PRC in 1989 to transfer launch technology that would benefit Brazil's development of its VLS-1 launch vehicle, in exchange for selection to

launch a Brazilian satellite, although France ultimately was selected to launch the satellite [4].

The China-Brazil Earth Resources Satellite (CBERS) program was first established in 1988 to collaboratively develop satellites and put them into orbit via Chinese launch vehicles. To date, three CBERS satellites have been launched: in 1999, 2003 and 2007 [5], and a fourth is scheduled in mid-2011 [6]. Brazil covers approximately 30 percent of the cost, while China assumes the remaining 70 percent, including the ground stations [7].

The CBERS program has received official praise from both countries. Upon assuming his post in March 2008, the head of the Brazilian Space Agency stated that Brazil cherished its ties with China, and would deepen its cooperation in the field of space technology (*Space Daily,* March 27, 2008). However, despite such positive discourse, the program has experience problems. The launch of the first satellite was originally scheduled for 1992, but delayed until 1998 [8]. A malfunction put an end to all data transmissions from the first satellite in August 2003, while one of two PRC-supplied imaging devices on the second CBERS satellite stopped working in April 2005 [9].

Implications for the United States and for the Region

China's space cooperation with Latin America is transforming the region. For the new generation of space technicians in Venezuela and Bolivia, Chinese workers, equipment, and training are becoming part of the culture, just as Soviet equipment, technology and personnel shaped the experience of a generation of Cubans and Nicaraguans. Moreover, it is likely that the Venezuelan and Bolivian precedents, in combination with other Chinese investments, will eventually open up the Chilean and Argentine space markets, even as Chinese space diplomacy builds inroads in Peru, possibly Mexico, and eventually in other nations such as Colombia. Each of these developments will advance the PRC's presence in the technical infrastructure of Latin American while moving it toward an ever more capable, multidimensional space capability—a reality to which the United States and other global players will have to adjust.

Evan Ellis, Ph.D., is Assistant Professor of National Security Studies, Modeling, Gaming and Simulation with the Center for Hemispheric Defense Studies, of the National Defense University, in Washington D.C.

Notes

1. Although China's has also worked with Brazil since 1988 on the China-Brazil Earth Research Satellite (CBERS) program, these satellites were more fully collaborative efforts between the two countries.

2. Janie Hulse, "China's Expansion into and U.S. Withdrawal from Argentina's Telecommunications and Space Industries and the Implications for U.S. National Security," U.S. Army War College Strategic Studies Institute (Carlisle Barracks, PA. September 2007).
3. T. Wang, F. Qu, Y. Han, W. Liu, E.L. Actis, and R. Podesta, "New SLR Station Running in San Juan of Argentina," Official NASA website, http://cddis.gsfc.nasa.gov/lw15/docs/papers/New%20SLR%20Station%20Running%20in%20San%20Juan%20of%20Argentina.pdf.
4. Luis Bitencourt, Developing Countries and Missile Proliferation: The Cases of Argentina, Brazil and India, PhD dissertation (Washington D.C.: Catholic University of America, 2001).
5. "Satellites: CBERS-1, 2 and 2B | CBERS-3 and 4," China-Brazil Earth Resources Satellite (CBERS) Official Website, http://www.cbers.inpe.br.
6. "Chinese Space Policy: Collaboration or Competition," *Center for Strategic and International Studies,* http://csis.org, March 23, 2010.
7. Fabíola de Olivera, *O Brasil Chega Ao Espaço: SCD-1 satélite de coleta de dados* [Brazil Reaches the Space: SCD-I Data Collection Satellite], São José dos Campos (São Paolo, Brazil, Instituto Nacional de Pequisas Espaciais, 1996): 81.
8. *Ibid.*
9. Gyanesh Chander, "An Overview of the CBERS-2 satellite and comparison of the CBERS-2 CCD data with the L5 TM data," U.S. Geological Survey, Presentation, March 16, 2006.

***

Bay of Bengal Littorals in Chinese Strategic Calculus

By Vijay Sakhuja

China appears to be zealously guarding its maritime footprint in the Bay of Bengal through politico-economic and strategic initiatives. Two high level visits in June by Chinese Vice President Xi Jinping to Bangladesh and Premier Wen Jiabao to Burma (Myanmar) signal the urgency with which Beijing is moving to counter Indian pro-activeness to wean these states away from China's growing influence. These high profile visits also come at a time when Bangladesh, Burma and Sri Lanka are warming up to New Delhi.

