A REPORT OF THE CSIS WADHWANI CHAIR IN U.S.-INDIA POLICY STUDIES

U.S.-India Defense Trade

OPPORTUNITIES FOR DEEPENING THE PARTNERSHIP

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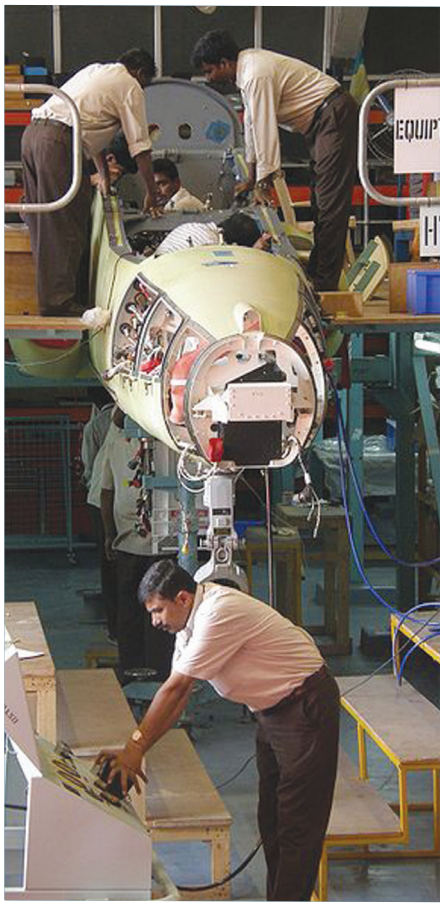
Foreword
Karl F. Inderfurth



June 2012

50 YEARS | CHARTING OUR FUTURE

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Disclaimer: S. Amer Latif is a visiting fellow at the Center for Strategic and International Studies and served as the director for South Asian affairs in the Office of the Secretary of Defense from 2007 to 2011. The views expressed in this report are those of the authors and do not necessarily represent those of the Department of Defense or the United States government.

Cover photos: *Left*–A single BAe Hawk being built for the Indian Air Force at Hindustan Aeronautics Limited (HAL) production line in Bangalore, Wikimedia Commons, Ajai Shukla, http://commons.wikimedia.org/wiki/File:Hawk_production_at_HAL.JPG; *top right*–P-8I aircraft, photo courtesy of the Boeing Company; *bottom right*–C-130J, photo courtesy of Lockheed Martin.

Photos shown inside the report: See page 72.

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FOREWORD

In a little more than a decade, there has been a remarkable transformation in U.S.-India relations, initiated, supported, and advanced by the leadership of both countries. In recognition of India's rise as a major global actor and its increasing importance to the United States, in January 2011 CSIS announced the establishment of the Wadhwani Chair in U.S.-India Policy Studies to serve as an independent platform in Washington to assess major policies and strategic issues in the relationship. Its mission would be "to unlock the full potential of the U.S.-India relationship."

Today, as President Barack Obama has stated, India is one of our "defining partnerships in the 21st century." The U.S. relationship with India has the potential to alter the power dynamics in Asia and the world with their combined political, diplomatic, economic, and military capacity. A key part of this partnership will be the U.S.-India defense and security relationship.

Close defense and security ties with India can address common strategic interests such as the security of trade and energy corridors across the Indian Ocean, countering terrorism, enhancing Indian coastal security, and addressing humanitarian and natural disasters. The defense relationship may also help to grapple with regional challenges such as China, whose strategic aims still remain nebulous despite a robust effort to build its military capabilities. Bilateral defense ties can also serve as an anchor in Asia for more robust trilateral and multilateral cooperation across the region by assisting less capable Asian militaries to develop capacity in peacekeeping, maritime security, and disaster response.

The U.S.-India defense relationship has grown over the last decade to become a key component of the overall bilateral partnership. Since the signing of the New Framework for Defense Cooperation in 2005, the United States and India have made remarkable strides in their defense relations. India now holds more than 50 annual military exercises with the United States, more than any other country. Cumulative defense sales have grown from virtually zero to more than $8 billion. And high-level exchanges on defense issues also have increased. There have also been new opportunities for cooperation in homeland security that emerged in the wake of the 26/11 Mumbai terrorist attacks. The establishment last year of the U.S.-India Homeland Security Dialogue was an important step to building cooperation in this key area.

At the same time, most U.S. policymakers, military officials, defense analysts, and industry officials know that it will take some time to develop bilateral defense and security relations to a point where the United States and India are able (and willing) to work together *consistently* on areas of common interest. At this juncture, then, it is useful to examine how much progress has been made to date and determine the future course of U.S.-India defense and security relations.

Hence, in September of last year, CSIS announced the launch of the new U.S.-India Defense and Security Cooperation Project. Dr. S. Amer Latif, the project's director, is currently a visiting fellow with the Wadhwani Chair in U.S.-India Policy Studies and previously served as the director for South Asian affairs in the Office of the Secretary of Defense from 2007 to 2011.

The CSIS project would focus on examining the key challenges and future opportunities for optimizing bilateral defense and security cooperation and would consist of three components:

1. *Bilateral defense trade*: How can the United States and India work together to make bilateral trade more seamless and transparent?
2. *Military-to-military cooperation:* How can the United States and India transition current military-to-military engagement to become more operationally relevant?
3. *Homeland security cooperation*: How can the United States and India best cooperate to support India's efforts at securing its homeland?

I am pleased to commend to you this first report of the CSIS U.S.-India Defense and Security Cooperation Project, entitled *U.S.-India Defense Trade: Opportunities for Deepening the Partnership*. I am convinced that should its sound advice and recommendations be adopted, the United States and India will be several important steps closer to "unlocking the full potential" of their defense partnership.

Karl F. Inderfurth
Wadhwani Chair in U.S.-India Policy Studies
CSIS

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EXECUTIVE SUMMARY

Over the past decade, the United States and India have built the foundations of a partnership that has the potential to be one of the more consequential relationships of the twenty-first century. Since President Bill Clinton's visit to India in 2000, the two countries have forged a relationship that is now defined by five pillars of cooperation that include strategic issues, energy and climate change, education and development, economics and trade, and science and technology. It is a wide-ranging partnership that holds the promise of collaboration on issues that are not only important to these two countries, but to many other countries as well.

Within the strategic category of the bilateral relationship lies bilateral defense cooperation. The defense relationship has grown remarkably since the lifting of U.S. sanctions against India shortly after the September 11, 2001, attacks. Since that time, defense relations have been on an upward trajectory, spurred by the bilateral New Framework for Defense Cooperation signed in 2005. Common but parallel interests in areas such as stability in Afghanistan, maritime security, China's growing military power, and effective response to natural disasters will provide a basis for close defense cooperation in the years to come. Today, in an oft-cited fact, India conducts more exercises with the United States than any other country. The two countries now also hold a range of defense dialogues on various aspects of defense ties and have transacted billions of dollars in defense trade.

On defense trade in particular there has been striking progress since the mid-2000s. Through the sale of cargo and maritime reconnaissance aircraft, special forces equipment, land-based radars, an amphibious transport ship, and missiles, the United States has made significant inroads with the induction of U.S. military equipment into Indian military ranks. In fiscal year 2011, India became the third-largest purchaser of U.S. arms, with contracts worth $4.5 billion.[1] The United States' arms sales to India are a key part of building its ability to cooperate with India in the future.

However, while there has been significant progress in bilateral defense trade, there have also been some setbacks. The Indian government's decision in April 2011 not to select either U.S. entrant in the Medium Multi-Role Combat Aircraft (MMRCA) competition brought many of the outstanding challenges to defense trade into sharper focus, including a disconnect between defense acquisition and purchasing systems, technology transfers, offset execution, and dealing with India's state-owned defense enterprise. Since that time, questions have arisen about how to broach the various challenges that stand in the way of a deeper partnership. How can the United States and India build a relationship that is respectful of each side's respective interests and limitations? There is a feeling on both sides that, while there has been significant progress to date, there are numerous possibilities for deepening the partnership in the years ahead.

1. Indo-Asian News Service, "India is third largest buyer of US arms," NDTV, December 8, 2011, http://www.ndtv.com/article/india/india-is-third-largest-buyer-of-us-arms-156515?pfrom=home-otherstories.

What characterizes defense trade at a deeper level? Simply put, it is a relationship in which defense sales can be conducted with in-depth familiarity and knowledge about each other's sales and acquisition processes, a mutual understanding of governmental bureaucratic processes, interoperability between forces, and codevelopment efforts that produce military equipment usable by both countries, establishes India as a key supply chain location for U.S. defense production, and perhaps at a future point, sees India become a leading developer of defense research and technology. The strategic impact of deeper defense trade could lead to a more stable Asia-Pacific region where the United States and India could consistently and seamlessly work together on areas of common interest through common defense equipment to include disaster response, humanitarian assistance, counter-piracy, and peacekeeping. Deeper ties could also send a clearer signal to Beijing about Washington and New Delhi's combined commitment as coequals to a stable Asia in which all states adhere to internationally accepted norms of behavior. To be sure, it is highly unlikely that the United States and India will reach this condition anytime in the near to mid-term.[2] However, a concerted effort by both capitals to work toward this ideal has the potential to move defense trade relations from its current state to a more productive and strategically significant partnership.

So what stands between the United States, India, and a deeper defense trade relationship? There are five categories of challenges that need to be effectively addressed.

1. *Strategic Challenges:* There is currently a strategic dissonance on defense objectives that could limit future defense trade. Washington will judge success not solely on how much market share it attains in India, but how those sales translate to a deeper defense partnership as it emphasizes Asia in its security engagement. India, by contrast will judge the success of defense trade based on how much technology is transferred, how much coproduction is conducted, and how much Washington will assist New Delhi in building its indigenous defense capabilities.
2. *Political Challenges:* This basket of issues deals with overcoming the trust deficit between the two countries, managing U.S. sales to Pakistan, and the political dynamics in Washington and New Delhi that could affect the path of defense relations for better or for worse. While many of these issues will take time to resolve or are simply beyond the control of policymakers, they could nevertheless have a significant impact on defense trade.
3. *Procedural and Technical Challenges:* These issues encompass a wide swath of challenges that range from the disconnect between U.S. sales and Indian acquisition systems, to technology transfer, to offsets and defense agreements.[3] This bundle of challenges includes a range of complex issues that are not easily resolved given the evolving nature of India's defense acquisition system, political factors, and bureaucracies in both capitals that do not easily embrace change.
4. *Bureaucratic Challenges:* Understanding how each side makes and implements decisions on defense trade is a lacuna in the relationship. U.S. officials are frequently flummoxed by the opaque nature of the Indian bureaucracy, which leads to anxiety among defense and industry officials about the transparency of the Indian market. Indian officials frequently have questions about technology transfer decisions and are still struggling with understanding how the United States

2. For this report, near to mid-term is defined as the next 5 to 10 years.

3. The "defense agreements" include the Communications Interoperability and Security Memorandum of Agreement (CISMOA), the Basic Exchange and Cooperation Agreement (BECA) for Geo-Spatial Data, and the Logistics Support Agreement (LSA). It is noteworthy that India did sign a General Security of Military Information Agreement (GSOMIA) in 2002 after 15 years of negotiations. See Teresita Schaffer, *India and the United States in the 21st Century: Reinventing Partnership* (Washington, D.C.: CSIS, 2009), 80.

sells arms through the Foreign Military Sales (FMS) program. Better bureaucratic communications are clearly needed to develop trust, resolve issues, and pave the way for more seamless collaboration.

5. *Communications and Education Challenges:* The United States and India do an inadequate job of effectively communicating the benefits of defense trade to interested constituencies within their respective civil societies. Inability to do so has led to misperceptions about the others' motives, attitudes, and policies, which can stymie deeper cooperation.

These factors, taken together, represent a comprehensive set of challenges that are difficult, yet not impossible to address. Below are several high-level recommendations to effectively address them. The final section of this report, entitled Conclusions and Recommendations, includes a number of more detailed proposals in this regard.

1. *Strategic Challenges:* The United States and India should designate one official on each side whose portfolio prioritizes the promotion of bilateral defense trade. Doing so will energize this important dimension of bilateral engagement. Both countries should engage in an in-depth discussion about India's defense needs that stems from a joint vision for the strategic defense relationship. Doing so will allow strategic objectives to drive defense trade. The United States should conduct a policy review to determine how it might engage India on an initial codevelopment project to develop familiarity and trust between the defense industrial establishments.
2. *Political Challenges:* The United States needs to be consistent and reliable in its technology transfer decisions and in its provision of purchased defense equipment. The Indian government should craft a public narrative about the benefits of mutual partnership to counter negative perceptions within the Indian political system.
3. *Procedural and Technical Challenges:* There are a number of recommendations for this set of challenges due to the wide range of issues in this category. At a macro level, however, the United States and India should actively work to develop ways to accommodate the FMS system within the Indian Defense Procurement Procedure (DPP). The two countries should also look to consolidate their various technical working groups into one group that addresses all technology transfer and licensing issues. India should develop an offset strategy that clearly lays out the technologies and capabilities India hopes to derive from the offset program. It should also consider indirect offsets to be applied toward India's many infrastructure and related needs. On foreign direct investment, or FDI, India should raise the limit to over 50 percent in order to incentivize U.S. companies to invest in India's defense industry.
4. *Bureaucratic Challenges:* The United States and India should seek to facilitate greater transparency and predictability between their respective bureaucracies. The U.S. bureaucracy should endeavor to be more responsive to Indian requests for information (RFI) such as price and availability data. The Indian side should seek to sign routine paperwork related to defense trade such as change orders and contract modifications more quickly. It should also become more proactive in providing information to defense companies on the status of defense tenders.
5. *Communications and Education Challenges:* Both sides should engage in a bilateral dialogue about the key elements of an effective defense industrial base. The United States should intensify its efforts to engage the various constituencies in India that shape public opinion, including the media, parliament, and state governments. It should also continue to engage the Indian bureaucracy and offer assistance in developing India's defense acquisition expertise. India

should publicly communicate its defense acquisition priorities to facilitate better planning for acquisition and sales.

It is important to underscore that the bilateral defense relationship has come far in a short period of time. Implementing these recommendations—which will require energy, persistence, and flexibility from both sides—will take the partnership to a deeper level. The challenge now is to capitalize on past gains and undertake the hard work needed to move toward an optimal partnership where defense trade can be conducted as an activity that is "normal, expected, and routine."[4] At this stage, neither grand gestures nor fillips are required. Instead, the relationship requires an intensified bilateral effort at effectively addressing the challenges to regular defense trade and better understanding both the limitations and opportunities of the partnership. Hopefully, that will lead to greater bilateral cooperation on operational matters, as well as collaborative defense research that is rooted in trust and driven by a common need to work for a more secure world.

4. Speech by former under secretary of defense for policy Michèle Flournoy, "Investing in the Future of U.S.-India Defense Relations," Asia Society, Washington, D.C., July 1, 2010, http://asiasociety.org/policy/strategic-challenges/us-asia/investing-future-us-india-defense-relations.

ACRONYMS AND ABBREVIATIONS

BECA	Basic Exchange & Cooperation Agreement for Geo-Spatial Data
CAGR	Compound Annual Growth Rate
CDS	Chief of Defense Staff
CISMOA	Communications Interoperability and Security Memorandum of Agreement
DCS	Direct Commercial Sales
DoD	Department of Defense (United States)
DOFA	Defense Offset Facilitation Agency (India)
DPP	Defense Procurement Procedure (India)
DPrP	Defense Production Policy
DPSUs	Defense Public Sector Undertakings
DTSA	Defense Technology Security Administration
EUM	End-Use Monitoring
FDI	Foreign Direct Investment
FGFA	Fifth Generation Fighter Aircraft
FMS	Foreign Military Sales (United States)
GDP	Gross Domestic Product
IAF	Indian Air Force
HAL	Hindustan Aeronautics Limited
IAS	Indian Administrative Service
IDSA	Institute for Defence Studies and Analyses
JTG	Joint Technical Group
LCC	Life Cycle Costs
LSA	Logistics Support Agreement
MEA	Ministry of External Affairs (India)
MMRCA	Medium Multi-Role Combat Aircraft
MoD	Ministry of Defence (India)
MoF	Ministry of Finance (India)
MTA	Multi-Role Transport Aircraft
NC/NC	No Cost No Commitment
NSSP	Next Steps in the Strategic Partnership
ORF	Observer Research Foundation (India)

OSD	Office of the Secretary of Defense
RFI	Request for Information
RFP	Request for Proposal
RUR	Raksha Udyog Ratna
RWA	Returned without Action
SMEs	Small and Mid-Size Enterprises
TAA	Technical Assistance Agreement
USG	United States Government
WMD	Weapons of Mass Destruction

INTRODUCTION

Since 2000, the United States and India have been steadily developing a bilateral partnership that is notable given that both sides were estranged democracies at the end of the last century. With U.S. engagements ending in Iraq and Afghanistan, U.S. policymakers have turned their attention to the Asia-Pacific region to intensify their commitment and provide a more visible presence as a signal of assurance to its allies and partners in Asia. However, faced with significant defense budget cuts, Washington is keen to cultivate partners that share similar strategic views and have the future capacity to help provide security and stability in Asia on a consistent basis. For Washington, New Delhi represents a strategic bet[1] that it will one day become a net provider of security in the Indian Ocean and globally.[2] As the Indo-Pacific region evolves strategically, both sides will find common interests, including a desire for stability in Afghanistan, counterterrorism, maritime security, effective disaster response, the free flow of commerce and energy across the Indian Ocean, and concerns about China's growing military power. Given these common interests and values, the U.S.-India partnership has the potential to be one of the most consequential relationships of the twenty-first century.

Over the past decade, bilateral ties have grown to encompass a wide range of areas, which has led to the relationship being organized along five key pillars:

- Strategic cooperation
- Energy and climate change
- Education and development
- Economics, trade, and agriculture
- Science and technology, health, and innovation.[3]

Within the category of strategic cooperation lies the bilateral defense relationship. Since the lifting of sanctions on India after the attacks of September 11, 2001, U.S.-India defense ties have been on a steadily upward trajectory that accelerated after the signing of the U.S.-India New Framework for Defense Cooperation in 2005. Since that time, defense relations have transformed to a point where now India conducts more exercises with the United States than any other country, has coordinated with U.S. forces on operations such as disaster relief during the Indian Ocean tsu-

1. Hillary Clinton, "America's Pacific Century," *Foreign Policy*, November 2011, http://www.foreignpolicy.com/articles/2011/10/11/americas_pacific_century?page=full.

2. U.S. Department of Defense, "Sustaining U.S. Global Leadership: Priorities for the 21st Century," January 3, 2012, at http://www.defense.gov/news/Defense_Strategic_Guidance.pdf. Also see Amer Latif, "India and the New U.S. Defense Strategy," *CSIS Commentary*, February 23, 2012, at http://csis.org/publication/india-and-new-us-defense-strategy.

3. U.S. Embassy New Delhi, "The Five Principal Pillars of U.S.-India Relations," http://newdelhi.usembassy.gov/us-india-relations.html.

nami in 2004, and has purchased several significant military platforms for enhancing India's cargo lift (Lockheed C-130J and Boeing C-17), maritime surveillance (Boeing P-8I), and amphibious lift capabilities (USS *Trenton*). Defense trade has emerged as an important element of the overall defense relationship. With $8 billion in defense trade transacted thus far, there is a great potential for the United States and India to develop a defense trade relationship that endures for years to come and provides mutual benefits for Washington and New Delhi.

Despite the notable progress, however, defense trade relations have not been without some setbacks for the U.S. side. In April 2011, after a four-year competition, New Delhi decided not to down-select either U.S. entrant (F/A-18 or F-16) in the Medium Multi-Role Combat Aircraft (MMRCA) competition, which was a sobering moment for the U.S. government and its defense industry.[4] For some U.S. government officials, the decision was a shock, given U.S. efforts to broker the Civil Nuclear Agreement, which was the landmark deal that removed the most difficult obstacle to closer bilateral relations and required the United States to negotiate an unprecedented exception to the global nonproliferation regime. Washington also provided public support for a permanent seat for India on the UN Security Council and amended the Entity List[5] to remove defense- and space-related organizations and facilitate greater technology transfer.[6] All of these initiatives required a substantial amount of diplomatic and political capital that was seen by some on the U.S. side as an investment toward a possible U.S. win. Not only would this success have been a clear signal from New Delhi of its new strategic direction but would have also undercut the market positions of Russia and European defense firms seeking to preserve their respective shares of the Indian defense market.

From an industry perspective, the MMRCA competition caused some anxiety about the transparency and efficiency of the Indian defense market. While U.S. entrants were deficient in a few areas,[7] U.S. firms wondered how the Eurofighter and Rafale advanced without an operational Active Electronically Scanned Array radar, which was thought by many informed observers to be a key discriminator for the Indians.[8] For the U.S. side, it was not the loss of the fighter competition and its associated revenues that was unnerving so much as this inconsistency, which had wider reverberations within the U.S. defense industry about whether the Indian acquisition process would look at overall value rather than just strict technical criteria. As Ashley Tellis, a noted South Asia scholar wryly observed, India had chosen "to invest in a plane and not a relationship."[9]

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4. Robert Wall, "India Shortlists MMRCA Competitors," *Aviation Week*, April 27, 2011, http://www.aviationweek.com/aw/generic/story.jsp?id=news/awx/2011/04/27/awx_04_27_2011_p0-316157.xml&channel=defense.