The new government in Dhaka led by Prime Minister Sheikh Hasina is favorably inclined toward India (Atimes.com, January 16). Naypyidaw is also expanding its bilateral political, economic and defense relations with India, which include the transfer of military hardware (Burma News International, February 25; Idsa.in, November 2009). After

the defeat of the Tamil-insurgency led by LTTE in 2008, Sri Lanka became favorably positioned toward India. According to Sri Lankan President Mahinda Rajapaksa, Sri Lanka and India are friendly neighbors whose cultural ties date back to ancient times (Times of India, June 28).

New Government and New Initiatives

Vice President Xi Jinping's visit to Bangladesh in early June was a 'return visit' to the one paid by Prime Minister Sheikh Hasina in March this year after coming to power in 2009. Although protocol and logic demand that the return visit should have been by Chinese Premier Wen Jiabao, Xi Jinping's visit carried added salience because Xi is a powerful functionary of the party and is slated to succeed Hu Jintao as the lead helmsman of the CCP and the PLA (Sify.com [India], June 23).

During the visit, the two sides signed infrastructure development grants totaling 40 million yuan ($5.8 million) as a follow up to the three treaties and a Memorandum of Understanding (MoU) to expand bilateral co-operation signed during Sheikh Hasina's visit to China in March. Soon after Xi's visit, Prime Minister Sheikh Hasina notified parliament that a two-phase infrastructure project to link Bangladesh (Chittagong) to China (Kunming) through Burma would be implemented with Chinese assistance (The Economic Times, June 17). In the first phase, Bangladesh and Burma will be connected by a two kilometer road from Ramu to Gundum (in Bangladesh) and a 23 kilometer road between Taungbro and Bolibazar (in Burma). In the second phase Burma will construct a 110 kilometer road between Bolibazar and Kyanktow that will finally link up with Kunming (in China). The project will eventually connect Bangladesh with ASEAN (Association of South East Asian Nations) countries.

Just before Xi Jinping's visit, the Bangladeshi Foreign Minister noted that, "China is the largest defense hardware supplier to Bangladesh. So talks on enhancement of the defense cooperation will be in the agenda." Boosting naval capability has been high on the agenda of the Bangladesh government, particularly after the October 2008 standoff between Bangladesh and Burma over exploration activity in the disputed offshore oil and gas fields in the Bay of Bengal (Reuters, June 13). China has been a major supplier of military hardware to the Bangladesh military, particularly its navy. According to a Bangladesh Navy report, its current force structure is obsolete and of the 82 ships, only 25 vessels are less than a quarter-century old. The antiquated naval fleet thus undermines its operational capability and deployment (The Daily Star [Bangladesh], June 24, 2009).

The Bangladesh Navy has an ambitious agenda to develop a three dimensional navy to thwart any pressures from India and Burma, with whom it has unresolved maritime boundary disputes. The Bangladesh Navy reportedly plans to acquire three frigates, three large patrol aircraft, 12 patrol craft, two landing craft utility (LCU), one hydrographic unit, one salvage vessel, four missile boats and also to equip some ships with missiles (Stratgypage.com, July 2).

Submarines are also apparently top on the agenda and the Bangladesh Navy report notes, "Before purchasing the submarine, steps have already been taken to build infrastructure and train up personnel. When the preparatory work is completed, it will be possible to initiate steps to purchase a submarine by 2019" (The Daily Star, June 24, 2009).

In November 2009, Bangladesh announced its space program (estimated to cost $150 million to $200 million) with plans to launch a satellite. Raziuddin Ahmed Raju, Post and Telecommunications Minister has stated, "We've already started talking to different countries including the United States, Japan and China, to help us launch our own satellite" (The Daily Star, November 27, 2009). Apparently, during Vice President Xi Jinping's visit, an offer of assistance was made by China to launch a satellite for Bangladesh in order to develop its 'telecommunications services, map natural resources, broadcast television programs and obtain meteorological data for disaster warnings' (Tehrantimes.com, June 16).