5. The U.S. Commerce Department's Bureau of Industry and Security first published the Entity List in February 1997 as part of its efforts to inform the public of entities that have engaged in activities that could result in an increased risk of the diversion of exported, re-exported, and transferred (in-country) items to weapons of mass destruction, or WMD, programs. Since its initial publication, grounds for inclusion on the Entity List have expanded to activities sanctioned by the State Department and activities contrary to U.S. national security and foreign policy interests. For more information, see http://www.bis.doc.gov/entities/default.htm.

6. S. Amer Latif and Karl F. Inderfurth, "The Long View of Indo-U.S. Ties," *Wall Street Journal,* May 12, 2011.

7. Ashley Tellis, "Decoding India's MMRCA Decision," *Force,* June 2011, p. 10.

8. Wall, India Shortlists MMRCA Competitors.

9. Shashi Tharoor, "Obama Dismayed as India Rejects Arms Deal," *Al Jazeera,* May 11, 2011, http://www.aljazeera.com/indepth/opinion/2011/05/20115494517933644.html.

From an Indian perspective, the MMRCA down-select decision represented a proud moment for Indian defense procurement in which the decision was executed as required by the DPP. Within India's two-stage procurement system, the first stage focused exclusively on technical criteria guided by the Indian Air Force's (IAF) recommendations without regard to price or strategic factors. For New Delhi, the MMRCA competition was never intended to account for "strategic considerations" but rather sought a fighter platform that it perceived as a top-of-the-line performer with the latest technology and provided the required amounts of technology transfer, along with coproduction and codevelopment prospects.

The United States entered two aircraft in the MMRCA competition—the F/A-18 (above) and the F-16 (below); neither was accepted.

Shortly after the MMRCA decision in June, New Delhi approved a deal for 10 Boeing C-17 cargo aircraft worth $4.1 billion.[10] The Indian media portrayed the deal as compensation for U.S. exclusion from the MMRCA down-select but the deal did not overcome the myriad challenges to closer cooperation. Despite the recent success, both sides are wondering how to advance their ties in defense trade to a higher level. While defense deals continue to be transacted, neither side fully feels its aims are being met. Some on the U.S. side increasingly wonder about the wisdom of competing in the Indian defense market and whether India wants a relationship that goes beyond mere defense sales. On the Indian side, some are skeptical whether the United States will assist them with their primary goal of defense indigenization. The United States and India are now entering a period where there needs to be a concerted effort from both sides to address the challenges to defense trade and elevate the relationship to new heights. If the United States and India can successfully address the various outstanding challenges to normalizing defense trade, it could have a profound effect on both sides' ability to realize their respective strategic objectives.

10. "India, U.S. ink $4.1 billion deal for C-17 jets," *Times of India,* June 16, 2011.

A deeper defense trade relationship would be characterized by in-depth familiarity and knowledge about each other's sales and acquisition processes, a mutual understanding of governmental bureaucratic processes, interoperability between forces, and codevelopment efforts that produce military equipment usable by both countries, establish India as a key supply chain location for U.S. defense production, and, perhaps at a future point, see India become a leading developer of defense research and technology. The strategic impact of deeper defense trade could lead to a more stable Asia-Pacific region where the United States and India could consistently and seamlessly work together on areas of common interest, including disaster response, humanitarian assistance, piracy, and peacekeeping. A deeper defense trade relationship could also send a clear signal to Beijing about Washington and New Delhi's combined commitment as coequals to a stable Asia in which all states adhere to internationally accepted norms of behavior.

India has been upgrading its cargo lift with purchases such as the Lockheed Martin C-130J aircraft.

In order to take defense trade to a deeper level, differences in strategic objectives, defense acquisition systems, business philosophies, policy issues, and bureaucratic communication need to be effectively addressed. To be sure, defense trade continues to proceed, with prospects for more defense deals on the horizon.[11] However, a concerted effort from both sides that actively addresses the disconnects between bureaucratic systems will allow for a smoother and more productive relationship. Such a relationship has the potential to build common cooperative capabilities and allow for joint research that could yield breakthroughs in defense technology and usher in a new era of defense collaboration.

To fully understand how both sides can take defense trade to a deeper level, there needs to be an in-depth analysis about the various challenges that both sides face. This report outlines five categories of challenges, including strategic, political, procedural and technical, bureaucratic, and communications and education. Once the challenges have been analyzed in each category, the report will provide policy recommendations that can chart a path forward toward a deeper partnership. While reaching optimum levels of cooperation in the near term may be unrealistic, both sides should resolve to undertake the hard work necessary to put defense trade on a firmer footing for the future. Before beginning the analysis of defense trade challenges, it is useful to obtain a better understanding of India's defense budget and modernization as well an understanding of how non-U.S. countries operate in the Indian defense market.

11. "India to Sign $8 Bln Defense Deals-Envoy," Reuters, April 27, 2012, http://articles.chicagotribune.com/2012-04-27/news/sns-rt-indiadefence-update-1l3e8fr6eq-20120427_1_new-delhi-deals-envoy.

1 INDIAN DEFENSE MODERNIZATION

India is passing through an important period in the development of its military power. By 2025, India is likely to spend as much as $200 billion to procure defense equipment,[1] and has already established itself as the largest global arms importer from 2007–2011, accounting for 10 percent of total global arms imports.[2] On the surface, these figures represent an Indian commitment to enhance its defense capabilities, modernize its armed forces to meet current threats, and develop the capacity to project power beyond South Asia. The high rate of defense imports also speaks to India's inability to manufacture its own defense requirements, necessitating large procurements from foreign sources.

Understanding India's Defense Budget

Although much has been made of India's military modernization, it is instructive to look at India's defense spending trends to better understand its capacity to fulfill its modernization efforts. In comparison to other major countries in Asia, India's total defense spending has surpassed most, with the exceptions of Japan and China. India's defense spending is close to Japanese levels but falls well short of Chinese defense spending (figure 1). Despite a 74 percent real-term increase in India's total defense spending since the year 2000 and a budget of about $40.8 billion for the current fiscal year, India's defense spending is relatively modest when compared with China, which some estimates place above $120 billion.[3]

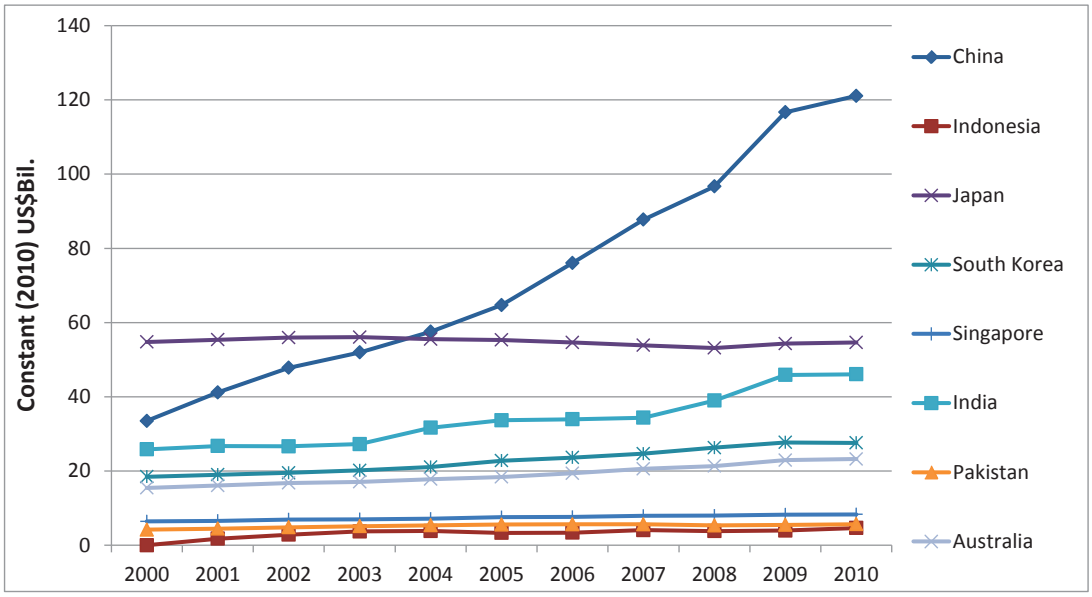
Although India's defense budget has grown substantially, it will be limited by domestic pressures that demand large budget allocations for development and infrastructure needs. Indeed, while India's defense budget has grown in dollar terms, it has declined as a percentage of total government expenditure and gross domestic product (GDP) (figures 2 and 3).

1. International Institute for Strategic Studies, *The Military Balance 2012* (Oxfordshire, UK: Routledge Journals, 2012), p. 219.

2. Paul Holtom, Mark Bromley, Pieter D. Wezeman, and Siemon T. Wezeman, "Trends in international arms transfers, 2011," Stockholm International Peace Research Institute, March 2012, http://books.sipri.org/product_info?c_product_id=443.

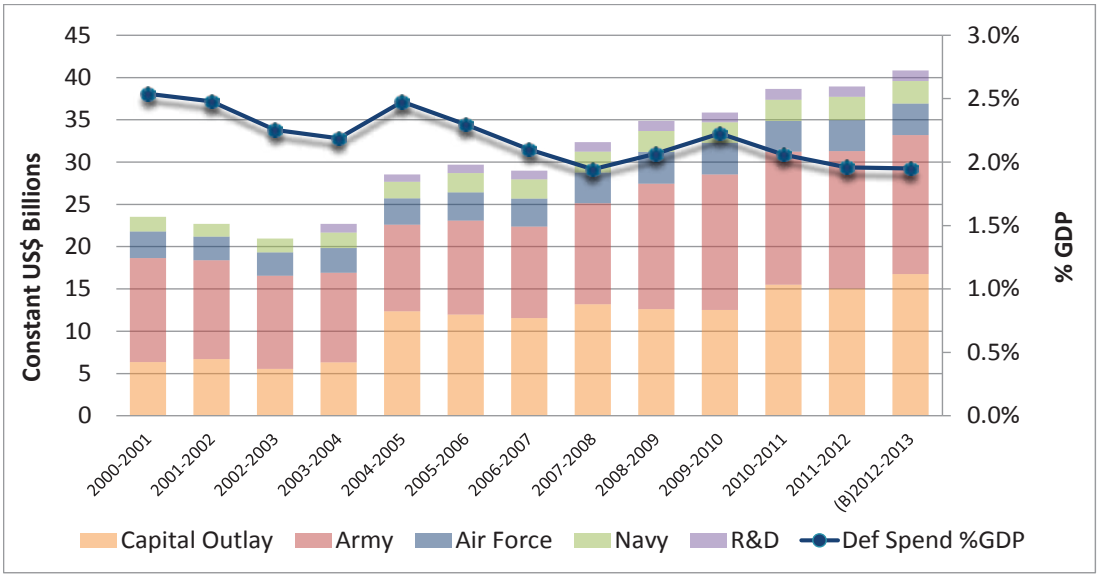
3. Ibid.; "China's defense budget to grow 11.2 pct in 2012: spokesman," Xinhua, March 4, 2012, http://news.xinhuanet.com/english/china/2012-03/04/c_131445012.htm; Government of India, Union Budget & Economic Survey, analysis by CSIS.

Figure 1: Defense Spending of Select Countries in Asia and Oceania



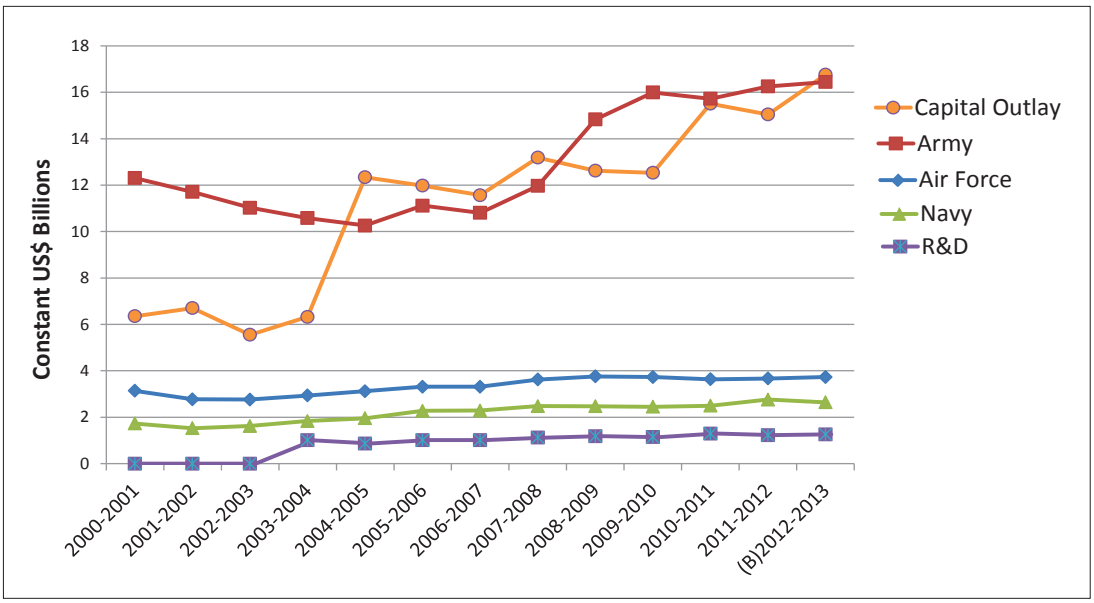
Source: Stockholm International Peace Research Institute, SIPRI Arms Transfer Database, http://www.sipri.org/databases/armstransfers (date accessed April 3, 2012).

Figure 2: India's Defense Spending and Percentage of GDP



Source: Government of India, Union Budget & Economic Survey, analysis by CSIS.

Figure 3: India's Defense Spending



Source: Government of India, Union Budget & Economic Survey, analysis by CSIS.

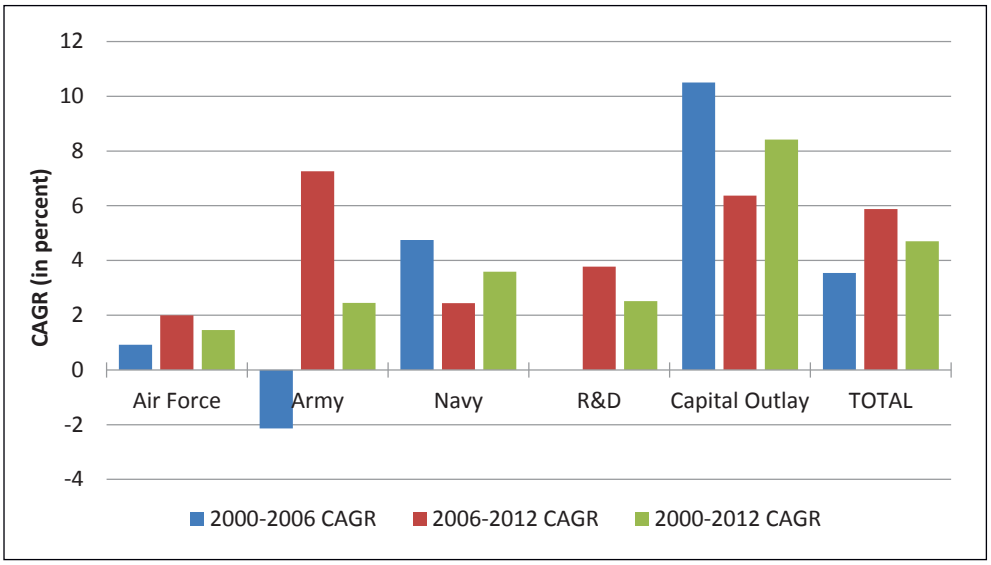
India's defense budget can be divided into two broad spending categories—namely, capital and revenue. The latter includes spending on service personnel pay and allowances, maintenance, and transportation for the three defense services, but does not include spending on new defense equipment. Instead, procurement of equipment and other materials for all three military services is bundled in India's capital outlay account, making it a particularly relevant component of the budget to examine with regards to defense trade.[4] In recent years, India has devoted approximately 40 percent of its total defense spending to capital outlays. With real compound annual growth rate (CAGR)[5] of 8.4 percent between 2000 and 2012, capital outlay is budgeted at $16.8 billion for the current fiscal year (figure 4). Approximately 89 percent of capital spending has been used in recent years for equipment procurement by the military services, with the air force allocated the largest portion, followed by the navy and then army (figure 5).[6]

4. It is important to note that maintenance costs for the upkeep of purchased equipment are funded from the revenue account. Thus, while the capital outlay account is important for acquiring the hardware, the revenue account is important for maintaining it.

5. The compound annual growth rate (CAGR) measures the growth of an investment as if it had grown at a steady rate on an annually compounded basis. It is an average growth rate, which is useful because it provides a more realistic idea of the general trend over time.

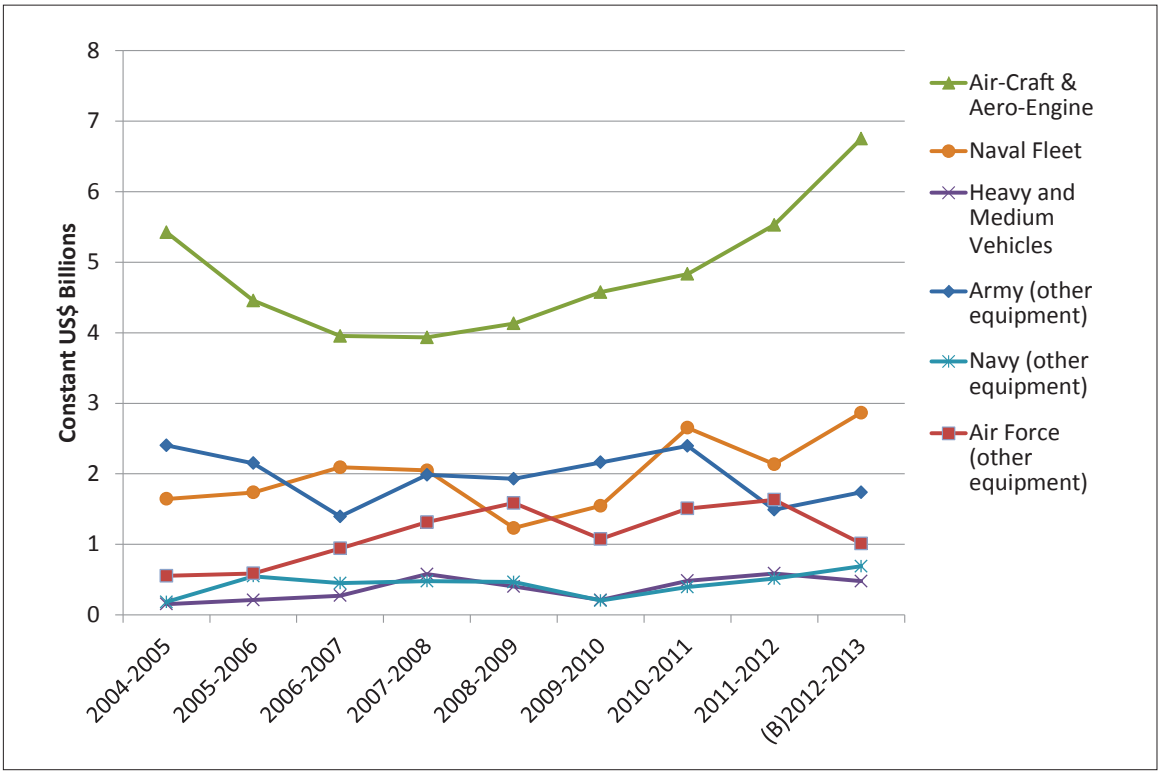
6. Laxman Behera, "India's Defense Budget 2012–13," Institute for Defense Analyses, http://www.idsa.in/idsacomments/IndiasDefenceBudget2012-13_LaxmanBehera_200312.

Figure 4: Compound Annual Growth Rates (CAGR) by Defense Spending Account



Source: Government of India, Union Budget & Economic Survey, analysis by CSIS.

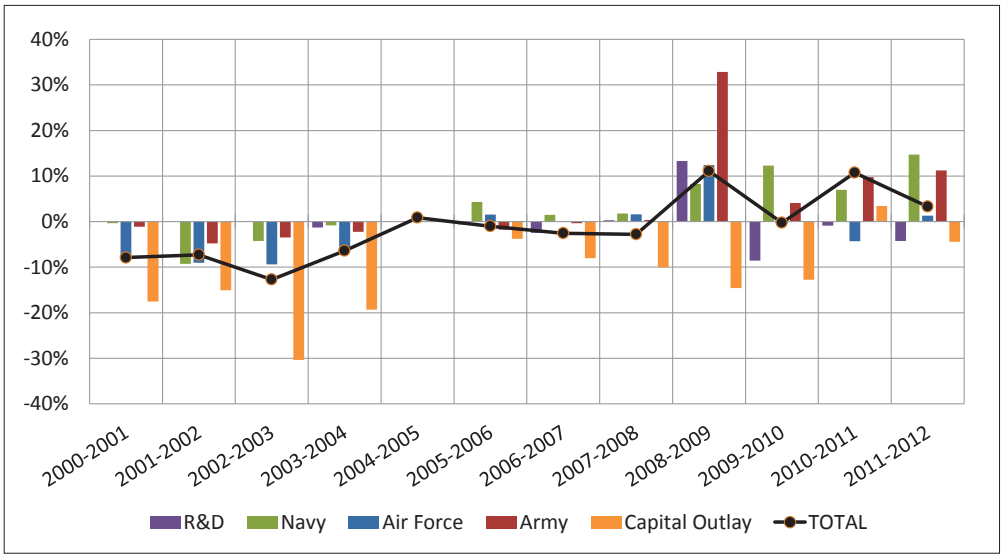
Figure 5: India's Capital Outlay Expenditures by Category



Source: Government of India, Union Budget & Economic Survey, analysis by CSIS.

While India's overall growth in defense spending is notable, there are still fiscal and bureaucratic challenges facing India's military modernization efforts. Currently, there is concern that the country's slower-than-expected economic growth forecast, coupled with continuing depreciation of the Indian rupee against the dollar, could lead to future erosion of the Ministry of Defense's (MoD) buying power for imported military equipment, which is largely transacted in U.S. dollars.[7] Additionally, India's defense bureaucracy has historically shown an inability to spend all of its defense budget (hereafter termed underspending), especially in the capital outlay account (figure 6).[8]

Figure 6: Budgeted Spending vs. Actual (Revised) Spending



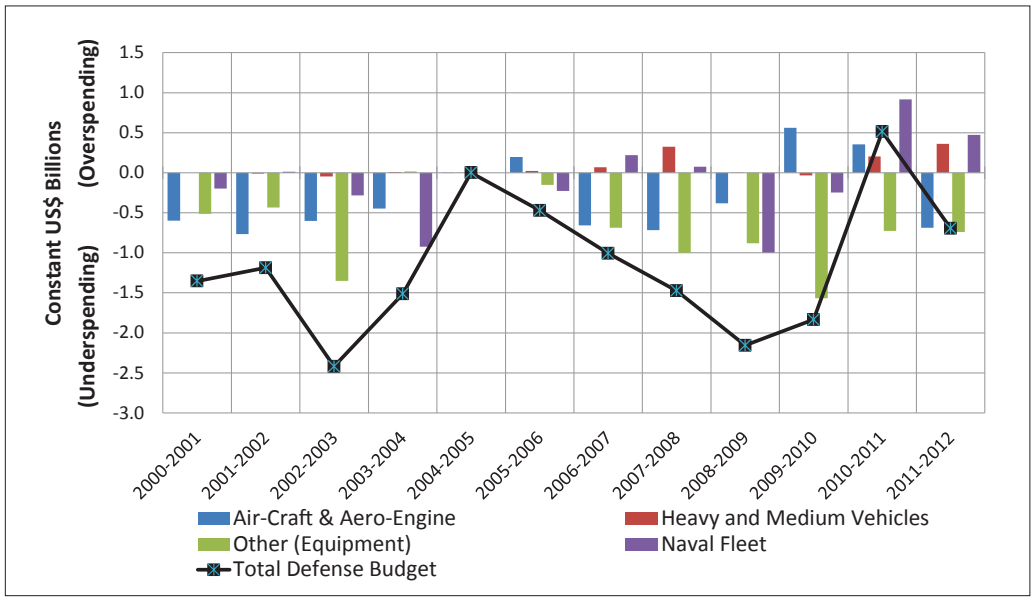
Source: Government of India, Union Budget & Economic Survey, analysis by CSIS.

7. "India GDP Growth Slows More Than Expected," *NASDAQ,* February 28, 2012, http://www.nasdaq.com/article/indias-gdp-growth-slows-more-than-expected-20120229-00012.

8. The Indian fiscal year runs from April 1 to March 31 of the following year. For each fiscal year, there are three estimates of defense expenditure. The first comes from the five-year defense plan, prepared by the military services prior to each five-year plan period and vetted by both the Defense Ministry (MoD) and Finance Ministry (MoF) based on anticipated acquisitions, committed liabilities, revenue streams, expenditure patterns, and other inputs. The second estimate is the annual estimate, submitted by the military services by September 31 of any given fiscal year, and is based on expenditure patterns of past years, approved acquisition plans for the current year, and other inputs. Depending on the fiscal situation at mid-year, the MoF may require the MoD and services to cut back on their spending during the remainder of the year, often at the expense of the capital outlay account. This is because during the mid-year review, the utilization of capital allocation has historically been found to be much lower than the budgeted amount. The final figure is the MoD's actual year-end spending, submitted to the MoF for review. When the services and MoD do not spend the initial amount requested for a given year, the term "underspending" is used. In this report, the authors use the revised budget figures to discuss total expenditure unless otherwise noted.

Since 2005, the MoD appears to have improved its overall ability to spend the total defense budget, but this trend has been a result of routine overspending on revenue accounts, which has counterbalanced underspending on capital outlay (figure 6). Since 2005, underspending on the capital outlay account has generally worsened, with the lone exception in fiscal year 2010–2011, when the MoD overspent its capital outlay by 3.4 percent, largely due to naval procurements (figure 7). The return of capital outlay funds to the MoF at the end of the year has strategic consequences for India's defense modernization, as its capabilities gap vis-à-vis China continues to grow. Without an acceleration of India's defense procurement process, New Delhi can expect this capability gap to widen even further in the coming years.

Figure 7: Budgeted vs. Actual (Revised) Spending for Select Capital Outlay Categories (U.S. dollars)



Source: Government of India, Union Budget & Economic Survey, analysis by CSIS.

What Is India Buying?

India has a wide range of needs across the conventional spectrum,[9] but the lack of a strategic acquisition strategy combined with rapidly aging equipment, corruption, and slow acquisition times have stymied Indian efforts to upgrade its armed forces. The Indian army is urgently seeking tactical communications systems to be able to have a more net-centric army as well as increased firepower through the purchase of artillery systems to replace existing antiquated systems.[10] It is also seeking updated combat systems such as infantry combat vehicles that can provide mobility, agility, and superior command and control.[11]

9. For a listing of Indian defense equipment needs, see Stephen Cohen and Sunil Dasgupta, *Arming without Aiming* (Washington D.C.: The Brooking Institution, 2010), p. 21. Also see "Prospects for Global Defense Export Industry in Indian Defence Market," Deloitte-Confederation of Indian Industry, 2010, pp. 29–32, http://www.defense-aerospace.com/dae/articles/communiques/DeloitteIndianDefence.pdf.

10. Findings from CSIS-ORF Roundtable, New Delhi India, December 6, 2012.

11. "Technology Requirements of the Indian Army," Confederation of Indian Industry, http://www.ciidefence.com/pdf/Future_Technology_Requirements_of_the%20Indian_Army.pdf.

The air force faces key shortfalls in the numbers of aircraft as its current strength is significantly below its fully authorized fighter strength of 39.5 squadrons. While the air force has requested an increase to as many as 45 squadrons,[12] it is unclear whether such a request would be approved given the associated budgetary requirements and an inability to reach the current authorized strength. The Indian selection of the French Rafale could address some of these shortfalls, but much will depend on how quickly the deal can be completed and how rapidly the aircraft can be inducted into service. The MMRCA deal was seen as a bridge to the fifth-generation aircraft India is developing with Russia. However, given the slow rate of Indian procurement, it is an open question whether the Rafale will ever fill that role. The air force is also upgrading its refueling, airborne early warning, and lift capabilities through a variety of foreign acquisitions. It is also keen to acquire better command-and-control capabilities, along with surveillance platforms, and, at a future stage, military space capabilities (although Indian military space doctrine appears to be nonexistent at this stage).

The navy also faces modernization challenges as it seeks to build a maritime fleet capable of blue water power projection as well as coastal security. The navy currently has about 150 ships in its inventory, which will likely decrease to approximately 70 ships before eventually building back up to 200 ships.[13] The Indian navy has comparatively had more success than its sister services in procuring new capabilities. In addition to Russian procurements, Indian shipyards have been growing in number and capacity and are slowly replacing many of the aging platforms for the Indian navy's growing global role.[14] India's procurement of the former Russian aircraft carrier *Gorshkov*, along with its own indigenous aircraft carrier design, is aimed at eventually giving India a three-carrier capability.[15] India could deploy one carrier each with its western and eastern naval commands, while the third carrier undergoes maintenance and training for upcoming deployments. India is also building its submarine capability through a combination of foreign procurement and indigenous construction with the nuclear-powered *Arihant*, which is reportedly scheduled to enter service in 2012 and will advance India's goal of developing a nuclear triad.[16]

Lost in all of this modernization has been a joint approach to defense acquisition. While each service has been focused on its respective needs, there has been little movement toward integrating the services' various capabilities toward a joint force. The absence of a Chief of Defense Staff (CDS) to arbitrate various budget requests from the services stymies the development of a joint force. While India does have an Integrated Defense Staff (IDS), it has minimal authority to make the tough decisions needed to foster a joint approach to weapons acquisition. Despite recommendations by the Kargil Review Committee after the Kargil War to establish a CDS position, little has been done, partly due to institutional resistance from the services, which feel their service equities could be harmed with a CDS from a different service passing judgment on their respective service requirements.[17]

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12. "Govt to Sanction More Fighter Aircraft Squadrons for IAF," *Indian Express,* February 12, 2011, http://www.indianexpress.com/news/govt-to-sanction-more-fighter-aircraft-squadrons-for-iaf/748872/0. Each squadron contains 18 to 20 aircraft.
13. Interview with Indian shipyard officials, Mumbai, India, December 9, 2011.
14. Interview with Indian industry official, Mumbai, India, December 9, 2011.
15. "Indian Navy Plans Three Aircraft Carriers," Indian Defence, October 29, 2010, http://www.indian-defence.com/indian-navy-plans-three-aircraft-carriers-75/.
16. Huma Siddiqui, "N-powered Arihant to be ready by '12 end," *Financial Express,* December 6, 2011, http://www.financialexpress.com/news/npowered-arihant-to-be-ready-by-12-end/884456/1.
17. Cohen and DasGupta, *Arming without Aiming,* 41–45.

2 AMERICA AND THE COMPETITION

Enter the United States

The United States has been selling defense equipment to India on a limited basis for some time, but sales have notably increased since 2001. Table 1 outlines major U.S. arms sales to India since 1983. U.S. sales encompass a wide range of capabilities, including aerial cargo and surveillance platforms, land-based radars, ship-based helicopters, weaponry, engine technology, and one amphibious transport dock (ex-USS *Trenton*).

The U.S. reemergence in the Indian defense market after 2001 has intensified the competition for countries that have had a long history of operating in India. The U.S. presence in the market has forced Indian officials to deal with the myriad requirements that come with buying U.S. hardware, including licensing, technology transfer procedures, end-use monitoring, agreements for secure communications and mapping data, as well as a need to think about life-cycle costs when comparing the cost of U.S. defense platforms against other comparable systems. Learning how the United States sells its equipment through the Foreign Military Sales (FMS) system has been a new experience for Indian officials, who are more accustomed to procedures that typified their relations with Russian counterparts throughout the Cold War, as well as the French, who have been selling equipment to India since 1982.[1]

Table 1: Major U.S. Arms Sales to India

Type of equipment (quantity)	Year of order	Value of deal (USD)
TPE-331 (112)	1983	Not available
LM-2500 (6)	1999	Not available
AN/TPQ-37 Firefinder (8)	2002	Part of $142–190 million deal
AN/TPQ-37 Firefinder (4)	2003	Part of $142–190 million deal
LM-2500 (4)	2003	Not available
F404 (17)	2004	$105 million
Austin (1)	2006	$48 million (ex-USS Trenton)
S-61/H-3A Sea King (6)	2006	$39 million (ex-U.S.)
F404 (24)	2007	$100 million
C-130J-30 Hercules (6)	2008	$962 million
P-8I Poseidon (8)	2008	$2 billion
CBU-97 SFW (512)	2010	$258 million

1. Brian K. Hedrick, "India's Strategic Defense Transformation: Expanding Global Relationships," *Letort Papers,* November 2009, p. 13.

Table 1 *(continued)*

RGM-84L Harpoon-2 (20)	2010	$170 million
C-130J-30 Hercules (6)	2011	Contract not yet signed
C-17A Globemaster-3	2011	$4.1 billion
Mk-54 MAKO (32)	2011	Contract not yet signed (potential $86 million deal)
F414 (99)	2011	$800 million
Total		Approximately $8.83 billion
		Note: This figure only includes major conventional hardware, so it will not include smaller sales such as special-forces equipment. Also, the figure does not include the TPE-331 or the LM-2500.

Source: Stockholm International Peace Research Institute, SIPRI Arms Transfer Database, http://www.sipri.org/databases/armstransfers.

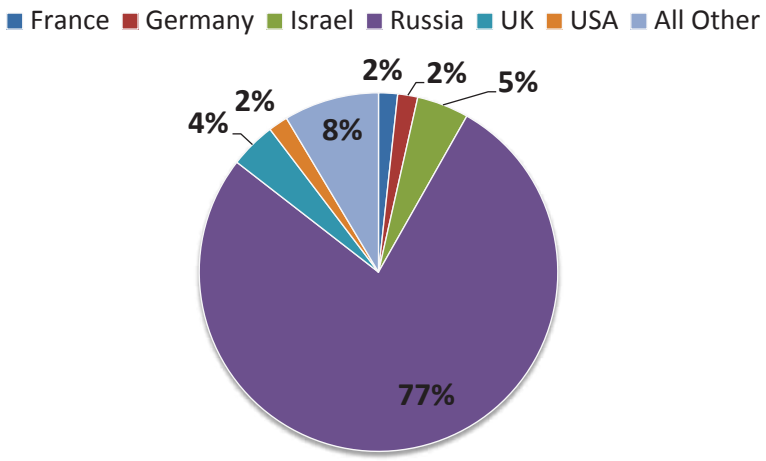
U.S. aims to develop a wider partnership with India also distinguish it from other countries such as Russia or France, many of which have traditionally viewed India mainly as a commercial market. This latter approach suited New Delhi's historically nonaligned position during the Cold War, as countries that sold defense goods to India did not ask for much more than payment for the equipment and the services they rendered.

However, this trend has been changing since the 1990s as India has sought to expand the scope of its defense engagements to include exercises as well.[2] India has developed a number of "strategic partnerships" since the late 1990s through more wide-ranging defense engagements. New Delhi is still careful to maintain balance among its key defense partners to prevent excessive alignment with any single power, and to promote itself as a center of power within the global system. Nevertheless, India continues to rely heavily on Russia as its primary supplier of defense equipment (figure 8).

As the United States seeks to become more engaged in the Indian defense market, it is useful to examine some of the factors that contribute or detract from a country's success when operating in India. The United States can shape or control some of these factors, but others are beyond its control as it will take time for the United States and India to build up a longer history of a productive partnership.

2. Ibid., p. 14.

Figure 8: Indian Defense Import Volume by Country (2000–2011)[3]



Source: Stockholm International Peace Research Institute, SIPRI Arms Transfer Database, http://www.sipri.org/databases/armstransfers (accessed: April 3, 2012), based on SIPRI trend-indicator values, or TIV; see http://www.sipri.org/databases/armstransfers/background/explanations2_default.

Historical Legacy and Political Reliability

The history of bilateral relationships matters greatly to India, and can have an impact on a country's prospects for defense deals. In this regard, Russia and France have built solid reputations within India as staunch friends that have stood by India at pivotal points in its history. Russia was forthcoming with its most advanced military hardware throughout the Cold War, and has continued to maintain cordial relations with India after the dissolution of the Soviet Union by refraining from instituting sanctions after India's nuclear tests in 1998, and by signing a long-term agreement on military technical cooperation that only recently expired.

France has also acquired a reputation for political reliability within Indian political circles. After India's nuclear tests in 1998, France refrained from imposing sanctions, which endeared Paris to New Delhi's leadership.[4] France has also supported India with nuclear technology[5] and supports India's bid for the UN Security Council.[6] Paris also took a decision in May 2011 in which it agreed to cease all sales of heavy military equipment to Pakistan, which had been a sore point for New

3. Stockholm International Peace Research Institute, SIPRI Arms Transfer Database, http://www.sipri.org/databases/armstransfers (accessed: April 3, 2012), based on SIPRI trend-indicator values, or TIV; see http://www.sipri.org/databases/armstransfers/background/explanations2_default.

4. Sujan Dutta, "World's Biggest French Kiss," *Telegraph,* February 1, 2012, http://www.telegraphindia.com/1120201/jsp/frontpage/story_15077648.jsp. While France did not impose sanctions, it did condemn the tests as a member of the UN Security Council. See UN press release, "Security Council Condemns Nuclear Tests by India and Pakistan," June 6, 1998, http://www.un.org/News/Press/docs/1998/sc6528.doc.htm.

5. "France reiterates commitment to nuke deal," *Times of India,* July 6, 2011, http://articles.timesofindia.indiatimes.com/2011-07-06/india/29742721_1_nuclear-fuel-nuclear-partners-enr.

6. "Britain, France back India's UN Security Council bid," *Deccan Herald,* June 27, 2011, http://www.deccanherald.com/content/77751/britain-france-back-indias-un.html.

Delhi.[7] That decision, combined with the European Union's ban on selling weapons to China,[8] has removed key strategic obstacles to deeper Indo-French defense trade.

The French fighter Rafale, which was selected in the MMRCA competition.

Understanding User Requirements and Customization

Understanding a military's user requirements and the conditions under which they operate is an important part of cultivating any new defense market. Israel has done a masterful job of not only providing top flight equipment, but also of acquiring an intimate understanding of the ground level user requirements and then customizing the equipment for Indian use. Indian industry officials interviewed for this report repeatedly lauded Israeli efforts to truly understand the nature of the Indian serviceman's needs on the ground. Israeli company officials frequently visit Indian service personnel in the field and fastidiously note the conditions under which particular units operate. They then apply this knowledge to customizing their equipment to better withstand local conditions from the extreme heat of the Jaisalmer Desert to the frigid heights of the Himalayas. Israel's willingness to customize their equipment for Indian usage has garnered widespread praise throughout the Indian armed forces, and its reputation for impeccable support of its equipment strengthens its position. Indian users have been impressed with the ease and

The Barak Surface-to-Air Missile System provided by Israel.

7. "France Stops Military Equipment Sales to Pakistan," *Economic Times,* May 27, 2011, http://articles.economictimes.indiatimes.com/2011-05-27/news/29589803_1_french-defence-pakistan-for-heavy-equipment-notably-naval-equipment.

8. He Wei, "EU considers lifting 21-year-old China arms embargo," *China Daily,* January 1, 2011, http://www.chinadaily.com.cn/world/2011-01/01/content_11784396.htm.

quality of Israeli support for its hardware which has built tremendous confidence in the reliability of Israeli defense equipment.[9]

The French have also been attentive to India's user requirements, especially in times of national crisis. In 1999, during India's conflict with Pakistan over Kargil, France quickly responded with much needed modifications to India's Mirage fighters (along with the Israelis' speedy provision of laser-guided bombs) which were pivotal to India's military response during the crisis.[10]

Technology Transfer, Coproduction, and Codevelopment

Technology transfer is one of the primary metrics India uses in judging its interactions with nations that have superior technical military capability. Many of India's traditional vendors have had liberal tech-transfer policies that have facilitated the transfer of not only technology, but of coproduction capabilities, in order to facilitate India's ability to manufacture its own spares and to maintain its own defense equipment. However, while Russia, France, and Israel have all provided liberal amounts of tech transfer over the years, they have not been forthcoming with the know-how necessary for India to begin developing its own defense equipment.[11] More recently, as India has gained economic and military power, it has sought to break out of the buyer-seller paradigm and transition to more coequal partnerships where it engages in codevelopment arrangements with vendor countries. Attuned to these demands, Russia has agreed to a range of codevelopment arrangements, including the Brahmos missile,[12] the Multi-Role Transport Aircraft (MTA),[13] and the fifth-generation fighter aircraft (FGFA).[14] France, Israel, and other countries are also moving toward this model of collaboration.

The SU-30 MKI is an example of Russia's willingness to provide top-of-the-line defense technology.

Questions remain, however, about India's capacity to contribute to these codevelopments. While India has apparently made substantial contributions to the Brahmos project with the inertial navigation system,[15] the FGFA (actually the Russian PAK FA

9. Interview with Indian defense industry official, December 1, 2011, New Delhi, India.
10. K.P. Nayar, "Why India Chose Rafale," *Telegraph,* February 6, 2012, http://www.telegraphindia.com/1120206/jsp/frontpage/story_15098135.jsp.
11. Interview with Indian defense industry official, December 1, 2011, New Delhi, India.
12. BrahMos Aerospace, http://www.brahmos.com/home.php.
13. "India-Russia MTA Project Runs into Rough Weather," liveMint.com, October 23, 2011, http://www.livemint.com/2011/10/23170353/IndiaRussia-MTA-project-runs.html.
14. Pavel Aksenov, "Russia-India Arms Deal Backed by Historic Ties," BBC.com, December 21, 2010, http://www.bbc.co.uk/news/world-europe-12053004.
15. "Joint Venture," BrahMos Aerospace, http://www.brahmos.com/content.php?id=1.

T-50) is already well developed,[16] and the MTA has been delayed due to Indian dissatisfaction over the distribution of responsibilities.[17]

Equipment Performance and Follow-up Maintenance

Follow-up service and maintenance support for India's defense equipment have been a vexing problem for the Indian armed forces, especially when dealing with Russian equipment. After the break-up of the Soviet Union, India had a difficult time finding spares for its equipment as spare-parts manufacturers were scattered across a host of newly independent states. While Russia eventually revived its defense industry in 1999 under Vladimir Putin,[18] the availability of spares is still a problem for India. There are also issues of delays in the delivery of various defense purchases, the most notable of which is the Russian aircraft carrier *Gorshkov*, which has ballooned in cost and caused elevated tensions between the Indian navy and Russian officials.[19] India has tried to compensate for the lack of spares by manufacturing its own replicas, but these attempts have been largely unsuccessful. India has also sought alternative suppliers in Israel, or in the Eastern European countries, which has led to Russian manufacturers punishing consumers who circumvent their supply chain.[20]

New Delhi has also been frustrated with Moscow over non-performance of military hardware, as well with weapons systems failing to perform as advertised. In 2009, for example, the Indian comptroller and auditor general issued a report stating that half of the Russian-made R77 Beyond Visual Range air-to-air missiles that were tested failed to hit targets, or failed ground tests because of expired shelf lives.