Burma still a favorite for China

While the Chinese media waxes lyrical the message of political reform, Premier Wen Jiabao's visit to Burma actually had a strong thrust toward infrastructure projects including oil and gas pipelines, mining projects, a hydropower station and aid packages. Among these projects, the pipeline is of critical importance to China for overcoming the vulnerability of the energy supply chains that run across the Indian Ocean and the Strait of Malacca. This 2,800 kilometers long network of two pipelines, one each for gas and oil, is being built at a cost of $2.54 billion, of which China's CNPC oil firm has a 50.9 percent stake and the Burmese government has 49.1 percent (Defenseindustrydaily.com, June 30). The oil pipeline will terminate at Kunming in Yunnan province, while the gas line will run to Guizhou and Guangxi (*China Daily*, July 3). Burma has huge oil and gas reserves estimated at 700 million barrels of oil and 444.3 billion cubic meters of natural gas (China.org.cn, February 8).

Perhaps the most interesting agreement between the two

sides involved the China North Industries Corporation (NORINCO) signing a copper mining contract in Burma. NORINCO is widely known as one of China's largest arms manufacturers and a wing of the PLA, and so its interest in mining elicits intrigue. Nevertheless, the NORINCO website has noted that the project serves two purposes of "strengthening the strategic reserves of copper resources in [China], and enhancing the influence of our country in Myanmar [Burma]" (Norinco.com, June 10).

China has been known to supply a variety of military equipment and has developed military infrastructure to build up the Burmese Armed Forces, officially known as Tatmadaw. The Burmese Army has received significant quantities of military hardware including tanks, AFVs, Artillery, air defense equipment, utility vehicles and trucks, and a variety of personal weapons of Chinese origin [1].

The Burmese Air Force is essentially made up of Chinese aircraft MiG-21 (60 J-7s) and MiG-19 (12 J-6 and 36 Q-5) variants (Defenseindustrydaily.com, June 30). In 2009, Burma placed orders for 50 K-8 Karakorum (a joint venture between China and Pakistan and the export variant designated as JL-8) jet trainers and light attack aircrafts (Mizzima.com, June 18). These are in addition to the 12 K-8 aircrafts purchased in 1998. In 2009, Myanmar signed a contract for Russian MiG-29s at a cost of nearly $570 million (Irrawaddy.org, June 15). The Burmese Navy has also received a variety of small platforms and missiles (C-801). In the aftermath of Cyclone Nargis in 2008, as many as 25 Burmese naval ships sank and the current force structure is highly depleted.

It should also perhaps be noted that the revenue from the Chinese pipeline will ensure that the Burmese government has the resources to continue purchasing these arms and, more troublesome, it's effort to acquire more advanced weapons. Further, the worrying links between Burma and North Korea, particularly in the nuclear domain, can potentially destabilize security situation in the Bay of Bengal (Idsa.in, June 16).

Yet, China's other push has been to develop naval infrastructure, which reportedly includes berthing facilities and shipbuilding yards at a number of places along the Burmese coast and wharfs on islands such as the Coco Island (Indoburmanews.net, April 23, 2009). Indian analysts believe that these could be made available to the PLA Navy when it is deployed in the Bay of Bengal/Indian Ocean [2]. More significantly, China has also established in Burma SIGINT (signal intelligence) and ELINT (electronic intelligence) monitoring stations at Hianggyi, Kyaukpyu, Zadetkyi, Mergui, and Great Coco Island (Southasiantribune.com, June 29), and the latter is likely meant to monitor Indian naval activity in the Andaman and Nicobar Islands, which are home to a variety of India's strategic assets, such as missile sites, airfields, military establishments and monitoring stations. Perhaps what is significant is that these facilities can also monitor missile launches from Chandipur-at-sea along the Orissa coast in the Bay of Bengal, the test site for Indian missile programs.

Primacy of Neighbor

Sri Lanka also appears to be warming up to India. After his successful visit to New Delhi, the Sri Lankan President Mahinda Rajapaksa has been upbeat in the local media about the bilateral relationship. Yet, Rajapaksa maintained that Sri Lanka is free to invite any country to develop infrastructure in that country. Hambantota in the south is currently being developed as a major city that will have an international airport and a deepwater modern port, which is being built with Chinese assistance (Times of India, June 28). Dismissing domestic fears as well as Indian concerns that the Hambantota port was being developed for use by China, Rajapaksa reassured that, "The Chinese will come to Sri Lanka, build some projects and go, but the Indians will come here, they will build and they will stay. This is the difference in our relations with China and India" (Times of India, June 28).