Israel, by contrast, has had an excellent reputation for equipment performance, as well as follow-up support and maintenance. The Israelis have also been more forgiving of Indian accidents with military equipment and readily provide replacements without undue hassle.[21]

Bureaucratic Issues and Cultural Awareness

India is notably averse to signing paperwork or agreements that it perceives will impinge on its sovereignty. This reluctance to sign required U.S. paperwork such as Technical Assistance Agreements (TAAs), contract modifications, information exchange agreements, and assorted other

16. Konstantin Bogdanov, "India's Arms Market: Everybody In, Nobody Out," RIA Novosti, March 30, 2012, http://en.ria.ru/analysis/20120330/172479402.html.

17. "India-Russia MTA Project Runs into Rough Weather," liveMint.com, October 23, 2011, at http://www.livemint.com/2011/10/23170353/IndiaRussia-MTA-project-runs.html.

18. Jyotsna Bakshi, "India-Russia Defence Cooperation," *Strategic Analysis,* 30, no. 2 (April–June 2006): 451.

19. "Waiting for Gorshkov…" *Defense Industry Daily,* October 18, 2011, http://www.defenseindustrydaily.com/ins-vikramaditya-may-hit-delay-cost-increases-03283/; Rajaram Panda, "India-Republic of Korea Military Diplomacy," *Journal of Defense Studies* 5, no. 1 (January 2011).

20. "India sails new nuclear submarine home," Agence France-Presse, January 23, 2012, http://www.google.com/hostednews/afp/article/ALeqM5gg6wQvzvi-OPKqCYlIxKr6QJ8-Tg?docId=CNG.d9f39da78b317d22124738a3a8be376b.2a1.

21. Interview with Indian defense industry official, December 1, 2011, New Delhi, India.

items for facilitating greater cooperation is cited by many U.S. defense and industry officials as a key obstacle to deeper cooperation. For India, there is a distinct preference for signing paperwork on its own terms and conditions that can be unacceptable to vendors and governments. The Israelis, however, have been able to employ a more accommodating stance toward standard Indian contracts which has endeared them to the Indian bureaucracy.

Culture also matters when dealing with India. Some Indian officials feel western defense suppliers do not view them as equals, which has a tendency to annoy Indian officials. Israel, by contrast, is perceived as speaking to their Indian counterparts on equal terms rather than as junior partners, which has helped make them a preferred seller in India. Finally, Tel Aviv is attuned to India's concerns about its defense partners selling weaponry to Pakistan and will most likely refrain from doing so, furthering the trust between India and Israel.

Corruption

India has struggled with corruption in the defense sector for years and only recently has it undertaken efforts to make the defense acquisition process more transparent and corruption-free. The incumbent government led by the Congress Party is especially sensitive to corruption given its experience during the Bofors artillery scandal in 1989 in which Indian officials were accused of taking kickbacks from Bofors officials (a Swedish company). The scandal eventually led to the downfall of the Rajiv Gandhi-led government, from which the Congress Party did not recover until 2004.[22]

Since defense deals can have high political stakes, the Indian government has tried to project an image of a system cleaning up its act. In October 2006, the Congress-led government appointed A.K. Antony as defense minister.[23] Antony, a Gandhi loyalist with a reputation for being corruption-free, was appointed primarily to ensure no Bofors-like scandal occurs within the Defense Ministry that could threaten the Congress Party's hold on power.

Antony's scrupulous approach to ensuring there is no perception of corruption has led to delays in defense acquisition, as each deal is scrutinized for any hint of wrongdoing. These delays have led to media criticism that Antony, while pursuing the laudable goal of a clean acquisition process, is threatening the country's national security by delaying the procurement of key military equipment needed to hedge against the potential threats of Pakistan and China.[24]

It is not clear, however, whether the increased scrutiny of procurements has led to a decrease in corruption. Six arms firms of various nationalities were banned in March 2012 following an investigation by India's Central Bureau of Investigation.[25] Then, in the same month, the incumbent Army chief, General V.K. Singh, made the sensational revelation that he had been offered a

22. Cohen and Dasgupta, *Arming without Aiming,* p 37.

23. "A.K. Antony inducted as Defence Minister," *Business Line:* The Hindu, October 25, 2006, http://www.thehindubusinessline.in/2006/10/25/stories/2006102503710100.htm.

24. Ajai Shukla, "The Cost of Antony's Halo," *Business Standard,* February 27, 2012, http://www.business-standard.com/india/news/ajai-shuklacostantony/s-halo/386534/. It is important to note that delays in defense deals did not begin with Antony. Long before his arrival, the Indian Defence Ministry had a long history of delayed acquisitions.

25. "Indian Defense Ministry bans 6 arms firms," UPI.com, March 6, 2012, http://www.upi.com/Business_News/Security-Industry/2012/03/06/Indian-Defense-Ministry-bans-6-arms-firms/UPI-30341331064890/?spt=hs&or=is.

140-million-rupee bribe for accepting Tatra trucks that were sub-standard for army use.[26] Despite efforts to foster a clean-up of the procurement system, there is still much work to be done to ensure integrity within the procurement process.

For the United States, this environment presents an opportunity to help change the system from within. U.S. companies often tout the U.S. Foreign Corrupt Practices Act (FCPA)[27] as a key selling point and this has helped them accrue a reputation for clean business practices in India. With the U.S. presence in India, Indian business leaders and commentators are hopeful that other vendors will gradually become more scrupulous about their respective business practices as Indian officials increasingly look for all vendors to emulate the American example of integrity.

While the U.S. example of integrity may assist in keeping other vendors honest, it will not be a cure for the problem. Some Indian business officials have seen the influx of offsets as an additional temptation for continued corruption, and the influx of more foreign money, combined with the inability of the Defense Public Sector Undertaking (DPSU) to provide for the national defense, will continue to provide opportunities for unscrupulous individuals who view defense deals as a possible source of enrichment.

26. "Army Chief General V.K. Singh's Bribe Claim: CBI Grills Tatra's Ravi Rishi," ibnlive.com, March 30, 2012, http://ibnlive.in.com/news/gen-singhs-bribe-claim-cbi-asks-tatra-for-records/244182-3.html.

27. U.S. Department of Justice, "U.S. Foreign Corrupt Practices Act," 1977, http://www.justice.gov/criminal/fraud/fcpa/.

3 CHALLENGES TO DEFENSE TRADE COOPERATION

While U.S. and Indian defense trade relations have made significant advances in recent years, there are a number of challenges that both countries must effectively address to deepen the partnership. Essentially, there are five categories of challenges facing the United States and India: strategic, political, procedural and technical, bureaucratic, and communications and education. Each category of challenges presents unique obstacles that will not be easily overcome in the near term. However, consistent effort applied over the long term will allow both sides to make discernible progress in strengthening this vital component of the overall relationship.

Strategic Challenges

Since the warming of bilateral relations began earlier this century, both the United States and India have touted converging security interests. A review of the 2005 New Framework for Defense Cooperation, signed by then-defense secretary Donald Rumsfeld and then-defense minister Pranab Mukherjee, highlights many of these areas, to include protecting the free flow of commerce, preventing the spread of weapons of mass destruction (WMDs), defeating terrorism, and maintaining security and stability.[1]

Then–defense secretary Donald Rumsfeld and then–defense minister Pranab Mukherjee signed the 2005 New Framework for Defense Cooperation.

On defense trade, in particular, the framework calls for both sides to "expand two-way defense trade between our countries. The United States and India will work to conclude defense transactions, not solely as ends in and of themselves, but as a means to strengthen our countries' security, reinforce our strategic partnership, achieve greater interaction between our armed forces, and build greater understanding between our defense establishments" (appendix A). The agreement goes on to state, "In the context of defense trade and a framework of technology security safe-

1. "New Framework for the U.S.-India Defense Relationship," June 28, 2005, http://www.indianembassy.org/india-us-defense-relations.php.

guards, increase opportunities for technology transfer, collaboration, coproduction, and research and development."[2]

However, despite the official rhetoric of converging strategic interests, there needs to be an in-depth examination of strategic objectives for defense trade. Understanding where strategic objectives align (and diverge) will provide a useful point of departure for determining the possibilities and limitations for future cooperation.

U.S. Objectives

Developing the Ability to Cooperate (Interoperability)

Common defense equipment can greatly enhance the ability for two states to engage in closer defense collaboration. Possessing common equipment allows greater personal interaction between militaries, joint training on tactics, techniques, and procedures, as well as technical courses about the particular equipment that both Americans and Indians employ. Common equipment can also allow for a deeper discussion on how to employ a particular defense system in the context of larger discussions about doctrine and strategy. The sale of U.S. equipment provides the basis for a deeper strategic partnership in which New Delhi and Washington can work together on issues of common strategic concern, such as maritime security, piracy, weapons proliferation, and terrorism.

For U.S. military planners, having common defense platforms with partners is a significant force multiplier that promotes the ability for both armed forces to cooperate more seamlessly, and facilitate the ability of both countries to work in coalitions with other countries that possess similar platforms. However, as the United States seeks ways to cooperate with India, it is mindful of the language it employs by refraining from using the term "interoperability," which has been an anathema to Indian officials. To New Delhi the concept of interoperability connotes a quasi-informal military alignment that is resisted by the Indian leadership.[3] To avoid these sensitivities, U.S. military planners and strategists have resorted to using terms such as the "ability to cooperate" in lieu of interoperability. Given these sensitivities, Washington will need to accept limits to how far New Delhi will go in allowing its defense platforms to be interoperable with U.S. systems. The practical implications of this realization require U.S. military planners to take a restrained approach in planning for Indian assistance in times of crises.

Helping India Address Its Security Challenges

Washington has a strong interest in ensuring India is able to adequately address its national security threats while maintaining regional stability in South Asia. Located in a key geostrategic position astride vital sea lanes in the Indian Ocean, India faces a complex array of security challenges, including regional threats, coastal security, and terrorism. Assisting India to build the wherewithal to defend itself and address emerging threats such as piracy and natural disasters can promote regional stability and provide global security.

2. Ibid.

3. Sourabh Gupta, "U.S.-India Defence Ties: The Limits to Interoperability," *East Asia Forum,* July 31, 2011, http://www.eastasiaforum.org/2011/07/31/us-india-defence-ties-the-limits-to-interoperability.

On China in particular, Indian officials have been concerned at Beijing's growing military power and influence around India's periphery. India's defeat in 1962 still resonates today within the halls of South Block,[4] and the Indian strategic community frequently expresses concerns about China's increasing maritime capabilities, modernizing infrastructure in western China, and ambiguous strategic aims. U.S. policymakers do not publicly mention India's China concerns as a rationale for bilateral defense ties due to Indian concerns that U.S. assistance for its armed forces might be construed in Beijing (and elsewhere) as an attempt to hedge against China. However, Washington has a clear interest in assisting New Delhi build defense capabilities that will enhance its confidence against any possible contingency it might face vis-à-vis Beijing. India still lags significantly behind China in conventional military capability and cannot hope to match China anytime in the near future. The best it can hope for is in the near-term acquiring qualitatively superior platforms that can provide New Delhi with a respectable degree of self-sufficiency that would give Beijing pause during any potential conflict.[5] U.S. equipment sold to India does not address all key shortfalls, but the provision of U.S. hardware can have a demonstration effect of U.S. commitment to its relationship with India.

India-Pakistan relations present a particularly difficult case for U.S. policymakers. Current U.S. relations with these countries are on divergent trajectories as U.S.-Pakistan ties deteriorate. The key policy challenge for Washington is to maintain regional stability between the nuclear-armed foes while attempting to de-hyphenate[6] relations between them. U.S. policy toward Pakistan and its effect on U.S.-India defense trade will be discussed more fully later in this report.

Economic Benefits

Aside from strategic considerations, defense sales provide significant commercial benefits for U.S. defense companies and, by extension, the U.S. economy. In less than a decade, the United States sold billions of dollars worth of military hardware to India,[7] which has translated to thousands of jobs.[8] With the United States facing defense budget cuts in the coming years, U.S. defense companies will likely seek more foreign sales in Asia, to include India.[9] While overseas markets will play a larger role for U.S. corporations, it remains to be seen how much India will factor into the

4. The term "South Block" refers to the collection of government of India buildings in New Delhi where key decisions on national security and military matters are discussed and adjudicated.

5. "Old Weapons, New Threats Fuel India's Military Build-Up," Agence France-Presse, February 2, 2012; Saurabh Joshi, "India-China Military Gap 'too wide to bridge': Navy Chief" *Stratpost,* August 10, 2009, http://www.stratpost.com/india-china-military-gap-%E2%80%98too-wide-to-bridge%E2%80%99-navy-chief.

6. The term "de-hyphenate" is used in this report to refer to U.S. policy attempts to separate U.S. bilateral relations with India and Pakistan and cultivate each bilateral relationship separately on its own merits.

7. Six billion dollars in the last decade (as of 2011), http://articles.cnn.com/2011-11-02/us/us_india-military-equipment_1_arms-sales-pakistan-india-one?_s=PM:US; http://www.defense.gov/pubs/pdfs/20111101_NDAA_Report_on_US_India_Security_Cooperation.pdf.

8. S. Amer Latif and Karl F. Inderfurth, "The Long View of Indo-U.S. Ties," *Wall Street Journal,* May 12, 2011. The C-17 deal alone is expected to create 22,000 jobs for the U.S. economy. Finding statistics on the total number of jobs created by defense sales is exceedingly difficult given the way the Commerce Department categorizes defense sales, often lumping them in with "manufacturing" or "aviation" categories without any way of disaggregating the numbers.

9. Gopal Ratnam, "Defense Contractors Look Abroad as U.S. Defense Spending Shrinks," Bloomberg.com, January 27, 2012, http://www.bloomberg.com/news/2012-01-26/u-s-defense-companies-look-abroad-as-pentagon-spending-slows.html.

bottom lines and business plans of U.S. companies. The slow nature of Indian defense acquisition, coupled with the high costs of competing in Indian defense tenders, could be a deterrent for U.S. companies seeking a slice of the Indian defense market. Large corporations that have substantial resources will be better able to undertake a long-term approach to the Indian defense market, unlike small and mid-size enterprises (SMEs) that may not have the fiscal patience to wait for contracts to materialize from the sclerotic Indian acquisition system.

Building Personal Relationships

Close people-to-people contacts are critical to building familiarity, understanding, and overall defense ties, but are sometimes overlooked in defense sales. With the purchase of defense equipment comes a host of opportunities for interaction between the respective armed forces through training courses,[10] exchange of maintenance personnel, and exercises that bring together military personnel to think through various contingencies. Given the trust deficit that still exists toward the United States within some quarters of the Indian defense establishment, people-to-people contacts are critical for closing the gap and building long-term relationships. Such relationships can be useful during times of crisis or informally smoothing out bureaucratic misunderstandings that can sometimes arise between governments.

People-to-people contacts between U.S. and Indian military personnel are critical for bridging the trust gap and building long-term relationships.

Indian Objectives

When considering India's objectives in defense trade, it is useful to first get some brief historical perspective to more fully understand the evolution of New Delhi's defense policymaking process. India's emphasis on defense technology dates back to the early days of the Indian republic in which the ruling Congress Party believed that superior technology and the European creation and subsequent manipulation of alliances led to Western dominance during the colonial era. The Indian army was also led by British generals for several years after independence and was the last vestige of the British Raj, which fed government suspicions about the army's loyalties. India's large geographic area provided New Delhi the luxury of strategic insulation from external threats despite its disputed border situation. The combination of these circumstances led to three conditions that shaped the formulation of Indian defense policy:

- Civilian dominance of the military with a limited role for the active-duty forces in national security decisionmaking.

10. A good example is training courses for the Lockheed Martin C-130J aircraft. According to an official at the U.S. embassy in New Delhi, India sent more than 150 students in fiscal years 2010 and 2011 to C-130J training courses. These personnel included trainers, maintainers, navigators, and pilots. These numbers put the number of C-130 training courses on par with international military and education training courses.

- A foreign policy of nonalignment that eschewed alliances or partnerships that might put New Delhi in a dependent position for its national security.
- An emphasis on acquiring the latest defense technology with the aim of developing self-reliance in providing for its own defense needs.[11]

Despite the end of the Cold War and the emergence of India as a global power, these core principles are still largely intact today.

Building Indigenous Defense Capacity

India's desire to build its own defense production capacity is driven by a combination of its desire to reduce its vulnerability to foreign defense supply, a future vision of becoming a defense exporter, and a view that a key mark of a great power is to be able to indigenously produce defense equipment.

The Indian experience with the United States during the Cold War reinforced India's conviction to become self-sufficient in defense supply. In 1962, Prime Minister Nehru wrote to President Kennedy urgently pleading for U.S. military assistance to fight the Chinese who were threatening to invade eastern India. Nehru made specific requests for fighter aircraft and accompanying training assistance that were never granted. While the Chinese eventually declared a unilateral cease fire, it was a watershed event for Indian security planners in the need for India to develop its own defense capabilities.[12] In 1965, India once again was subjected to sanctions as the United States cut off defense supplies to India, as well as to Pakistan during the Indo-Pakistan War.[13] Finally, in 1998, the United States imposed Glenn Amendment sanctions on India after New Delhi conducted nuclear tests, which led to a ban on foreign military sales under the Arms Export Control Act.[14] With this historical legacy, the United States has had to deal with persistent Indian concerns about U.S. reliability. Those concerns still resonate today.

Aside from concerns about supplier reliability, India views the development of its own defense industrial base as a key symbol of becoming a true global power. While the other elements of India's national power such as its economy, political influence, and soft power have grown along with the emergence of its nuclear capability, India views its inability to become self-sufficient in defense as a major lacuna to becoming a credible power on the world stage.

India also seeks to become a major exporter of defense goods in the future, but its prospects have been limited by its inability to provide for its own defense needs and concerns about promoting instability in other regions through defense sales. Related to defense exports, there has been much discussion within Indian defense circles of India becoming a key link in the supply chain for global defense firms.[15] An example of this possibility includes Hindustan Aeronautics Lim-

11. Findings from CSIS Roundtable, September 29, 2011, Washington, D.C.
12. Inder Malhotra, "J. N. to JFK, 'Eyes Only'" *Indian Express,* November 15, 2010, http://www.indianexpress.com/news/j.n.-to-jfk-eyes-only/711276/0.
13. Sangeeta Thapliyal, "Indo-Pak Conflict and the Role of External Powers," Institute for Defence Studies and Analyses, New Delhi, http://www.idsa-india.org/an-oct8-8.html.
14. Robert Hathaway, "Confrontation and Retreat: The U.S. Congress and the South Asian Nuclear Tests," Arms Control Association, http://www.armscontrol.org/act/2000_01-02/rhchart.
15. Vivek Lall, "India's Potential to Be a Global Aerospace Powerhouse," *India Strategic,* July 2010, http://www.indiastrategic.in/topstories658.htm.

ited (HAL) producing bomb doors for the Boeing F/A-18 aircraft.[16] Acquiring U.S. equipment and, more important for India, U.S. know-how through coproduction and codevelopment, could contribute to India's ability in becoming a net defense exporter. Indeed, in fiscal year 2011, Indian aerospace and defense exports amounted to $2 billion, 96 percent of which were for parts and components.[17] India has exported its own equipment on a small scale with Dhruv helicopters to customers such as Nepal, the Maldives, and Ecuador.[18] While the prospects for India to be a major exporter of defense equipment appear to be remote in the near term, India may view U.S. hardware and associated know-how as a way to bolster its prospects to become a significant player in the global defense market in the future.

Addressing External National Security Challenges

It has become almost axiomatic that India resides in a tough neighborhood and has a complicated national security environment. While India aspires to provide for its own security needs, the hard fact remains that India continues to import approximately 70 percent of its military hardware and produces only 30 percent.[19] While New Delhi will continue to resist reliance on Washington for all its defense needs, the entry of U.S. defense equipment into the Indian defense market provides an added degree of choice for meeting India's national defense requirements.

India is also keenly aware that as it modernizes, it must contend with Chinese and Pakistani modernization. While India's newfound relationship with the United States has been noted by China, it has not yet produced the strategic effects of changing Chinese behavior in its bilateral dealings with India. Instead of making China more accommodating of India, Chinese behavior toward India since 2006 has hardened, including border incursions by Chinese troops over the Line of Actual Control and the denial of visas to Indian officers from disputed areas

Chinese military honor guard. While modernizing, India must contend with a challenging neighborhood highlighted by Beijing's own defense modernization and unclear strategic intentions.

16. Boeing News Statement, "Boeing Delivers 1st Super Hornet Featuring HAL Gun Bay Door," July 26, 2010, http://boeing.mediaroom.com/index.php?s=43&item=1350.

17. "Aerospace and Defence Exports Likely to Reach USD 2 Billion in 2011–12: ASSOCHAM," Associated Chambers of Commerce and Industry of India, press release, January 26, 2012, http://www.assocham.org/prels/shownews.php?id=3294.

18. Bharat Verma, "HAL: Transforming into a competitive player," *India Defence Review,* February 10, 2011, http://www.indiandefencereview.com/defence%20industry/HAL-Transforming-into-a-competitive-player.html. Also see "Dhruv helicopter sold to Ecuador air force crashes," *Times of India,* October 29, 2009, http://articles.timesofindia.indiatimes.com/2009-10-29/india/28095188_1_dhruv-helicopter-dhruv-fleet-air-mishap.