National interests and priorities

Bangladesh, Burma and Sri Lanka appear to have adopted an equidistant approach to managing their relationships with China and India. At the same time, the countries in the sub-region are exuding a newfound confidence in regional affairs and are attempting to leverage their geostrategic location in the Bay of Bengal by giving equal priority to their engagements with India and China. After all, these countries would not like to be caught in a situation where they must choose between the two Asian giants.

For their part, China and India are eager to woo these states and exercise influence. For China, the 'Irrawaddy Corridor' that links Kunming in Yunan to the Bay of Bengal through Burma and Bangladesh offers land-based maritime access that is critical for the development of its western and southern regions. The corridor also gains salience in terms of transporting gas from Burma's offshore platforms to Yunan as well as in overcoming the vulnerability of its shipping in the strategic Southeast Asian choke points. In fact, the 'Irrawaddy Corridor' is similar to the 'Karakoram Corridor', which links Xinjiang-Pakistan onward to the Persian Gulf with access to energy sources in the Persian Gulf. In spatial and strategic terms, access and basing arrangements particularly in Gwadar in the Arabian Sea

and Chittagong and Burmese ports in the Bay of Bengal ensure a strategic initiative of China to check Indian advances in South Asia.

India considers the Bay of Bengal as its own lake and a strategic maritime space for its politico-diplomatic initiatives toward the Southeast Asian region. New Delhi is conscious of China's growing strategic initiatives in the Bay of Bengal and has taken politico-military and economic measures to reduce Chinese influence there. These initiatives have so far delivered the desired dividends of maintaining stability. Yet, the big challenge for both India and China will be to address the ability of Bangladesh, Burma and Sri Lanka to exercise strategic autonomy, even if it is limited, and thereby minimize the probability that the sub-regions become a source of instability.

Vijay Sakhuja, Ph.D., is Director (Research) at the Indian Council of World Affairs, New Delhi.

[The views expressed in the above article are the author's own and do not reflect the policy or position of the Indian Council of World Affairs.]

Notes

1. "China's Myanmar Dilemma", International crisis Group, Asia Report N°177 – 14 September 14, 2009; B. S. Sachar, "Military Diplomacy Through Arms Transfers: A Case Study of China", *Strategic Analysis*, Volume 45, No 2, April 2004: 290-310.
2. Interview with retired Indian navy officers, July 6, 2010.

***

Afghanistan in China's Emerging Eurasian Transport Corridor

By Richard Weitz

When Chinese officials consider their international economic interests, Afghanistan and Central Asia (sometimes referred to as "Greater Central Asia") naturally come to mind. These countries possess an abundant supply of untapped natural resources, and they offer potential export markets as well as investment opportunities for the People's Republic of China (PRC). Moreover, these territories can provide the conduit through which the PRC imports and exports goods from and to other economically important regions of the world. Increasing the volume and types of goods available from/to China requires improving the region's means of transportation, with railroads representing an important element along with surface roads, energy pipelines, and shipping by sea and air.

Recent revelations of vast untapped mineral resources in Afghanistan have undoubtedly peaked Chinese interest in developing rail connections and related commercial infrastructure in Afghanistan. According to new reports, U.S. geologists have discovered around $1 trillion worth of iron, copper, cobalt, and lithium reserves scattered around Afghanistan, including the Taliban-strong southern and eastern regions along the border with Pakistan. Pentagon officials believe these mineral resources will help transform conflict-ridden Afghanistan into a modern industrial state (*New York Times*, June 13). Yet, a difficult political situation, bad surface roads, and the lack of railroads prevent exploitation and shipment of these resources to markets (Ferghana.Ru Information Agency, April 12, 2009).