19. Giles Hewitt, "Old weapons, new threats fuel India's military build-up," AFP, February 1, 2012, http://www.google.com/hostednews/afp/article/ALeqM5jSX5gL3J0eN97TMzg_a3WXMNmqUQ?docId=CNG.fb962feea373c177fa8b0366a1e124f3.751.

such as Arunachal Pradesh participating in military and civilian delegations to China. Such provocative behavior has led to the conclusion among some officials and strategic analysts to conclude that India cannot afford to antagonize China and must calibrate its relationship with Washington accordingly.

In a speech to the National Maritime Foundation in August 2009, then-Indian navy chief of naval staff Admiral Sureesh Mehta suggested a different approach when he said, "The traditional or 'attritionist' approach of matching 'Division for Division' must give way to harnessing modern technology for developing high situational awareness and creating a reliable stand-off deterrent."[20]

India's slow pace of modernization is also causing concern vis-à-vis Pakistan. India's advantage over Pakistan has traditionally been 2:1 (if not greater) across most areas of conventional weaponry.[21] However, India's sclerotic acquisition system and rapidly aging equipment has begun to worry some Indian military leaders that India's traditional military advantage may be eroding.[22] Pakistan, by contrast, has been purchasing a range of defense systems from China, France, the United States, and other sources without concerns about acquisition transparency, technology transfer, coproduction, or offsets—all of which are Indian priorities.

Aside from China and Pakistan, the Indians are also increasingly concerned about nontraditional threats such as piracy, natural disasters, and coastal exploitation by terrorists like the November 2008 Mumbai attacks. These security challenges are in addition to India's traditional leadership role in the area of peacekeeping. Each of these mission sets brings its own unique requirements for which U.S. equipment delivers solutions, but the challenge is getting India to develop an acquisition process that can prioritize its acquisitions based on a national security strategy that does not exist.[23]

The INS Mysore conducting maritime security operations. India is increasingly concerned about challenges such as terrorism, natural disasters, and piracy.

20. Admiral Sureesh Mehta, "India's National Security Challenges—An Armed Forces Overview," speech at the National Maritime Foundation, August 10, 2009, http://www.c3sindia.org/india/729.

21. Rodney Jones, "Conventional Military Imbalance and Strategic Stability in South Asia," SASSU Research Paper, March 2005, http://www.policyarchitects.org/pdf/Conventional_imbalance_RJones.pdf.

22. Shiv Aroor and Durga Nandini, "IAF losing edge over PAF," *India Today,* April 20, 2011, http://indiatoday.intoday.in/story/iaf-losing-edge-over-paf/1/135843.html Also see, Ritu Sharma, "IAF Set to Lose Its Fighting Edge," newindpress.com, May 13, 2012, http://indiatoday.intoday.in/story/iaf-losing-edge-over-paf/1/135843.html.

23. Cohen and Dasgupta, *Arming without Aiming,* 43.

Different Objectives and Revised Expectations

Since the sorting out of obstacles to deepening U.S.-India bilateral relations began in earnest with the Next Steps in the Strategic Partnership (NSSP) in 2004, bilateral ties have been publicly characterized on both sides as on an upward trajectory as larger initiatives flowed from this initiative in the Bush and Obama administrations. Many U.S. officials were hoping this whirlwind of activity in which significant bureaucratic and political capital were expended to promote the relationship and facilitate India's rise would lead to a similar demonstration of commitment from the Indian side through the expedient implementation of the nuclear deal, the selection of a U.S. entrant in the MMRCA competition, and further steps by India to open up trade and investment. The aftermath of the MMRCA disappointment, and frustration over a failure to implement the nuclear deal, caused frustration and puzzlement in Washington as various quarters of the executive and legislative branches began to question India's commitment to the relationship. Further compounding Washington's frustration was India's abstention during UN Security Council votes on Libya and its concerns about U.S.-led sanctions on Iran.

India also had frustrations on its side with complaints about low volumes of technology trade and confusion about perceived inconsistencies on U.S. tech-transfer policies that fostered doubts about U.S. commitment to the relationship. Indian officials and commentators also felt New Delhi was demonstrating its commitment to the relationship with the award of several defense contracts worth billions of dollars. From an Indian perspective, the relationship has been moving quickly, perhaps quicker than many Indian officials are comfortable with given India's commitment to maintaining its strategic autonomy.

Each side has had expectations that have not been met to its satisfaction, leaving Washington and New Delhi yearning for more progress on their respective interests. This lack of mutual satisfaction on defense trade can be traced to inherent limitations rooted in political and security concerns, as well as differing views on how each side defines the strategic defense trade partnership.

For the United States, defense trade is aimed at building a partnership beyond mere defense sales. While the commercial value of defense deals is helpful for the U.S. economy, the sales are not an end in themselves. Washington views these sales as a key component of building a larger relationship in which the United States and India can leverage common platforms to address issues of common strategic concern (putting aside the use of the term "interoperability").

India views defense trade as an opportunity to acquire advanced U.S. technology and a deeper partnership with the United States in the areas of coproduction, and it hopes, codevelopment of weapons systems. India's goal is clearly to acquire, produce, and then eventually own and maintain the technology itself. New Delhi's focus for defense trade is different from the U.S. vision. While people-to-people contacts and the ability to cooperate on operational matters are important to the Indian military, they appear to be secondary considerations for Defense Ministry bureaucrats who prioritize technology acquisition and building indigenous capacity in their decisions on defense trade.

Moving forward, both sides need to recalibrate their respective expectations for this relationship. Recent progress on defense trade has been impressive but needs to account for the realities of markedly different objectives. Along with recalibrated expectations, the time horizons for this partnership should also be adjusted to account for the lack of familiarity that still exists between

the two countries' systems. The relationship should be viewed as a long-term enterprise[24] in which both sides better understand each other's bureaucratic and policymaking processes, and mitigate their respective expectations for near-term objectives.

Finally, Washington should temper its idea that assisting India's rise as a world power will somehow, ipso facto, lead to reciprocal benefits for its efforts. Providing incentives alone is not a strategy for building lasting ties. If the United States is going to assist India in building its defense industry, it must do so without expectations of defense deals or greater cooperation in return. Such an approach feeds into a transactional arrangement that will not serve either side well. While greater U.S. assistance for India's defense base will engender good will in New Delhi, it may not necessarily translate to tangible benefits in the near term. Such a prospect may be troubling to some quarters of the U.S. security establishment, but helping India build its defense industrial base could have significant strategic payoff for both countries in the long term.

Political Challenges

The next set of obstacles to the optimum path are political challenges that include the persistent trust deficit, the U.S. relationship with Pakistan, and domestic political considerations in both Washington and New Delhi that can negatively affect defense trade. Dealing with these political challenges is particularly difficult for policymakers since the dynamics in several of these challenges defy immediate solutions or are simply beyond their control. Effectively managing these challenges will largely depend on how committed India believes the United States is to building the relationship, whether the U.S. approach to Pakistan is seen by India as harmful to its interests, and how the political dynamics in each country frame the bilateral partnership.

Overcoming the Trust Deficit

The United States has done much to facilitate India's rise as a global power. But for a number of reasons, including a lingering trust deficit, New Delhi remains reluctant to meet U.S. efforts halfway on a range of bilateral initiatives, including signing certain defense agreements, assuaging U.S. concerns over nuclear liability issues, and cooperating more closely with U.S. military forces. All of this combines to create a U.S. perception among some that India is either not as interested or not as willing to fully contribute to building a long-term partnership.

India still has doubts about the partnership due to its recent history of U.S. sanctions as recently as 1998, and concerns about U.S. foreign policy in areas such as Pakistan, Iran, and Libya. India's history with the United States has given defense officials reason to hesitate on selecting U.S. equipment due to lingering doubts about U.S. reliability.

Exacerbating concerns on both sides is the tendency for Washington and New Delhi to talk past one another, which can lead to misunderstandings. India has an inability to precisely articulate its user requirements and expectations. The inability to do so can lead to U.S. government

24. S. Amer Latif and Karl F. Inderfurth, "U.S., India: Take Long View of Relations," *Defense News,* May 2, 2011, http://www.defensenews.com/article/20110502/DEFFEAT05/105020319/U-S-India-Take-Long-View-Relations. Also see S. Amer Latif and Karl F. Inderfurth, "The Long View of Indo-U.S. Ties," *Wall Street Journal,* May 12, 2011, http://online.wsj.com/article/SB10001424052748703864204576316681882086182.html.

and industry officials to withhold information of sufficient technical depth that the Indians expect in every discussion and negotiation. Part of this reluctance to share information may be due to licensing requirements, but some of it might be due to Americans not understanding Indian requirements.

Obviously, bridging the trust deficit will take substantial time but there are small gestures that can begin the process. For the United States, delivering all promised defense equipment on time will, along with impeccable life-cycle support, prove the superiority of U.S. equipment. India will closely watch to see whether U.S. vendors can distinguish themselves from Russian manufacturers with whom India has had significant trouble on delivery schedules and maintenance support. The on-time delivery of six C-130J transport aircraft in December 2010[25] has already made a positive impression on the Indian defense establishment.

India can also help bridge the trust gap by crafting a narrative of mutual partnership. Among some quarters of the U.S. security establishment, there is a view that all India cares about is tech transfer to the near exclusion of other areas of cooperation. A different narrative is needed that touts the benefits of mutual cooperation, and a clear description of what the United States might derive from the partnership. Such a narrative could contribute to changing perceptions in the United States about Indian commitment to the partnership and lead to greater collaboration in areas of interest to India such as codevelopment.

U.S.-Pakistan Relations

As the United States deepened its partnership with India in the early to mid-2000s, an effort began within the U.S. government to de-hyphenate India-Pakistan relations through the NSSP and the brokering of the civil nuclear deal. However, despite U.S. attempts to distinguish their relations with both India and Pakistan, U.S. arms sales have had an unsettling effect on the security calculations for both sides. The policy calculation is further complicated by U.S. efforts to prove to New Delhi that it is a reliable defense supplier. Washington has agreed to sell New Delhi a range of defense equipment ranging from fighter jets and artillery, to cargo and surveillance platforms, being mindful that any denial of equipment to India due to concerns about upsetting the strategic balance between India and Pakistan would re-hyphenate relations and reinforce Indian perceptions of U.S. unreliability.

Pakstani F-16s have been used for counterterrorism purposes but cause concern in New Delhi about their potential use against India.

India views U.S. arms sales to Pakistan with suspicion since many of the weapons sold have the potential for use against India. Despite U.S. insistence that weapons are sold to help

25. Craig Hoyle, "India's first C-130J starts delivery flight," flightglobal.com, January 29, 2011, http://www.flightglobal.com/news/articles/pictures-indias-first-c-130j-starts-delivery-flight-352523/.

Pakistan in its counterterrorism efforts, New Delhi views the idea of F-16 fighters hitting terrorist targets in the Federally Administered Tribal Area (FATA) as a dubious proposition.[26] Pakistan views U.S. arms to India as evidence of a U.S. preference for India, which adds to Pakistani distrust of Washington. Islamabad has also resigned itself to the fact that it will never catch up to India's conventional arms buildup and has resorted to an increased reliance on nuclear weapons through the development of tactical nuclear weapons that could be used to counter India's Cold Start doctrine.[27]

Given the complicated issues of regional stability, how can the United States justify arms sales to both nuclear-armed foes without upsetting regional stability? The United States will never be able to completely assuage either side's concerns about weapons sales to the other, but these sales do allow Washington increased influence and engagement with both sides.[28] While Chinese and Russian arms are still widely sold to Pakistan and India, respectively, U.S. equipment sales are usually followed by U.S. engagement that has proven to be beneficial in managing sub-continental stability at critical points in South Asia's turbulent history.

Whether U.S. arms sales to Pakistan will negatively affect U.S. prospects for Indian arms deals remains to be seen. The most prominent indication to date was speculation that the F-16 was eliminated from the Indian MMRCA competition because Pakistan had the same aircraft in its inventory. Despite U.S. assurances that the version offered India was a superior one, it was not enough to keep the F-16 in the competition.[29]

Regional stability considerations are important before making any arms sale, but Washington should be careful about evaluating potential sales through the Indo-Pakistan lens. Policymakers need to be cognizant of stability between India and Pakistan, but they also need to weigh that consideration against the need to assist India deal with the potential threat from China, as well as emerging threats that it faces in the wider Indian Ocean such as piracy, proliferation of weapons of mass destruction, and natural disasters.

Domestic Political Considerations

Indian policymakers must also deal with a domestic political environment that is increasingly fragmented and influenced by regional parties rather than the traditional Congress Party or the Bharatiya Janata Party. The emergence of fragile political coalitions that contain regional parties primarily concerned with parochial interests could lead to national governments that are constrained in their ability to take decisive and bold decisions or enact needed reforms. Such governments will also be more occupied with domestic political issues rather than external issues such as national security, foreign policy, and global engagement. Additionally, leftist elements can also

26. Manu Pubby, "Pak F-16 upgrade likely to be used against India: analysts," *Indian Express,* September 18, 2008, http://www.indianexpress.com/news/pak-f16-upgrade-likely-to-be-used-against-india-analysts/362793/0; Greg Bruno and Jayshree Bajoria, "U.S.-Pakistan Military Cooperation," Council on Foreign Relations, June 26, 2008, http://www.cfr.org/pakistan/us-pakistan-military-cooperation/p16644.

27. Rachel Oswald, "Pakistan-India Arms Race Destabilizing Strategic Balance, Experts Say," Nuclear Threat Initiative, July 20, 2011, http://www.nti.org/gsn/article/pakistan-india-arms-race-destabilizing-strategic-balance-experts-say.

28. Julian Barnes, "Pentagon Chief Defends Arms Sales to India, Pakistan," *Los Angeles Times,* January 23, 2010 http://articles.latimes.com/2010/jan/23/world/la-fg-gates23-2010jan23.

29. Ahley Tellis, "Decoding India's MMRCA Decision," FORCE, June 3, 2011, http://www.carnegieendowment.org/files/Decoding_Indias_MMRCA_Decision.pdf.

temper closer Indian engagement with the United States as was seen during India's civil nuclear deal debate when leftists threatened the survival of the first United Progressive Alliance government in 2008.[30] Large Muslim voting blocs can also complicate India's ability to cooperate on issues such as Iran due to the large number of Shias present within India's Muslim population, some of whom might take note of India bending to U.S. pressure on Iran.

National security issues typically garner few votes in a population where the majority of its inhabitants are preoccupied with basic development needs such as clean water, electricity, and shelter. Where defense issues do become pivotal, however, is when corruption scandals over defense deals come into the public eye. Defense corruption resonates within a population increasingly fed up with public corruption for private benefit. Given the public's sensitivity to the appearance of corruption, incumbent politicians will tread very carefully on approving defense deals.

There are also political challenges on the U.S. side as well. U.S. policymakers have had their hands full with winding down the war in Iraq while simultaneously conducting a war in Afghanistan, and dealing with a cantankerous Pakistan. The economic crisis has also consumed large amounts of executive branch time. Given these weighty challenges, U.S. policymakers have had limited time to devote the sort of attention they would like to building relations with India. This limited bandwidth, combined with New Delhi's reluctance to deepen defense engagement, and differences over Libya and Iran have combined to lower the profile of the relationship as the United States heads into an election season in 2012.

On Capitol Hill, there has been strong bipartisan support in the Congress for expanded U.S.-India relations extending back to the Clinton administration, but there is a growing sense of frustration at India's reluctance to work with the United States on issues of common interest. Capitol Hill has generally been supportive of defense sales to India, viewing it as a potential commercial market providing economic benefits, and also as a partner that could work with Washington on areas of common concern. Questions arise on Capitol Hill about regional stability (namely, Pakistan), India's reluctance to sign basic defense agreements, and the return on the investment for the United States in exchange for reforming the technology-transfer policies for India.[31] Interest in India waned considerably after the MMRCA decision as lawmakers and senior staffers questioned India's commitment to bilateral relations. These doubts have intensified after Indian differences over Libya and a reluctance to support U.S.-led sanctions on Iranian oil.[32] While it is unlikely that Capitol Hill will take actions that affect defense trade, continued policy differences may, over time, erode the current level of support in Congress for devoting significant time and attention to advancing the U.S.-India relationship.

30. "Bush and Singh Push Nuclear Deal," BBC.com, July 25, 2008, http://news.bbc.co.uk/2/hi/7524687.stm.

31. Findings from CSIS-ORF Roundtable on December 6, 2011, New Delhi, India. The roundtable proceedings also revealed a number of misperceptions about FMS, international trafficking in arms regulations, defense agreements, and technology transfer policies. For example, there was widespread sentiment that FMS was not conducive to multi-vendor competitions since FMS is noncompliant with the DPP. Almost all U.S. sales to date have been sole source (except the P-8I, which was DCS), but many of these sales were the result of the MoD fast-tracking certain procurements due to urgent needs of the military.

32. Findings from CSIS Defense Trade Roundtable, September 29, 2011, Washington, D.C.

Procedural, Policy, and Technical Challenges

Defense Procedure Disconnects

Arguably the most difficult challenge in bilateral defense trade is reconciling the differences between the FMS and DPP systems. Through an evolutionary process, India has been trying to improve the DPP since its initial release in 2002, with revisions issued each succeeding year through feedback from various sources, including the defense industry. It is important to note that India is trying to develop a procurement system that is transparent and instills confidence in foreign companies that everyone will have a level playing field when competing for tenders. The MoD has undertaken this effort given its limited acquisition expertise while under pressure to modernize an armed force that is working with obsolete equipment and facing an increasingly complicated national security picture. It is a formidable task that will take time to perfect.

Faced with this environment, U.S. companies have waded into a market in which they are trying to sell equipment to a country in which the acquisition system is still evolving. It is only natural that there will be disconnects between how the United States sells arms and how India buys them. Table 2 illustrates some key challenges for U.S. vendors in dealing with the DPP.

Aside from specific U.S. concerns, there are four general concerns that all firms face when competing for Indian tenders. First, the Indian government's lack of a strategic acquisition plan and request for proposal (RFP) process makes it difficult to ascertain what India intends to buy in a given year. The advent of short-, medium-, and long-term acquisition plans may alleviate this concern but not all the plans have been publicly shared to date.[33] Currently, companies trying to plan their various bid campaigns do not have clarity on what tenders will be coming down the pike except through rumor and speculation. According to one U.S. official, only 12 percent of requests for information, or RFIs, finally develop as RFPs.[34] The RFP process also causes concerns for companies since many times the RFP will contain technical specifications for technologies that are not supported by the market, which leads to the retraction of many RFPs. India still needs to strike a balance in its RFPs between currently available technologies and yet-to-be developed technologies.[35]

Second, there are concerns about predictability and flexibility in the acquisition system. The MoD is known for habitually under-spending its allocated funding. Such a situation can thwart acquisition plans and upset corporate planning. The lack of flexibility is also a concern for foreign companies as the Indian system takes a strict "rule-based" approach to acquisitions by considering the lowest bidder without regard to cost-benefit analysis in which superior technical capabilities are given due credit. In the Indian system, there is no extra credit for exceeding the prescribed requirement.[36] Also, since the DPP requires at least two bidders, technical requirements are often set to ensure less capable and usually cheaper products can participate. The result is that the Indian military seldom get the best product available.

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33. The Indian DPP 2011 calls for three types of acquisition plans, to include the Annual Acquisition Plan (AAP), the 5-year Services Capital Acquisition Plan (SCAP), and the 15-year Long Term Integrated Perspective Plan (LTIPP). All three of these documents are supposed to cover Indian defense acquisition, ranging from the short to long term.

34. Interview with U.S. embassy official by phone, April 19, 2012.

35. KPMG, "Opportunities in the Indian Defence Sector: An Overview," 2010, http://www.in.kpmg.com/TL_Files/Pictures/Opportunities_in_the_Indian_Defence_Sector.pdf.

36. Ibid.

The third main concern is the overall cost of competing for Indian tenders. Companies can run up tallies into the millions of dollars with no cost, no commitment trials (NC/NC) and other associated bid costs. Combined with lengthy acquisition times that sometimes end up in the Indian government canceling the tender, competing in the Indian market is a high-risk venture for any company.[37]

Fourth, the inclusion of a Buy and Make (Indian) category in DPP 2011 indicates a clear preference by the Indian government for Indian-produced hardware. Cases that are categorized as Buy and Make (Indian) will have the RFP "issued to only Indian vendors, who are assessed to have requisite technical and financial capabilities to undertake such project."[38] It is unclear how often the Indian government will place potential RFPs in this category, but a future trend toward the Buy and Make (Indian) category may deter greater U.S. participation in the Indian market. Related to this development is India's release in January 2011 of its Defense Production Policy (DPrP), which clearly lays out a policy in which Indian firms should seek partnerships with foreign firms just long enough to acquire advanced technology to enhance India's defense-industrial capacity. The ultimate goal is to rid India of the need for large defense imports. Such policies do not lend themselves to long-term collaborative efforts.[39]

Reaching a better understanding between these systems will be critical to future bilateral defense trade. To date, a majority of U.S. sales have been conducted on a sole source basis via the FMS system, which has led to a perception within India that FMS is not conducive to multivendor competitions. The reality is that many of these procurements have been conducted under the "fast-track" authority provided for in the DPP to fill critical shortfalls for the Indian military.[40] The fact is that FMS holds many advantages for India, including the full backing of the U.S. government to ensure full support for U.S. defense equipment. Complaints with FMS-purchased equipment can be routed to the U.S. government and the host nation can expect U.S. government officials to engage industry about any dissatisfaction with the equipment.