In recent years, the Chinese government has launched a sustained campaign to develop the region's transportation and other commercial infrastructure. In the case of railroad construction, the PRC brings several distinct advantages to this endeavor. China is located adjacent to Greater Central Asia and has been undertaking a large domestic railroad construction program that, in addition to generating jobs and developing the PRC's own national infrastructure, has helped give the PRC workers and technologies suitable for building railroads (Beijing Review, May 31, 2009). Chinese representatives can also describe their partnership with the governments of Afghanistan and Central Asia as a natural "win-win" arrangement. Indeed, these countries are rich in natural resources such as energy and minerals but are strapped for funds, whereas the PRC has surplus investment funds but depends increasingly on imported natural resources.

Afghanistan

Although PRC policy makers have limited their military involvement in Afghanistan, they have encouraged Chinese companies to invest in developing the country's natural resources. Recent PRC investment activity in Afghanistan has concentrated on gaining access to these raw materials and developing the infrastructure required to transport these goods to Afghanistan. The most famous Chinese-run project is the exploitation of the Aynak copper mine near Kabul, which is scheduled to begin operating in 2012 [1]. The Metallurgical Corporation of China (MCC) purchased a controlling stake in 2008 at a cost of $3 billion, the largest single foreign investment project in Afghanistan. The state-owned MCC could offer a package of benefits that its private sector competitors could not match. As part of the deal, which requires additional Afghan infrastructure to realize, the Chinese agreed to build the transportation

network needed to bring equipment and other supplies to the mining site as well as to export the extracted copper to the PRC. This would include Afghanistan's first major railroad, which will convey freight from western China through Tajikistan to the site and from northern Afghanistan to the country's southeastern border with Pakistan (RFE/RL, May 29, 2008). At present, Afghanistan only has two short railroad lines across its northern borders with Uzbekistan and Turkmenistan. (A third route that crosses the Afghan-Pakistan border is not currently in operation). The first 15-km line connects Kheyrabad to Termez in Uzbekistan. From Termez, the line provides access east to Tajikistan and west to Turkmenistan. The second 9.6-km line, run by Turkmen railroads, links Towraghondi to Kushka in Turkmenistan [2]. The resulting requirement to unload and reload cargo from rail to truck and vice-versa is considered a major impediment to Afghanistan's foreign trade [3].

The government of Afghanistan is also working with its neighbors to build additional lines that would support the main regional transit routes linking Iran and Pakistan with Central Asia. A proposed Shirkhan-Bandar-Kondoz-Mezare-Sharif-Herat line under consideration would connect Afghanistan's rail system with that of China's through Tajikistan [4]. In May 2010, the Minister of Mines, who is co-hatted as "Coordinator of Cluster for Economic & Infrastructure Development, said Afghanistan planned to develop three lines, totaling 2000 km, at a cost of almost $6 billion. These would run from Shirkhan Bandar on the Tajikistan border to Kunduz province to Balkh province to Herat, linking it to Iran, and with a branch to the Uzbekistan border from Mazar-i-Sharif to Hayratan, as well as an Andkhoy to Aqina line to the Turkmenistan border. A second line would run from Mazar-i-Sharif to Pul-i-Khumri to Kabul to Jalalabad to Torkham at the Pakistan border. A third line would run from Chaman in Pakistan to Spin Boldak to Kandahar. The statement says these lines would be 1435 mm (standard) gauge, designed for 25-ton axle loads, speeds of 100-160 km/h and capacity for 10-12 pairs of trains a day [5]. The Chinese rail network could connect through Pakistan or Tajikistan.

Also in May, the foreign ministers of Iran and Tajikistan signed a memorandum of understanding to begin technical studies assessing how to connect Tajikistan's railway network to that of Iran via Afghanistan. Iranian Foreign Minister Manouchehr Mottaki said that the proposed connecting railway would link the rail networks of China, Kyrgyzstan and Afghanistan to Iran's railway network and allow for the transport of goods to Iran's Persian Gulf ports (IRIB World Service, May 19). The construction of a railway from Tajikistan's east directly to China (such as between Kabul and Kashgar) is considered an alternative option [6]. Tajik economist Hojimuhammad Umarov, however, believes that his country cannot afford the costs of constructing a railway to either Afghanistan or China for at least five years (RFE/RL, May 31). But in May 2010, Chinese officials expressed interest in helping construct a railroad between Dushanbe and Vakhdat and Yavan. This project is currently under development by Tajikistan's state railroad company, but the Tajik government needs additional funds to complete it (Avesta.tj [Tajikistan], May 31). Interestingly, the Indian government has been constructing a deep-water port at Chabahar, located in eastern Iran, to counter China's support for Pakistan's construction of a deep-water port at Gwardar, in southwest Balochistan. The value of using Iranian ports for either China or India would depend on how international sanctions constrained Iran's commercial relations with world markets.

China's Regional Economic Interests

Although Chinese policy makers are seeking to increase economic ties with Central Asia and Afghanistan in general, they are particularly eager to expand links between this region and the PRC's relatively impoverished northwestern provinces. Increased commerce could help promote the development of Xinjiang, Tibet, and other regions that have lagged economically behind the PRC's vibrant eastern cities (*Washington Post*, June 29). Although trade with Central Asia represents a small percentage of the PRC's overall commerce, it already represents a more important share for northwest China. This consideration applies particularly to restless Xinjiang, which is abundant in natural resources and has a relatively well-developed transportation infrastructure [7], but suffers from ethnic tensions between the indigenous Uighurs and the ethnic Hans who have immigrated into the province in recent decades. More than half of Xinjiang's foreign trade already derives from commerce with Central Asian countries [8]. The PRC government is developing new rail, pipeline, and other infrastructure links that would tighten connections between Xinjiang and both Central Asia and the rest of the PRC (Uzreport.com, January 1, 2008).

Further major increases in China's economic exchanges with or through Greater Central Asia will require substantial improvements in the capacity of the region's transportation infrastructure. The regional governments, other countries and various multinational institutions have launched various initiatives to help establish a modernized trans-Eurasian corridor that would ideally create a modern version of the old Silk Road [9]. Yet, the most important initiatives to coordinate transport investment in Central Asia—the Transport Corridor Europe Caucasus Asia (TRACECA) program launched in 1993 by the European Union, and the Central Asian Regional Economic

Cooperation (CAREC) program initiated in 1997 by the Asian Development Bank (ADB)—have proved unable to overcome the region's inadequate transportation infrastructure. The availability, quality, and costs of transport services throughout Greater Central Asia compare unfavorably to alternative routes, especially containerized maritime shipping [10]. The local countries, their Western partners and the multinational institutions have lacked both the considerable funds required to comprehensive upgrade Great Central Asia's transportation networks and the ability to pursue an integrated strategy managed by a single overarching authority.

China has managed to bring both these assets to its Eurasian rail building campaign. The PRC government can design and fund rail networks, including subsidizing the purchase of Chinese-made rail equipment by foreign countries, though these projects are naturally optimized to serve Beijing's economic interests. China's Eurasian railroad building campaign also helps overcome another potential barrier to PRC commerce in and through Central Asia: the legacy of the formerly integrated Soviet economy in Eurasia. At the time of their independence, the major roads, railways and energy pipelines in the new states of Central Asia all flowed northward towards Russia rather than eastward toward China. The PRC has been funding several major infrastructure projects to spur east-west traffic, while supporting the efforts of international organizations like the Shanghai Cooperation Organization (SCO) and the Asian Development Bank to address some of the non-physical barriers to trade and investment.

China's Railroad Expansion

Kazakhstan represents China's most important economic partner in Central Asia. In 2008, bilateral PRC-Kazakhstan trade amounted to $17.5 billion (Xinhua News Agency, June 10). It is therefore not surprising that China's railroad building efforts have primarily focused on expanding the transit capacity with Kazakhstan. In fact, the 460 km line between Urumqi in Xianjiang and Akataw Pass, where it connects to Kazakhstan's railways, represents China's only currently operational rail link with Central Asia. In 2009, the Alataw Pass Port became a free-trade zone, allowing Kazakh citizens to enter visa-free for one day (*People's Daily*, December 24, 2009). The increased transit capacity with Kazakhstan should allow China to import copper from the major Boschekul border deposit, whose development will presumably be financed by some of the $2.7 billion China's Development Bank lent to Kazakhmys, a Kazakh copper company. The field is expected to produce 100,000 tons of copper annually starting in 2014 (Reuters, March 11). China has recently spent large sums of money to expand the capacity of its railroad network near Urumqi. In March 2010, work began on a second railroad linking Urumqi with inland cities with the purpose of reducing travel time and increasing the shipment of coal, whose deposits and production is concentrated in Xinjiang and Inner Mongolia (People's Daily, April 25).