A Boeing P-8I aircraft procured by India via Direct Commercial Sales (DCS).

Direct commercial sales (DCS), by contrast, allows India to deal directly with the U.S. vendor without processing the sale through the U.S. government. It is not entirely clear why India may prefer this route, but there is speculation that the Indian government feels it may get a better price on defense equipment if it deals directly with the vendor. U.S. defense sales

37. Ibid.

38. DPP 2011, p. 9, http://mod.nic.in/dpm/DPP2011.pdf.

39. Government of India, Ministry of Defense, "Defense Production Policy," January 1, 2011, http://mod.nic.in/dpm/DPP-POL.pdf.

40. Laxman Behera, "An American Solution to India's Defense Acquisition Problem?" Institute for Defence Studies and Analyses, October 8, 2010, http://www.idsa.in/node/6057/1796.

are now experimenting with "hybrid" cases in which a defense sale is processed as a DCS case with FMS-mandated components being sold through the FMS route. This approach may be a more palatable compromise for the Indians while satisfying U.S. requirements to go FMS for sensitive defense items.

Informed observers posit that as both sides grow more comfortable with each other's systems, understanding will increase. That may be true, but to change Indian perceptions about the U.S. sales, the United States will either need to demonstrate more flexibility in accommodating the DPP, or accept inherent limitations on how much equipment it will be able to sell. The U.S. side has tried to demonstrate flexibility in recent years, but there is a limit to U.S. flexibility given certain provisions of the Arms Export Control Act (AECA).[41] India must also be sensitive to the fact that its defense procedures may deter U.S. firms from bidding on Indian tenders. U.S. companies must ultimately be accountable to their shareholders and demonstrate that India is a good investment for their bottom-line. A difficult environment in which U.S. firms cannot produce a profit could ultimately lead to many prospective companies turning away from the Indian market. India needs to have the United States continue its interest in the Indian market not only to provide top quality products, but also to engage in competitions in order to ensure competitive pricing and ethical conduct by other countries' defense industries.

A point of optimism in this narrative is that the DPP is an evolving document and subsequent editions of the procedure may be further amended to better address U.S. (and other foreign vendor) concerns. It would behoove both the United States and India at this juncture to engage in a dedicated dialogue about the nature of their two systems and see where the differences can be bridged.

41. E-mail exchange with U.S. official, May 4, 2012.

Table 2: Sampling of Key Issues in the U.S. and Indian Procurement Systems

Key Issue	DPP (India) View	FMS/DCS (U.S.) View
No cost, no commitment Trials (NC/NC)	Requirement for vendors to provide equipment for field trials at no cost to India	FMS or DCS does not account for NC/NC but a company can certainly elect to compete via NC/NC, although it can be quite expensive
Life-cycle costs (LCC)	Does not account for LCC in price evaluation (although may be included in the RFP)	LCC incorporated into price of U.S. offering
Firm fixed price	Requires firm fixed price	FMS: By law, USG can neither make a profit nor take a loss that leads to possible variations in costs to adhere to this requirement DCS: Firm fixed price is possible
Offsets	Required offsets 30% of value for deals over 300 crore (1 crore = 10 million)	USG cannot offer offsets by law; left to vendor to negotiate with Indian government
Technology transfer	Required tech transfer of most technical components and know-how, including upgrades of technology	U.S. provisos on technology prevent the transfer of the most sensitive know-how; Indian refusal to sign CISMOA also prevents transfer of secure communications equipment
Technology transfer for maintenance infrastructure	Requirement for infrastructure to be transferred to India	U.S. vendors retain logistics and spares supply; while licensed production may be possible, Indian facilities simply do not have sufficient capacity at this point
Request for proposals (RFPs)	RFPs over specified and unrealistic requirements	Indian RFPs can sometimes specify technologies not available on the market
Evaluation process	Strict, two-stage competition with technical comparison followed by price comparison; L1 (lowest price) is the winner among technical competition finalists	Seeks its wares to be evaluated on a "best value" basis with LCC, performance, and long-term defense ties as basis for comparison
Length of procurement	Can take 20–34 months from drafting of requirements to signing of contract (DPP 2008)	Unpredictable. Contracts can be suddenly canceled due to budget shortfalls, political factors, or perceptions of corruption wasting millions on failed bids; no recourse on recouping costs for canceled tenders
End-use monitoring (EUM)	India resists all EUM (though it has agreed to it)	Mandates EUM as stipulation for selling equipment
Philosophy	DPP aimed at getting acceptable hardware at the cheapest price, with high rates of tech transfer and offsets	FMS emphasizes best value and total package approach and furthering security cooperation goals

Source: CSIS analysis.

Technology Transfer, Coproduction, and Codevelopment

Few topics raise as much passion within U.S.-India relations as the issue of technology transfers. For India, technology transfers serve as not only the path to self-sufficiency, but also a key measure in assessing U.S. commitment to the bilateral relationship. Technology is such an important component of the relationship that the United States and India have a bilateral working group dedicated solely to high-technology trade with three other defense working groups that engage on the issue, and nearly every defense and security meeting between U.S. and Indian officials inevitably raises the issue of tech transfer in one form or another.[42, 43]

From India's perspective, the U.S. technology-transfer system is cumbersome, time consuming, and lacking in transparency and consistency. For many Indian companies and DPSUs, the licensing procedure is viewed as a daunting process riddled with unpredictability, and sometimes leads Indian entities to preemptively forego the licensing process altogether.[44]

U.S. officials are often puzzled by this sentiment given the high rates of technology transfer to India. For dual-use licenses, the United States provided over 99 percent of licenses to various Indian entities with denials made for items going to nuclear-related entities.[45] According to Commerce Department statistics, in 2011 alone there was $21.3 billion worth of trade in which only 0.3 percent of the items required a license.[46] Munitions licenses have similar numbers, with an overwhelming number of licenses (well over 99 percent) being approved and the small number of denials being due to items that could be used for ballistic missile or nuclear programs, or based on the Indian refusal to sign defense agreements such as the CISMOA.[47]

So why is there a marked difference of opinion between both sides about technology transfer? First, India perceives the U.S. licensing system as an onerous and lengthy process for an Indian entity unfamiliar with licensing procedures.[48] Instead, they prefer to turn to Europe or other

42. The High Technology Cooperation Group is co-led by the U.S. Department of Commerce and the Indian Ministry of External Affairs (MEA) and has a number of subgroups on technology transfer to include defense. There is also the Defense Procurement and Production Group, co-led by the head of the Defense Security Cooperation Agency and the director general (Acquisitions), that discusses pending cases of military sales to India. The Senior Technology Safeguards Group, co-led by the Defense Technology Security Administration (DTSA) and the Indian MoD, deals with licensing as well as technology security. The JTG, co-led by the Office of the Secretary of Defense (OSD) (AT&L) and the Defense Research and Development Organization, looks at possibilities for technical collaboration. All of these working groups touch on licensing and technology transfer issues in one form or another.

43. U.S.-India High Technology Cooperation Group: http://www.bis.doc.gov/internationalprograms/indiacooperation.htm.

44. Interview with Indian industry and DPSU officials, December 2012, New Delhi, India.

45. Findings from CSIS Defense Trade Roundtable, September 29, 2011, Washington, D.C. Also see Kenneth I. Juster and Ajay Kuntamukkala, "U.S.-India Initiative Series: Unleashing U.S.-India Defense Trade," Center for New American Security Working Paper, October 2010.

46. Statistics obtained from Commerce Department official via email, May 2, 2012.

47. Findings from CSIS Defense Trade Roundtable, September 29, 2011. The CISMOA, an agreement that allows the transfer of secure communications systems to partner countries, promotes interoperability. The CISMOA also brings the signing country into a community of users where it will become interoperable with other militaries as well as the United States (such as NATO and Asian allies).

48. This perception continues to exist despite the fact that in 2011 it takes an average of only 35 days to process a license request, a decrease of 2 days from 2010 when it was 37 days; Commerce Department statistics obtained from Commerce official via e-mail on May 2, 2012.

partners whose technology-transfer procedures are considered much less problematic.[49] The U.S. technology-transfer reforms undertaken in November 2010 removed almost all the Indian entities from the Department of Commerce Entity List,[50] which placed India in tech-transfer categories on par with the closest U.S. allies and partners.[51] Despite the technology-transfer reforms, there are still instances of license denials and provisos imposed on granted licenses that stymie the release of the most sensitive technologies, including source codes and technical know-how. Such denials and provisos sow seeds of doubt on the Indian side regarding U.S. commitment to tech transfer.

A second challenge in tech transfer is tracking the status of licenses that are rejected or returned without action (RWA).[52] There does not appear to be a central location within the Indian government to track all license requests. Thus, when an Indian company or government entity submits a license, the U.S. response for that license is given to that particular entity. If a license is denied to an Indian government entity, the denial will be noted, but it is not clear if the same accountability is in place for licenses from private companies. This nebulous accountability on the Indian side can sometimes lead to abstract charges against the United States of denied licenses without concrete statistics or information to back up claims of rejected licenses.[53]

Third, U.S. companies considering a bid for a particular Indian tender may be deterred from doing so due to the stringent technical requirements outlined in Indian tenders. U.S. companies must deal with long timelines to obtain licenses for sensitive technologies or even the provision of basic information on defense equipment that is deemed sensitive. Given the lead times that Pentagon clearances require,[54] some U.S. companies choose to forgo competitions altogether, knowing in advance they will never get their particular technology approved for release, or approved in a timely manner to meet Indian competition deadlines. Alternately, companies that choose to bid Indian contracts and submit their wares for a license may be told by the Pentagon bureaucracy that their product can be released only if changes are made to make it acceptable for export. The problem is that often companies are not told the extent of what those changes should be or how they should be made, which may make it too costly to customize a product for the Indian system

49. Meeting with Indian Defense industry official, Mumbai, India, December 9, 2011.

50. The exception was certain nuclear facilities involved in India's nuclear program.

51. "Department of Commerce Takes Steps to Implement Export Control Initiatives to Facilitate High Tech Trade with India," Commerce.gov, January 24, 2011, http://www.commerce.gov/blog/2011/01/24/department-commerce-takes-steps-implement-export-control-initiatives-facilitate-high.

52. In technology licensing, licenses can be either granted, rejected, or returned without action (RWA), which simply means the license application did not provide enough information to justify granting the license request. License requestors are usually asked by the U.S. government to provide more information if needed. If the additional information is still not provided, the license is RWA. In 2011, the Commerce Department approved 783 applications, denied 13 applications, and returned 255 without action (RWA). Commerce Department statistics obtained from Commerce official via e-mail on May 2, 2012.

53. Along these lines, it would be helpful to know of the approved licenses mentioned above, how many were actually used for export. Also, once an approved license was obtained, was the license actually used to export the requested equipment? Ascertaining these numbers, which are not publicly available, could offer a clue to the question of how much technology is actually getting to India.

54. The release of sensitive defense technologies can be a complicated process. While State Department issues the licenses for arms transfers, the Defense Department plays a pivotal role in these decisions. Within DoD, the Services, DTSA, DSCA, and various offices within OSD all can have a voice in determining the final disposition of technology transfers. The process can sometimes be contentious, with disagreement sometimes even occurring within agencies and services. Thus, while the vast majority of licenses are readily approved, the most sensitive technologies will be subject to a rigorous review that can be time consuming and, sometimes unsuccessful.

only to have it rejected by approval authorities. Thus, a U.S. refusal to bid on a particular tender may reinforce Indian suspicions about the United States withholding technology.

Fourth, while India views U.S. military equipment as technically superior, they also see it as untested in local conditions. From the heights of the Himalayas to the deserts of Rajasthan, India's operating environment can be harsh and require equipment that is flexible and durable. It is too early to tell whether the initial U.S. sales will stand the test of Indian conditions, but India would like to see more customization of defense platforms for its own needs, which U.S. companies are either not able, or not willing, to do for reasons of cost or security restrictions. The perceived reluctance to customize equipment has led to the view within India that U.S. companies approach sales with a "take it or leave it" attitude rather than looking for ways to accommodate the buyer.[55]

Fifth, there is a fundamental difference between how the U.S. views technology as compared to their European, Israeli, or Russian competitors. For the latter, defense sales are inherently an export business given that many of their own domestic militaries cannot absorb their defense industry's capacity due to budget constraints or need. Consequently, these companies view technology as a commercial commodity, are more accommodating, and have more flexible technology control regimes. The United States, by contrast, views its technology as a strategic commodity and, thus, views technology transfers primarily through the lens of national security with commercial considerations being secondary. Such a mindset lends itself to saying "no" to tech transfers first before agreeing to them once a compelling case is made. While former-defense secretary Gates tried to implement export-control reforms before his retirement, it will be some time before export reforms are fully realized.

Sixth, when India speaks about technology transfer, it appears to have a more expansive definition than just equipment. For India, it is not just about the technology itself, but the know-how behind how technology is put together, including the source code, the process of systems integration, and the overall intellectual capital that goes into developing these systems. While the United States provides a large amount of technology, it has not yet crossed the threshold to assisting India with the knowledge of how to conceptualize, design, prototype, test, construct, and eventually produce its own defense equipment.

Proponents of assisting India with knowledge transfer point to India's rise as a global power, the growing strategic partnership, India's potential for contributing to global security, increased people-to-people contacts, and perhaps a codevelopment partnership that could lead to the development of mutually beneficial systems for both sides in the future. They also posit that assisting India with its defense capacity will send a clear signal of U.S. intent to help India become self-sufficient in defense production. Over the long term, U.S. companies may derive great financial benefit by integrating India into their supply chains and driving down the cost of production.

Skeptics cite Delhi's long history with Moscow during the Cold War and question whether sensitive technology or know-how might be transferred to the Russians, Israelis, or Europeans. Despite frequent Indian assertions of an excellent record of technology protection, U.S. officials are still concerned about the lack of systematic procedures in place to prevent unauthorized transfer. There are also concerns about sacrificing the U.S. technological edge and why sensitive technologies should be transferred when India continues to refuse basic defense agreements such as the

55. Findings from CSIS-ORF Defense Trade Roundtable, December 6, 2011, New Delhi, India.

CISMOA and Basic Exchange and Cooperation Agreement (BECA) for Geo-Spatial Data.[56] Some U.S. officials also question India's commitment to the partnership and wonder what the return on investment would be in exchange for assisting India's indigenous defense capabilities. While there are positive signs pointing to India as a global power, it is far from assured that India will be the strategic partner that the United States envisions. U.S. companies also balk at the idea of providing know-how when considerable sums have been invested to develop sensitive technologies for commercial profit. There is also the remote concern that India could use the knowledge of weapons development and use it to develop its own export market that could compete with U.S. weaponry. Finally, many industry officials have a difficult time partnering with an Indian defense industrial base that has little capacity for collaboration, and would provide minimal benefit in return.

While there are strong arguments against providing India greater know-how, it may be beneficial to experiment with a codevelopment project on a defense platform that would fulfill the needs of both sides, yet not require the transfer of overly sensitive technologies. Presently, there is little familiarity between the defense industrial establishments, which hinders the ability of future cooperation. Engaging in a codevelopment project could have numerous benefits, including a prominent example of U.S.-India defense collaboration for public consumption, exposure for both sides on development and manufacturing processes, and increased confidence and familiarity between the defense establishments for future codevelopment efforts. Over the long term, if a codevelopment relationship matures, it could become cheaper for U.S. companies to codevelop defense equipment with India rather than producing it in the United States.

To that end the Senate Armed Services Committee in 2011 directed the Defense Department to produce a report in which it assessed "a potential U.S. partnership with India to codevelop one or more military systems, including but not limited to the anticipated program to replace the U.S. Air Force T-38 trainer jet."[57] While the subsequent public Department of Defense (DoD) assessment did not directly address this idea, it is a proposal that merits serious consideration. Codeveloping, or even coproducing, a trainer aircraft that would fly in the U.S. and Indian inventories would be a prominent symbol of bilateral cooperation and serve as a clear demonstration of the value of the U.S.-India partnership to skeptical constituencies in both Washington and New Delhi.[58]

Offsets, Defense Public Sector Undertakings, and the Private Sector

India's defense purchases over the next decade will generate billions of dollars' worth of offsets,[59] which many in India view as the most promising path to attaining self-sufficiency in defense pro-

56. The BECA allows for the transfer of U.S. government-generated mapping and geospatial data for input to navigation systems that are embedded in defense platforms such as the C-130J. The alternative to signing the BECA is for the recipient country to insert its own, commercially provided map content, which India generally prefers.

57. Senate Report 112-036 "National Defense Authorization Act for Fiscal Year 2012," http://thomas.loc.gov/cgi-bin/cpquery/?&sid=cp112TtjuH&r_n=sr026.112&dbname=cp112&&sel=TOC_763451&; Ajai Shukla, "Indo-U.S. jet trainer—The Indus moment," *Business Standard,* June 28, 2011, http://www.business-standard.com/india/news/ajai-shukla-indo-us-jet-trainerindus-moment/440628/.

58. Robert Blackwill and Naresh Chandra, *The United States and India: A Shared Strategic Future,* Council on Foreign Relations/Aspen Institute India Joint Study Group Report (New York: Council on Foreign Relations Press, September 2011).

59. An offset refers to industrial compensation practices required as a condition of purchase in either government-to-government or commercial sales of defense articles and defense services. Definition available at http://www.bis.doc.gov/defenseindustrialbaseprograms/osies/offsets/offsetsdefinitions.html.

duction. To that end, the Indian acquisition policy stipulates 30 percent of the value of all defense deals that exceed 300 crore rupees[60] and are classified in the Buy (Global) category will be channeled into direct offsets.[61] However, despite India's enthusiasm for offsets, the current realities of offset policy and implementation do not seem promising.

To begin with, India has no discernible vision or strategy for what it wants to gain from offsets. As a result, Indian officials put the onus of determining offset projects on foreign firms, with little or no guidance. For foreign firms, the practice is usually to choose projects that are executable or do not require clearances for sensitive technologies since any offset commitments must be completed co-terminally with the period of the contract.[62] As a result, the offset projects that are executed do not deliver the high-end technical capability India desires.

There are also serious doubts among informed observers about whether India has the capacity to absorb the offsets it will receive. The DPSUs do not have sufficient capacity to absorb the influx of offset resources, which creates the potential for significant waste and possible corruption.[63] Private Indian companies are now allowed to participate as offset partners with foreign firms, but U.S. companies face a daunting challenge in finding capable technical partners among the DPSUs or the host of SMEs that have recently entered the defense market seeking to gain from the offset windfall.[64]

A HAL production line. DPSUs have been criticized for their inability to deliver quality defense equipment to the Indian armed forces.

One of the functions for the Indian Defense Offset Facilitation Agency (DOFA) is to assist foreign companies interfacing with Indian industry,[65] but the reality is that foreign firms are largely left to find suitable partners on their own. As a result, it is up to U.S. firms to do their

60. 300 crore rupees equals 3 billion rupees, which translates to approximately $59 million, based on a conversion rate of US$1 = 50.8 INR.

61. Direct offsets—that is, resources allocated to the Indian defense industry—include the DPSUs and, more recently, private Indian companies. In DPP 2011, India opened up the aperture of offsets to allow allocations in the areas of civil aviation, homeland security, and training. Some Indian commentators have criticized this policy, saying that it will detract from India's ability to gain high technology. However, foreign firms will now have more flexibility in allocating their offsets beyond the Indian defense industrial complex.

62. Foreign firms are also liable for the incomplete execution of offset projects even if the Indian partner firm becomes unable to fulfill its commitments: http://mod.nic.in/DOFA.htm.

63. Maj Gen. Mrinal Suman, "Defence Offsets: proving detrimental to the services," *Indian Defence Review* 25, no. 1 (January–March 2010), http://www.indiandefencereview.com/defence-industry/Defence-Offsets-proving-detrimental-to-the-services.html.

64. Findings from CSIS-ORF Defense Trade Roundtable, New Delhi, December 6, 2011.

65. Defense Procurement Procedure and Manual: http://mod.nic.in/dpm/.

own investigative work finding suitable Indian partners, while developing projects that can benefit both India as well as the company itself. The challenge is compounded for companies that do not have a permanent presence on the ground in India and are not familiar with the defense landscape.

Indian private industry holds promise as an engine for developing defense capability and a partner for U.S. companies, but unfortunately the government's treatment of the private sector hampers their ability to contribute. Indian firms repeatedly express frustration at the slow nature of decisionmaking, endemic corruption, and the continued reluctance of the Indian government to implement policy changes that would put the private sector on an equal playing field with the DPSUs.[66] Several large, Tier I firms[67] are actively contemplating getting out of the defense business altogether since they cannot justify sustaining a defense practice to their shareholders.[68]

The DPSUs hold a special place for the Indian government as a historical symbol for Indian self-reliance, even though they have been largely unable to effectively serve the needs of the Indian warfighter. While the private sector would welcome the chance for greater involvement in defense projects, the Indian government has been reluctant to allow greater private-sector participation for fear of entrusting Indian national security to profit-driven motives of the private sector, and a perception the private sector cannot provide what India might need in a time of national emergency.[69] While DPSUs have pride of place within the Indian system, their overly ambitious timelines, outdated manufacturing methods, lack of effective middle management,[70] inability to retain capable talent, the absence of competition, and the shifting of user requirements due to lack of coordination with the military have prevented DPSUs from performing at optimum levels.[71]

Finally, the ineffective nature of India's research and development establishment hinders the development of new military capabilities and thwarts effective bilateral technology collaboration.