China is also financing construction of a second railroad to Kazakhstan that links Horgos with Zhetygen (*Kazakhstan Times*, June 14). It spent 300 million yuan (approx. $44 million) to build nine broad gauge rails (Russian standard) and six standard gauge rails to Alataw-Pass. This increased volume will allow for the importation of 50,000 tons of Liquefied Natural Gas (LNG) this year and 200,000 tons of LNG in the next three years (MetalNewsNet, June 17). On June 14, 2010, a freight train carrying 45 tons of LNG crossed the Chinese-Kazakh border at the Alashankou checkpoint en route to delivery to the Dushanzi petrochemical plant located in northern Xinjiang. The shipment marked the first time that China imported energy resources from Central Asia by rail (*Journal of Turkish Weekly*, June 16).

Chinese officials have considered building a railroad into Kyrgyzstan, though with less enthusiasm than Beijing has been pursuing rail connections with Kazakhstan, which has vast energy deposits and is emerging as a rapidly developing economy. In contrast, Kyrgyzstan is a poor and unstable country. It has some coal reserves in the south that might interest China, but these are largely undeveloped (Regnum.Ru, January 29, 2009). Ironically, it is Kyrgyzstan's very political instability that is driving Chinese efforts to promote that country's development through enhanced trade and investment in order to alleviate the poverty that might be promoting that country's political instability and extremism, which PRC officials fear might be contributing to the same phenomena in Xinjiang (China Briefing, September 11, 2008).

China has held talks with Kyrgyzstan and Uzbekistan on the construction of a railroad since the late 1990s, including within a SCO framework. In a 2006 joint statement, Chinese and Kyrgyz leaders agreed to conduct technical evaluations for a possible railroad link (Xinhua News Agency, June 10, 2006). The railroad through Kyrgyzstan would allow China to shorten its route to Central Asia to 268 km, connecting to Uzbekistan's rail network in Fergana Valley. The proposed line would start in the Chinese city of Kashgar, enter Kyrgyzstan at the Torugart Pass, follow a route to Kara-Suu near Osh, and terminate at Uzbekistan's Andija (EurasiaNet, March 30, 2009). Kyrgyzstan would benefit from the increasing number of tourists that could visit the scenic lake Issyk-Kul and ability to collect taxes on cargo (Eurasec Inform, March 30). China would be able to sell more of its goods in Central Asian markets, leading

to enhanced PRC influence in the region. Uzbekistan, where the proposed railroad would terminate, has the second most extensive railroad network in Central Asia after Kazakhstan. Since 2001, Uzbekistan has engaged in major railroad construction efforts. The ADB believes Uzbekistan enjoys the most favorable location to serve as a Eurasian transportation hub. It is also the only Central Asian country that possesses rolling stock manufacturing and repair capabilities. According to the ADB, the China-Kyrgyzstan-Uzbekistan standard-gauge railroad, if completed, could make Uzbekistan the most efficient link between China and Central Asia [11].

Various obstacles continue to block former agreement on this proposed China-Kyrgyzstan-Uzbekistan railroad. First, the Chinese government continues to negotiate the terms of ownership and financing for a railway that could cost $2 billion to build (BBC Monitoring Central Asia, March 31, 2009). Second, Russian representatives have opposed the project, which could threaten their rail dominance in Central Asia. Third, unlike Uzbekistan, Kyrgyzstan has yet to follow Beijing's request to adopt the narrow gauge for the network. Yet, Uzbekistan has remained less interested in the project than the other two governments. Uzbek leaders have long adopted a cautious and protectionist approach toward granting access to their country's resources. Furthermore, Kazakh officials have not supported the project for fear of losing cargo transit on their own country's network [12]. Finally, the crisis in Kyrgyzstan has resulted in the project's de facto suspension. Nonetheless, analysts believe that once these issues are resolved, as well as the new problems resulting from the political chaos in Kyrgyzstan, the railroad itself can be completed in a short period of time (*Eurasia Daily Monitor*, February 14).

Implications

China is making progress in improving Eurasian rail networks, but the existing and proposed near-term rail links between the PRC and its western neighbors will still service only a small share of China's foreign commerce, which will likely remain dominated by containerized cargo shipping by sea. The one development that might change this situation—the construction of high-speed rail networks through Greater Central Asia that would connect the PRC directly to European markets by land--would require hundreds of billions of dollars that the parties do not presently possess (Asia Times Online, April 14). Even the more modest proposals to construct a more limited complex of rail lines linking China with Central Asia as well as Afghanistan have encountered serious obstacles. First, the parties continue to dispute the terms of financing and the question of ownership. Second, influential Russian interests have opposed some projects, seeing them as a threat to Russia's rail hegemony in Eurasia. Furthermore, China's investment in infrastructure is diluted by Chinese railroad building in other foreign regions and even more so within the PRC's borders, which will remain a priority as long as Beijing is eager to stimulate domestic job creation. Finally, the non-physical impediments to commerce in and through Central Asia and Afghanistan are perhaps greater than the lack of adequate railroads and other means of transport. These barriers include suboptimal visa and customs policies, inadequate financial and communications networks, deviations from international legal standards regarding property rights, and transnational threats such as Islamist terrorism and narcotics trafficking that make governments reluctant to relax their border controls.

Richard Weitz, Ph.D., is a Senior Fellow and Director of Program Management at the Hudson Institute in Washington, DC.

Notes

1. Ministry of Mines, "Aynak Copper Deposit Exploitation on Track to Begin Operations in Two Years," May 27, 2010, http://mom.gov.af/index.php?page_id=97.
2. Wolfgang Danspeckgruber, et al., "Railroads: Afghanistan's Century Project," from Petersburg Papers on Afghanistan and the Region, Vol. 4 (2009) (Liechtenstein Institute on Self-Determination), http://www.ciaonet.org/wps/lisd/0018577/f_0018577_15903.pdf.
3. Masood Aziz, "Afghanistan," The New Silk Roads: Transport and Trade in Greater Central Asia, edited by S. Frederick Starr (Washington, DC: Central Asia-Caucasus Institute & Silk Road Studies Program, 2007): 53.
4. "Regional Summit Meeting of Afghanistan and Neighbors," The Secretary General's statement Economic Cooperation Organization, Istanbul, January 26, 2010, http://www.ecosecretariat.org/Sg%20Statement/SUM-AF.HTM.
5. Afghan Government Plans Three Standard Gauge Railways," Railways of Afghanistan, June 13, 2010, http://www.andrewgrantham.co.uk/afghanistan/2766/afghan-government-plans-three-standard-gauge-railways/.
6. Ministry of Mines, "Railway from Torkham to Amo Darya Connects Middle Asia to Indian Ocean," Islamic Republic of Afghanistan, May 10, 2010, http://mom.gov.af/index.php?page_id=65.
7. Niklas Swanstrom, Nicklas Norling, and Zhang Li, "China," *The New Silk Roads: Transport and Trade in Greater Central Asia,* edited by S. Frederick Starr (Washington, DC: Central Asia-Caucasus Institute & Silk Road Studies Program, 2007): 389.
8. Zhao Huaheng, "China, Russia, and the United States: Prospects for Cooperation in Central Asia," *CEF Quarterly:*

The Journal of the China-Eurasia Forum, February 2005: 24, www.silkroadstudies.org/new/docs/CEF/CEF_Quarterly_Winter_2005.doc.pdf.
9. S. Frederick Starr and Andrew C. Kuchins, *The Key to Success in Afghanistan: A Modern Silk Road Strategy* (Washington, DC: Central Asia-Caucasus Institute & Silk Road Studies Program, 2010): 1-20.
10. Asian Development Bank, http://www.adb.org/Documents/Reports/ca-trade-policy/chap5.pdf.
11. Uzbekistan Trade Logistics Presentation, Asian Development Bank (2008), http://www.adb.org/Documents/Events/2008/Trade-Logistics-Final/CS1-UZB-presentation.pdf.
12. Sebastien Peyrouse, "Economic Aspects of the Chinese-Central Asia Rapprochement," Silk Road Paper (September 2007): 27.

***