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66. RUR/"Champion" concept was formed by the Vijay Kelkar Committee, which was established in 2004. The aim of the Kelkar Committee was to examine and recommend changes in the acquisition process with the purpose of attaining self-reliance in defense preparedness. The Raksha Udyog Ratnas (RUR) designation is conferred upon companies identified as "industry leaders" based on their managerial and technical capabilities as well as financial strength. See http://www.ciidefence.com/rakshaudyog.asp?id=8.

67. Tier-1 vendors maintain responsibility for providing equipment and systems to the primes. This includes design, assembly, services, and the assumption of technical and financial risk. Tier-2 vendors manufacture and develop the required parts according to the specifications provided by original equipment manufacturers and Tier-1 vendors. Tier-2 vendors' product portfolios may also include the provision of aftermarket components and services. Tier-3 vendors are responsible for the supply of basic products and components to vendors that are higher up the hierarchical order. See "Changing Dynamics: India's Aerospace Industry," PricewaterhouseCoopers and Confederation of Indian Industry, 2009, p. 20, http://www.pwc.com/gx/en/aerospace-defence/pdf/india-aerospace.pdf.

68. Interview with Indian industry official, New Delhi, November 29, 2011. Indian companies that have been able to forge tie-ups with DPSUs and have Indian shareholders throughout the board tend to have more patience with the market as opposed to large, multinationals that are accountable to global shareholders and demand a fairly rapid return on their investment or at least a demonstration of discernible progress with firm timelines of when contracts will materialize.

69. Interview with Indian industry official, New Delhi, December 1, 2011.

70. Interview with Indian industry official, Bangalore, India, December 12, 2011.

71. Sunil Khilnani et al., "Non-Alignment 2.0: A Foreign and Strategic Policy for India in the Twenty First Century," Centre for Policy Research, 2012, p. 56, http://www.cprindia.org/sites/default/files/Non-Alignment%202.0_1.pdf.

Despite the presence of several dynamic private information technology and industrial companies, the Indian government has not unleashed the R&D capacity of this sector.[72] Allowing India's private sector to have a more active role in research and development would open up greater opportunities for collaboration with U.S. companies and also provide India greater defense capability. The concern within DPSUs, however, is that private sector involvement in R&D could eclipse their efforts through faster, cheaper, and higher quality products.

Despite the inherent challenges, there are measures both sides should consider to assist the offset obligations. First, India should consider developing an offset strategy that clearly lays out the technologies and capabilities it hopes to accrue from its offset program.[73] Second, the Indian government should institute better mechanisms for partnering Indian and U.S. companies. The current system of ad hoc partnering is cumbersome, time consuming, and, ultimately, ineffective. Third, the R&D establishments should become more familiar with each other through venues such as the Joint Technical Group (JTG). To date, the JTG has not been able to achieve its full potential partly due to Indian reluctance to move forward on signing even basic exchange agreements for information sharing. Fourth, India should consider allocating more R&D resources to private-sector companies and encourage them to partner with the U.S. public and private sector on defense research. Getting Indian companies involved in defense R&D could serve as a catalyst for Indian defense capabilities. As one Indian industry official observed, "India can do four times as much R&D as the U.S. per $1 spent."[74] Finally, India should examine the possibility of using some of the incoming offset resources toward nondefense purposes such as infrastructure needs or skills training for those individuals who do not attend university but could use a marketable skill to be productive within the Indian economy.

While offsets are a key element in India's defense indigenization strategy, the likelihood that India will advance its goal of technological self-sufficiency through offsets is highly unlikely unless it implements the necessary policies and reforms. An offsets policy that is devoid of strategic aims and effective mechanisms for partnering U.S. firms with high-performing Indian industry will continue to deny India access to the high-end technology it desires.

Foreign Direct Investment

The issue of foreign direct investment (FDI) is a sensitive one within Indian policy circles due to concerns about impinging on national sovereignty and harming national security. The current cap on FDI in the defense sector is 26 percent, which has been in place since 2001. However, there has been debate within the government about raising it to 49 percent or perhaps higher[75] to lure foreign companies into investing more heavily in India's defense industry.

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72. Ibid., p. 56.

73. Australia had an offset program for a decade before it ultimately decided to scrap it after determining that defense offsets would not produce the intended acquisition of technology or industrial capability; Suvojoy Sengupta, Bob Mark, Vikram Ramakrishnan, and Samrat Sharma, "Investing in India's Future Keys to Success for India's Defence Offset Policy," Booz & Company, 2009, pp. 4–5, http://www.booz.com/media/file/Investing_India_Future.pdf.

74. Interview with Indian industry official, Bangalore, India, December 13, 2012.

75. "Govt favours 49% FDI in aviation, to give Rs 150 crore to Air India," *Times of India,* January 17, 2012, http://timesofindia.indiatimes.com/business/india-business/Govt-favours-49-FDI-in-aviation-to-give-Rs-150-crore-to-Air-India/articleshow/11526229.cms. Also see "The Way Forward: Business Advocacy

Raising the cap on FDI could provide mutual benefits for both the United States and India. For India, greater FDI could help India develop its defense industrial base, provide exposure to top-line U.S. management practices, and provide high-end technology (subject to U.S. export controls). Amending the FDI cap would provide a key incentive for U.S. companies to invest in India and would also give them a stake in developing India's defense industrial base. Rather than having U.S. companies partner with Indian firms through Joint Ventures, giving U.S. companies a greater ownership stake in Indian ventures would provide the needed buy-in for U.S. companies to view the development of Indian industry in their own interest as well as India's.

Allowing greater FDI would help allay U.S. companies' concerns about having little say in corporate operations. Any concerns that Indian authorities have about compromising national security could be addressed by ensuring foreign companies abide by Indian laws and regulations governing technology development and transfer.[76]

U.S. Defense Agreements

Washington has tried for years to get New Delhi to sign three defense agreements: the CISMOA, BECA, and Logistics Support Agreement (LSA).[77] While the United States views these agreements as mechanisms to foster closer cooperation between U.S. and Indian forces, India has resisted signing the agreements out of concern for maintaining strategic autonomy.[78] Political factors play a role as government officials must be attuned to concerns from leftists and nationalists voicing objections to India becoming excessively close to the United States.[79] Erroneous Indian media reports that exaggerate the content of these agreements also complicate efforts to complete these instruments. There are also concerns within some quarters of the Indian military that agreements such as the CISMOA could also allow U.S. surveillance on Indian communications systems, which lead India to seek customization of its military equipment.[80]

India has previously signed up to agreements that it initially resisted, such as end-use monitoring, or EUM,[81] which is a U.S. legislative requirement on all arms sales overseas. India eventual-

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Agenda 2012–2013," U.S.-India Business Council (USIBC), 2012, p. 3. The USIBC report advocates increasing FDI to 74 percent.

76. Laxman Behera, "A Case for Increasing FDI up to 100 per cent in India's Defence Industry," Institute for Defense Studies and Analyses Policy Brief, August 9, 2011, http://idsa.in/system/files/PB_FDIDefenceIndustry.pdf.

77. The CISMOA and BECA have been previously described. The LSA is an agreement to facilitate greater cooperation between militaries by enabling exchanges of nonlethal equipment through a system that circumvents cash exchanges. An example of such a transaction: if a U.S. ship visits an Indian port and takes on 40,000 gallons of fuel, that amount would be recorded and a similar amount of fuel or another commodity of equal value would be transferred to the Indian military at some future point. Contrary to sensational Indian media reports, it does not allow the basing of U.S. forces in India.

78. Siddharth Varadarajan, "A partnership built on flawed assumptions," *The Hindu,* November 5, 2010, http://www.thehindu.com/opinion/lead/article868913.ece.

79. Brian Hedrick, "India's Strategic Defense Transformation: Expanding Global Relationships," November 2009, http://www.strategicstudiesinstitute.army.mil/pdffiles/pub950.pdf.

80. "Second Big Snub for America," *Times of India,* May 3, 2011, http://www.timesnow.tv/Second-big-snub-for-America/articleshow/4372209.cms.

81. Arun Kumar, "End-User Pact Brings India into Non-Proliferation Mainstream," *Headlines India,* July 23, 2009, http://headlinesindia.mapsofindia.com/india-and-world/united-states/enduser-pact-brings-india-into-nonproliferation-mainstream-us-17654.html.

ly signed up to this requirement when it became clear that Washington would not deliver military equipment until India agreed to its provisions. The remaining defense agreements are not required for India to purchase all types of U.S. equipment. In some cases, military sales to India can accommodate the lack of a CISMOA or a BECA by simply removing secure components or data. However, some pieces of military equipment will be entirely unavailable due to the lack of a CISMOA.

Given a choice, India will not sign agreements that it considers too intrusive, even if it means a denial of sensitive equipment. Therefore, the United States needs to refrain from pressuring India to sign these agreements and conduct defense trade with the understanding that India does not want the best U.S. equipment if it has to sign agreements to get it. While the agreements are symbolic of a deeper partnership, facilitate interoperability, transfer more high technology, and promote defense sales, it is time for Washington to realize the limits of its defense partnership being communicated by New Delhi through its refusal to complete these agreements.

Bureaucratic Challenges

Dealing with the Indian Bureaucracy

Trying to understand—let alone work—with the Indian bureaucracy is a daunting task for any U.S. government or industry official. U.S. government and defense industry officials spend a considerable amount of time on "bureaucratic strategy" by trying to figure out when to engage, whom to engage, and in what manner. Understanding the government organization on paper can assist with initial orientation, but how decisions are made and how the paperwork actually moves is a mystery to many Americans. The challenge for Americans is getting an element of predictability on when decisions will be made to be able to do long-range business planning. The lack of transparency on how and when decisions will be made on defense deals constitutes a major concern for U.S. firms seeking to project costs for bidding on tenders. While large U.S. companies may have the financial resources to endure the system, smaller firms in the Tier II or Tier III category may not have that ability, leading many of them to turn away from the Indian market. The factors contributing to the Indian government's failure to address these issues despite being cognizant of these concerns are manifold.

To begin with, the Indian bureaucracy is chronically undermanned and overburdened. Indian bureaucrats are generally capable individuals working under difficult conditions, juggling multiple portfolios in addition to the U.S. portfolio. These conditions limit the amount of time an Indian official can dedicate to addressing the U.S. portfolio's myriad issues.[82]

Second, the Indian bureaucracy is highly centralized, with seemingly trivial decisions elevated to the highest levels of the Indian government for decision. Lower-ranking bureaucrats' reluctance to take decisions on routine matters such as contract modifications, TAAs, or change orders can delay production schedules and increase the cost of the equipment. However, trying to quicken the pace of decisionmaking can sometimes subject government officials to suspicions of fraud or wrongdoing.[83]

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82. Praveen Swami, "Figures bust myth India's bureaucracy is 'bloated,'" *The Hindu,* January 30, 2012, http://www.thehindu.com/news/national/article2843014.ece?homepage=true.

83. Saurabh Joshi, "The Ghost of Bofors resides in South Block," *Stratpost,* May 2, 2009, http://www.stratpost.com/the-ghost-of-bofors-resides-in-south-block; Ajai Shukla, "An Indian Journey Sans

Third, many defense trade decisions require an interagency review within the Indian system, including the Ministries of Defense, Finance, and the Prime Minister's office. Communication can be poor among Indian ministries, resulting in conflicting information on the status of paperwork or the timelines for decisions to be made.

Fourth, there is a lack of defense acquisition expertise within the Indian government, along with a rapid turnover of acquisition officials. Bureaucrats dealing with defense acquisitions usually come to defense and security portfolios without any prior experience. In many cases, individuals in key acquisition posts will have come from a ministry entirely unrelated to defense matters, and will usually spend anywhere (on average) from two to three years before moving on to their next post. This rapid turnover requires U.S. government and industry officials to start anew on informing and educating newly installed Indian officials on the intricacies of FMS, DCS, and other related details of how the United States sells weaponry. The rapid turnover is exacerbated by the lack of a permanent corps of acquisition specialists residing within MoD who are knowledgeable about India's acquisition processes and its relationships with defense suppliers.[84]

Fifth, the recent warming of relations between the United States and India may not have completely abolished suspicions within the bureaucracy about U.S. reliability. Doubts about U.S. commitment may linger in the minds of many, as several of the more senior civil servants were inducted during the Cold War,[85] and may still have memories of Russian friendship and U.S. sanctions during their formative years in government. The U.S.-imposed sanctions after the 1998 nuclear tests may have sown doubts about the United States to a newer generation of civil servants. The legacy of sanctions still hangs over the relationship today with uncertainty in New Delhi about whether Washington would negate the civil nuclear deal and impose sanctions if India ever decided to test another nuclear weapon. The trust deficit will take some time to overcome, and it will be a while before Indian officials are fully convinced of U.S. commitment.

U.S. government and corporate officials must take the time to cultivate relationships with Indian government and military officials. Too often, U.S. officials come into New Delhi for a very brief period of time in which schedules are packed and business is rapidly transacted. Investing in personal relations with Indian officials could assist in building greater understanding between governments and to better address misunderstandings as they arise. Frequent trips to India may become more difficult since the recent global economic crisis could have a significant impact on U.S government officials' ability to regularly travel to India. An alternate option might be to use video teleconferencing or, more simply, regular phone calls to maintain contact, build relationships, and work through contentious issues.

The Indian government should also do more to educate U.S. officials on the inner workings of the Indian bureaucracy. A more nuanced insight into how the decisionmaking process works, and

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the Bofors Baggage," *Business Standard,* July 27, 2010, http://www.business-standard.com/india/news/ajai-shukla-an-indian-journey-%3Ci%3Esans-%3Ci%3Ebofors-baggage/402541/.

84. Firdaus Ahmed, "To Specialise or Not?" *India Together,* December 26, 2011, http://www.indiatogether.org/2011/dec/fah-special.htm.

85. A brief survey of the Indian Administrative Service (IAS) personnel records of some senior MoD officials since 2007 reveals that many of them had batch dates ranging from the late 1960s to the 1970s. It should be noted that induction dates for civil servants do not necessarily correlate to their beliefs about U.S. reliability. The point is merely to state that many civil servants deciding on defense acquisitions today joined the IAS during a time when U.S.-India relations were "estranged democracies" with the United States imposing sanctions at key points in India's history.

on how long decisions might take, could help mitigate some of the anxiety that corporate officials feel about the lack of predictability in the decisionmaking process.

Dealing with the U.S. Bureaucracy

Just as the Indian bureaucracy can be hard to navigate for Americans, this is also true for Indians trying to do the same in Washington. Indian officials can sometimes be confused by the wide array of U.S. agencies involved in licensing and technology transfers: for Indians used to a centralized bureaucratic system, dealing with the large number of constituencies that have an interest in these issues can be more than a little bewildering.

Indian officials are also often confused about whom to consult for support with regards to purchased defense equipment. The FMS route of purchasing equipment provides U.S. government backing for defense purchases, so the Indian customer can either deal directly with the company or, preferably, go through the U.S. embassy's Office of Defense Cooperation for support. The FMS option also ensures the U.S. government's involvement in the defense deal, thus giving government officials leverage to pressure U.S. companies if there are problems with the product.

By contrast, the DCS takes the U.S. government completely out of the transaction and forces Indian officials to deal directly with the U.S. vendor. In such cases, U.S. officials have little leverage in addressing Indian complaints about the product. This is a confusing point for Indian officials who view any U.S. defense equipment as U.S.-produced, and ergo U.S.-supported. Indian officials have tended to prefer DCS due to their perception that they can obtain a lower cost for defense hardware by directly negotiating with the vendor without having to go through the U.S. government. Such an approach, however, can lead to a reduction in support packages, training, and logistics, whereas FMS cases may mandate such provisions to ensure adequate life-cycle cost support. Despite this, Indian officials have voiced annoyance at instances of inadequate spare parts support on FMS cases, which have in turn reinforced doubts about the FMS process itself and augmented India's desire to control the manufacture and supply of spare parts.

The U.S. corporate bureaucracy can also hinder closer defense trade. When detailed discussions ensue, many Indian officials perceive U.S. corporate officials as invoking technology-transfer restrictions to avoid detailed discussions, which reinforce Indian perceptions of U.S. arrogance about the quality of its hardware. Instead of working to customize equipment for Indian needs, U.S. companies are usually reluctant to go down this path for the reasons outlined above. There are also perceived attitude problems as Indians feel U.S. companies treat the provision of technology as a favor to them rather than treating India as a respected buyer.

Communications and Education Challenges

Within India there is still a fundamental lack of knowledge and misperceptions about U.S. defense policies, procedures, and attitudes, as well as vice versa. Informed Indian commentators have said that while people-to-people and cultural contacts are considered outstanding, there is still an overall negative perception about the U.S. government policies both within the media and even privately among some Indian officials.[86]

86. Findings from CSIS-ORF Roundtable, New Delhi, December 6, 2011.

Regarding the media, there is a relatively small community of defense correspondents whose collective reporting often reflects Indian government views. Many Indian observers attribute this dynamic to the Indian government's propensity to leak.[87] Journalists also lament that U.S. officials or sources are frequently unavailable to offer their side of the story, especially when they are on deadline.[88] Americans may be reluctant to engage the Indian media due to concerns about the possibility of getting misquoted and being associated with an inaccurate story. There are also concerns about raising the U.S. defense profile too high, which could lead to political blowback from various quarters of the Indian political establishment charging the government with getting too close to Washington. U.S. defense officials at the U.S. Embassy may also be simply overwhelmed with their day-to-day activities to make themselves readily available to the media. The resulting reports can paint a picture that is one-sided and sometimes peppered with inaccurate information.

Regardless of the reasoning, it is evident from the research conducted for this report that the United States can do a better job of informing the Indian side about U.S. policies, how the United States does business, and both the limitations and opportunities of the partnership. These efforts, however, must go beyond the halls of South Block and Indian government officials. Instead, the United States needs to reach out to a wider array of constituencies on a consistent basis, including think tanks, defense media, parliament, influential advisers, trade groups, and state governments to better educate and inform the information space within the country. Most U.S. officials do engage in some form of think tank engagement on their brief trips through New Delhi. However, what is needed is a sustained effort at informing these groups about the FMS process, technology-transfer policies, end-use monitoring, defense agreements, and a host of other related topics. As it currently stands, the United States is losing the battle to effectively present its narrative on defense cooperation.

Curiously, Russian vendors have not received the same level of scrutiny as U.S. companies despite the myriad problems with Russian delivery schedules and logistics shortfalls. The notable exception to this trend has been the aircraft carrier *Gorshkov*, which has had price hikes and delivery schedule delays that have cast a pall over the relationship. Israeli vendors have also largely managed to keep themselves out of the media spotlight due to Indian government concerns about leftist politicians and the possibility of Muslim voters raising objections to the purchase of Israeli equipment.[89]

On the Indian side, there has been a lack of effort by the Indian government on crafting a narrative that describes the mutual benefits of U.S.-India defense trade to various influential constituencies in India as well as in the United States. Crafting a narrative that portrays the relationship as beneficial for both sides rather than solely aimed at building India's own indigenous defense capabilities could create an environment in the United States that is favorable to deeper technology collaboration. The Indian government should also be more active in publicly communicating to foreign vendors their acquisition plans for the short, mid-, and long term in order to allow companies to facilitate business planning and also instill more confidence within the private sector about transparency and predictability of the Indian defense market.

Providing acquisition education to Indian officials involved in defense procurements is another key area for bilateral engagement. As noted above, Indian officials usually come to defense

87. Ibid.
88. Ibid.
89. Findings from CSIS-ORF Roundtable, New Delhi, December 6, 2011.

portfolios with little to no training on the complex arena of defense trade. Dealing with the United States complicates this challenging task. Offering resources to incoming Indian officials on the FMS system and also working with the Indian government to build a professional acquisition corps could be an excellent investment for the future of bilateral defense trade. Reciprocally, the Indian government should also provide resources for foreign defense companies operating in India to learn about the DPP and ask questions if there are provisions on which they require greater clarification.

4 CONCLUSIONS AND RECOMMENDATIONS

With a significant record of success accrued in a relatively short amount of time, the United States and India now find themselves with an opportunity to capitalize on this success and take their defense trade relations toward a deeper level, one that will lead to greater strategic benefits for both. This report has outlined five categories of challenges to normalizing defense trade between the United States and India. While many of the challenges outlined here are formidable, they are not impossible to overcome. Commitment, flexibility, and persistence *from both sides* will be the keys to forming a realistic defense trade partnership that moves toward a deeper relationship. It is important to note that, fairly or not, the United States may well be held to a higher standard than other countries due to the higher expectations of Washington to produce where other countries have fallen short.

As Ronen Sen, India's former ambassador to the United States, said in an op-ed in July 2011:

> There is a clear tendency in India to hold the US to much higher standards of expectations than any of our other strategic partners. We expect the US to follow our script on all issues of interest to us, while often viewing reciprocal US expectations as affronts to our sovereignty. Even while collaborating closely, we tend to shy away from any overt US embrace. We cannot maintain the unprecedented pace of our cooperation between 2005 and 2008. Since 2009, however, the relationship has not only been consolidated but significantly broadened in scope and content, both in the bilateral and the global perspective. . . . As our relationship matures, it will become less dramatic and more tranquil and predictable. We have some way to go before we reach that phase. Both our countries will have to be persistent in our efforts in steering our ties toward this destination.[1]

Despite the marked differences in strategic objectives and defense trade protocol between the two countries, there are compelling strategic reasons to continue working toward better trade relations. First, even if India does not aspire to interoperability with the United States, the mere presence of U.S. equipment in Indian military inventories continues to promote other U.S. objectives such as building people-to-people contacts and facilitating the wide slate of bilateral military exercises conducted every year. Second, India is one of the few growth markets for defense contracts today. However, while commercial profits from the Indian market could be substantial for some of the larger defense companies operating in India, it may not serve as a viable market for small to mid-size firms with limited resources that cannot afford a permanent presence in India. The best opportunity for smaller U.S. companies to benefit from the Indian market may be to serve as subcontractors to larger U.S. firms that have already secured Indian contracts or participating in the offset market. Third, as Indian power grows in the coming years, it will face choices about how

1. Ronen Sen, "From Drama to Routine: More Progress Can Be Expected in India-U.S. Relations," *Telegraph*, July 28, 2011, http://www.telegraphindia.com/1110728/jsp/opinion/story_14285784.jsp.

to use its military power and will inevitably need to think about strategic, operational, and tactical changes to its doctrines. The presence of U.S. hardware within Indian inventories could facilitate closer discussions between U.S. and Indian officials on how these doctrines might evolve. Fourth, U.S. equipment provides India with the help it needs to address the myriad national security challenges it faces beyond Pakistan and China. Finally, defense trade can serve as a powerful symbol of a relationship between two large powers that can reassure Asian allies and partners.

Given these compelling reasons to build on defense trade, the relationship has now reached a point where both sides should now focus on building a long-term relationship in which the various systemic issues outlined here are effectively addressed. While the transformation in recent defense trade has been remarkable, it can be even better in the future. To push forward defense trade between the United States and India, there are a number of recommendations that could set the stage for a deeper partnership:

Strategic Challenges

General Recommendations

- The United States and India should both designate one individual within their respective governments as the points of contact for bilateral defense trade. Focus on the bilateral relationship has waned in recent months as both sides have been distracted by a variety of domestic and foreign policy issues. The designated individuals should be charged with deepening bilateral defense trade as a key priority within their portfolios. To be effective, the designated individuals should ideally be at the undersecretary level on the U.S. side and the cabinet secretary level on the Indian side.
- The United States and India should develop a joint understanding of India's future defense needs. Due to the lack of a common understanding of what India requires, U.S. defense companies proffer a variety of wares that are not tied to a joint vision for the partnership. Having a joint understanding of where both sides want to take this partnership could assist a more fruitful transfer of defense equipment and technology.
- Both sides should take the long view for the relationship. While it can be difficult, U.S. companies need to commit to a long-term presence in India that facilitates the building of relationships and builds their local knowledge. Similarly, India must be patient in obtaining U.S. know-how, given the sensitivity of transferring the best technology of the United States to a relatively new partner. While bilateral trade has made significant progress in a short amount of time, it will require a much longer time horizon to arrive at a deeper relationship where defense trade fulfills expectations on both sides.

Recommendations for the United States

- While there are significant opportunities in the Indian market, U.S. companies should be selective in which tenders it chooses to bid given the potential costs and long timelines for defense deals to materialize.
- The United States should undertake a comprehensive policy review to determine how to assist India with developing its defense industrial base through coproduction and codevelopment projects. A policy review should examine the parameters and requirements for that coopera-

tion as well as the terms and conditions India must fulfill to broach such cooperation. The review should also consider proposals for an initial codevelopment or coproduction project in which the United States and India might cooperate. As this report has argued, coproduction and codevelopment projects focused on defense equipment that is mutually beneficial yet within the bounds of current technology-transfer provisions could build confidence between the defense establishments in the long term.

Recommendations for India

- India should consider greater interoperability with the United States by committing to consistently working with the United States on one operational area such as disaster response that would use common equipment to facilitate closer cooperation. To that end, both sides should jointly commit to actively implementing the 2005 Disaster Response Initiative (see appendix D).

Political Challenges

Recommendations for the United States

- U.S. companies need to ensure that all purchased defense equipment is delivered on time and that follow-up support is impeccable to address Indian concerns about U.S. reliability.
- Driven by U.S. national interests, the United States will continue to sell arms to both India and Pakistan. These will continue to cause a degree of angst in New Delhi and Islamabad. While U.S. arms sales to all countries are notified to Congress and publicly available, the U.S. government should strive to promote transparency whenever possible to address the various concerns of India and Pakistan.

Recommendations for India

- The Indian government should craft a public narrative of the benefits of mutual defense partnership. The government should also be more active in countering misperceptions about its U.S. relationship among various public constituencies such as the political community, parliament, state governments, and the media.

Procedural and Technical Challenges

General Recommendations

- Both sides should engage in an intensified dialogue dedicated to bridging the differences between the FMS and DPP systems.
- Both sides should examine the possibility of abolishing or consolidating the various defense working groups dedicated to defense trade and licensing. A single group that handles dual-use and munitions licensing should be established.

Recommendations for the United States

- Establish orientation programs for new Indian defense officials on U.S. licensing processes and procedures.

- Develop regular bilateral mechanisms to review questions about licenses that are denied or RWA.
- Refrain from pressuring India about defense agreements (CISMOA, LSA, BECA) in the near to mid-term. Given India's reluctance to developing interoperability with the United States, it makes little sense to pursue these agreements.
- The United States should focus on continuing equipment sales with an eye toward more frequent customization of its products for Indian use, and employ commercial solutions for items that do not require India to sign defense agreements or adhere to one of the four multilateral regimes.
- Seriously consider coproduction and codevelopment projects that can build confidence between the two sides. Examine areas that foster familiarity between the R&D establishments to include:
  - The possibility of coproducing the training aircraft selected as the U.S. Air Force replacement for the T-38.
  - Codevelopment of counter-IED (improvised explosive device) technology, chemical/biological defense systems, or research on individual soldier capabilities.

Recommendations for India

- India should abolish No Cost, No Commitment trials for all vendors. Eliminating this requirement could greatly reduce the cost of purchased defense equipment for India.
- India should increase FDI to over 50 percent to incentivize companies to enter the Indian defense market. An arrangement where U.S. companies invest in Indian defense industry could provide a win-win for both the United States and India by improving India's defense industry while providing U.S. companies a potential source of lower-cost manufacturing for defense products.
- India should take steps to assure the United States that it can adequately protect sensitive technologies provided to India. Such steps could include detailed information on physical and personnel security measures employed by India to protect transferred technology.
- Treat the Indian private sector on par with DPSUs by fully implementing the Raksha Udyog Ratnas (RUR) provisions.
- India should develop an offset strategy that clearly lays out the technologies and capabilities it hopes to accrue from its offset program
- India should seriously consider the idea of indirect offsets and channel offset obligations to develop and accelerate India's national economy in areas such as infrastructure and educational needs. India has already opened up the offset aperture to civil aviation, homeland security, and training.
- The Indian government should institute effective mechanisms for partnering Indian and U.S. companies for discharging offset obligations.
- India should consider allocating more R&D resources to private-sector companies and encourage them to partner with the U.S. public and private sector on defense research.

Bureaucratic Challenges

Recommendations for the United States

- Expedite RFIs, price and availability data, and other technologies. Indian government and security officials have complained in the past about the amount of time to answer queries regarding equipment and pricing
- Provide better insight to Indian officials on how technology-transfer decisions are made within the U.S. government and strive to ensure consistency and transparency in all technology transfers.

Recommendations for India

- Expedite the completion of routine paperwork with U.S. interlocutors. India's reluctance to sign routine pieces of paperwork such a TAAs, contract modifications, other pieces of routine paperwork seriously hinders closer U.S.-India cooperation. The United States needs to be clear with India that the defense agreements are not the only pieces of paperwork that will be required on a defense sale or a collaborative defense project.
- Provide better insight to foreign industry officials on decisionmaking processes about defense procurements, including the length of time and process mechanics.
- Establish a readily accessible point of contact for all foreign vendors in case of questions or concerns about RFIs, proposals, and other procedural details.

Communications and Education Challenges

Recommendations for the United States

- The U.S. Embassy in New Delhi should effectively cultivate the defense correspondent community in India through regular and impromptu briefings. U.S. officials in Washington should do the same with the Washington-based Indian press corps.
- Provide more frequent information on U.S. defense sales policies and procedures by engaging a wide array of constituencies on a consistent basis, including parliament, think tanks, and state governments.
- Develop and provide courses on acquisition and the FMS system that can be deployed to India for civil servants involved in defense acquisition. Also have Defense Acquisition University (DAU), based in Fort Belvoir, Virginia, work with MoD on establishing a defense acquisition curriculum for Defence Ministry personnel. Also advise on developing a career acquisition work force.
- Establish a dialogue with India about the key elements of a successful defense industrial base. The dialogue could cover best industrial practices, quality assurance, and personnel training and be held between DPSUs and the U.S. private sector.
- Defense deals that have offset obligations could have significant economic benefits for various Indian states. With the increasing influence of regional parties in India, it would be in the U.S. interest to engage state governments in India and begin informing their views about the possible benefits of bilateral defense trade to their constituents. While state government officials

are generally uninformed about defense matters, the growing influence of regional parties in Indian politics represents another constituency that can influence the central government and should be properly informed about such matters.

- The U.S. government (including Capitol Hill) and industry need to better coordinate their efforts on information dissemination.

Recommendations for India

- Communicate its intent for defense sales in the spirit of partnership rather than solely emphasizing the development of indigenous capability; craft a win-win narrative for U.S.-India defense trade that appeals to larger relationship and not just commercial. Providing clarifications about what India gets from its defense trade interactions, correcting erroneous reports about bilateral relations, and highlighting the benefits of bilateral cooperation can help dispel myths within the larger Indian defense community about the relationship.
- Provide educational resources for foreign companies and governments to learn about the DPP.
- Actively engage Capitol Hill and the wider policy community to inform the U.S. public about the value of U.S.-India defense trade.
- Develop a strategic acquisition plan and ensure its annual, mid-term, and long term acquisition plans are publicly communicated to foreign vendors to facilitate defense and business planning.

A FINAL WORD

As the United States rebalances its engagement with Asia in the coming years, the Indo-Pacific will increasingly look to Washington and New Delhi as security providers in a region that holds great economic promise, but where security challenges could threaten that promise. The United States and India now stand at a defining period of their defense trade relationship and have an opportunity to build a mutually beneficial partnership that will not only meet each side's respective interests, but also benefit stability in Asia as a whole. To be sure, it will not be easy as the challenges outlined in this report have made clear. However, in striving to overcome these challenges, both sides will not only better fulfill their respective interests, but also advance the cause of Asian and global security through a relationship that could prove to be one of the most decisive in the coming century—if both sides so choose.

APPENDIX A
NEW FRAMEWORK FOR THE U.S.-INDIA DEFENSE RELATIONSHIP

Signed on June 28, 2005 in Washington DC by Minister of Defense of India, Pranab Mukherjee & Secretary of Defense of the United States, Donald Rumsfeld

1. The United States and India have entered a new era. We are transforming our relationship to reflect our common principles and shared national interests. As the world's two largest democracies, the United States and India agree on the vital importance of political and economic freedom, democratic institutions, the rule of law, security, and opportunity around the world. The leaders of our two countries are building a U.S.-India strategic partnership in pursuit of these principles and interests.
2. Ten years ago, in January 1995, the Agreed Minute on Defense Relations Between the United States and India was signed. Since then, changes in the international security environment have challenged our countries in ways unforeseen ten years ago. The U.S.-India defense relationship has advanced in a short time to unprecedented levels of cooperation unimaginable in 1995. Today, we agree on a new Framework that builds on past successes, seizes new opportunities, and charts a course for the U.S.-India defense relationship for the next ten years. This defense relationship will support, and will be an element of, the broader U.S.-India strategic partnership.
3. The U.S.-India defense relationship derives from a common belief in freedom, democracy, and the rule of law, and seeks to advance shared security interests. These interests include:
   - maintaining security and stability;
   - defeating terrorism and violent religious extremism;
   - preventing the spread of weapons of mass destruction and associated materials, data, and technologies; and
   - protecting the free flow of commerce via land, air and sea lanes.
4. In pursuit of this shared vision of an expanded and deeper U.S.-India strategic relationship, our defense establishments shall:

   A. conduct joint and combined exercises and exchanges;

   B. collaborate in multinational operations when it is in their common interest;

   C. strengthen the capabilities of our militaries to promote security and defeat terrorism;

   D. expand interaction with other nations in ways that promote regional and global peace and stability;

   E. enhance capabilities to combat the proliferation of weapons of mass destruction;

   F. in the context of our strategic relationship, expand two-way defense trade between our

countries. The United States and India will work to conclude defense transactions, not solely as ends in and of themselves, but as a means to strengthen our countries' security, reinforce our strategic partnership, achieve greater interaction between our armed forces, and build greater understanding between our defense establishments;

G. in the context of defense trade and a framework of technology security safeguards, increase opportunities for technology transfer, collaboration, co-production, and research and development;

H. expand collaboration relating to missile defense;

I. strengthen the abilities of our militaries to respond quickly to disaster situations, including in combined operations;

J. assist in building worldwide capacity to conduct successful peacekeeping operations, with a focus on enabling other countries to field trained, capable forces for these operations;

K. conduct exchanges on defense strategy and defense transformation;

L. increase exchanges of intelligence; and

M. continue strategic-level discussions by senior leadership from the U.S. Department of Defense and India's Ministry of Defence, in which the two sides exchange perspectives on international security issues of common interest, with the aim of increasing mutual understanding, promoting shared objectives, and developing common approaches.

5. The Defense Policy Group shall continue to serve as the primary mechanism to guide the U.S.-India strategic defense relationship. The Defense Policy Group will make appropriate adjustments to the structure and frequency of its meetings and of its subgroups, when agreed to by the Defense Policy Group co-chairs, to ensure that it remains an effective mechanism to advance U.S.-India defense cooperation.

6. In recognition of the growing breadth and depth of the U.S.-India strategic defense relationship, we hereby establish the Defense Procurement and Production Group and institute a Joint Working Group for mid-year review of work overseen by the Defense Policy Group.

   - The Defense Procurement and Production Group will oversee defense trade, as well as prospects for co-production and technology collaboration, broadening the scope of its predecessor subgroup the Security Cooperation Group.
   - The Defense Joint Working Group will be subordinate to the Defense Policy Group and will meet at least once per year to perform a midyear review of work overseen by the Defense Policy Group and its subgroups (the Defense Procurement and Production Group, the Joint Technical Group, the Military Cooperation Group, and the Senior Technology Security Group), and to prepare issues for the annual meeting of the Defense Policy Group.

7. The Defense Policy Group and its subgroups will rely upon this Framework for guidance on the principles and objectives of the U.S.-India strategic relationship, and will strive to achieve those objectives.

Signed in Arlington, Virginia, USA, on June 28, 2005, in two copies in English, each being equally authentic.

Secretary of Defense

FOR AND ON BEHALF OF
THE GOVERNMENT OF THE
UNITED STATES OF AMERICA

Minister of Defence

FOR AND ON BEHALF OF
THE GOVERNMENT OF THE
REPUBLIC OF INDIA

APPENDIX B
COMMITTEE AMENDMENT

Proposed by Mr. Cornyn, for himself and cosponsored by Mr. Lieberman

Committee Reports
112th Congress (2011-2012)
Senate Report 112-026

Item of Special Interest – Report on U.S.-India Security Cooperation

The committee believes that a deepening global strategic partnership between the United States and India will be critical to the maintenance and expansion of a rules-based international system that promotes freedom, democracy, security, prosperity, and the rule of law in the 21st century. It is in the national interest of the United States, through military-to-military relations, arms sales, bilateral and multilateral joint exercises, and other means, to support India's rise and build a strategic and military culture of cooperation and interoperability between our two countries, in particular with regard to the Indo-Pacific region.

The committee notes that combined naval exercises, conducted between the United States and India, have become a vital pillar of stability, security, and free and open trade, in the Indo-Pacific region and beyond. Recent U.S. arms sales to India, including C-130J military transport aircraft, a U.S. amphibious transport dock, UH-3H Sea King helicopters, counter-battery radar sets, and P-8 maritime surveillance aircraft, have benefitted the United States and India alike, increasing commonality of military equipment platforms and contributing to security in the Indo-Pacific region. The committee also notes that India recently announced its intention to purchase 10 C-17 Globemaster III aircraft.

The Secretary of Defense, not later than November 1, 2011, shall submit to the congressional defense committees an unclassified report, with a classified annex as appropriate, that provides a plan to enhance U.S.-India security cooperation, containing the following: (1) a detailed assessment of the current state of U.S.-India security cooperation; (2) a 5-year plan for enhancing U.S.-India security cooperation in the Indo-Pacific region and globally, to include recommendations for the United States to further improve and expand this relationship in four areas: combined military exercises; defense trade and support for India's military modernization; cooperation in areas such as disaster response and relief, humanitarian assistance, counterproliferation, counterpiracy, counterterrorism, homeland security and coastal defense, and the maintenance of secure sea lines of communication; and multilateral exercises and cooperation incorporating other Indo-Pacific allies and strategic partners; and (3) a detailed assessment of the desirability and feasibility of the future sale of F-35 Joint Strike Fighters to India, and a potential U.S. partnership with India to co-develop one or more military weapon systems, including but not limited to the anticipated program to replace the U.S. Air Force T-38 trainer jet.

APPENDIX C
REPORT TO CONGRESS ON U.S.-INDIA SECURITY COOPERATION

Report to Congress on U.S.-India Security Cooperation

U.S. Department of Defense

November 2011

Preparation of this report/study cost the Department of Defense a total of approximately $12,000 for the 2012 Fiscal Year.

Introduction

The between the United States and India – what President Obama has called one of the defining partnerships of the 21st century–is a priority for the U.S. Government and for the U.S. Department of Defense. The United States and India are natural partners, destined to be closer because of shared interests and values and our mutual desire for a stable and secure world. A strong bilateral partnership is in U.S. interests and benefits both countries. We expect India's importance to U.S. interests to grow in the long-run as India, a major regional and emerging global power, increasingly assumes roles commensurate with its position as a stakeholder and a leader in the international system.

I. Current State of U.S.-India Security Cooperation

Over the past decade, there has been a rapid transformation in the U.S.-India defense relationship. What was once a nascent relationship between unfamiliar nations has now evolved into a strategic partnership between two of the preeminent security powers in Asia. Today, U.S.-India defense ties are strong and growing. Our defense relationship involves a robust slate of dialogues, military exercises, defense trade, personnel exchanges, and armaments cooperation. Our efforts over the past ten years have focused on relationship-building and establishing the foundation for a long-relationship term partnership. The strong ties between our two militaries reflect this. The United States remains committed to a broad defense trade relationship that enables transfers of some of our most advanced technologies.

Frameworks for Cooperation

The 2005 New Framework Agreement provides the overarching structure for the U.S.-India defense relationship. The Defense Policy Group (DPG), chaired by the U.S. Under Secretary of Defense for Policy and the Indian Defense Secretary, is at the apex of the bilateral defense relationship. In addition to facilitating dialogue on issues of mutual interest, the DPG sets priorities for defense cooperation, reviews progress annually, and directs adjustments as necessary. The 2011 DPG prioritized maritime security, humanitarian assistance/disaster relief (HA/DR), and counterterrorism cooperation. Under the DPG umbrella, we have seven subgroups to discuss and advance defense trade, service-to-service cooperation, technical cooperation, and technology security.

Additional framework agreements help guide interactions in key areas such as maritime security and counterterrorism. The *2006 Indo-U.S. Framework for Maritime Security Cooperation* signaled our intent to cooperate against a wide range of maritime threats, including: transnational crime (piracy, smuggling, and trafficking); maritime proliferation of weapons of mass destruction; threats to safety of ships, crew, and property (safety of navigation, search and rescue); environmental degradation; and natural disasters.

The *U.S.-India Counterterrorism Cooperation Initiative (CCI)*, signed on July 23, 2010, further calls on our countries' coast guards and navies to increase exchanges on maritime security and cooperate in addressing maritime threats like piracy and terrorism.

Military-to-Military Relations

Beginning in 1995, continuously expanding military-to-military relations – and the people-to people ties that underpin them – have enabled the broader strategic partnership between the United States and India. Our robust exercise program, reciprocal visits by distinguished visitors, and growing personnel exchange opportunities are bringing the United States and India closer together.

Exercises

U.S.-India military exercises have grown dramatically in size, scope and sophistication. We now have regular exercises across all services that help to deepen our military and defense relationships. In FY11, there were 56 cooperative events across all Services – more than India conducted with any other country. In 2010, the U.S. Pacific Command (USPACOM) and the Indian Integrated Defense Staff (IDS) conducted the inaugural Joint Exercise India (JEI) tabletop exercise in Alaska. JEI is a joint[1], combined[2] exercise based on a HA/DR scenario and is a significant step in the evolution of our exercise program because it facilitates multiservice and bilateral cooperation. JEI may include a command post exercise in 2012.

Navy and Coast Guard: Naval cooperation between the United States and India helped to lay the groundwork for military-to-military cooperation and our exercises continue to evolve in complexity. Our navies conduct four exercises annually: MALABAR, HABU NAG (naval aspects of amphibious operations), SPITTING COBRA (explosive ordnance destruction focus), and SALVEX (diving and salvage). MALABAR is the premier annual bilateral maritime exercise conducted to reinforce maritime tactics, techniques, and procedures (TTPs) of both nations. In alternate years, MALABAR has been a multinational exercise, in the past including the navies of Japan, Australia, and Singapore. HABU NAG is also increasing in scale and complexity, and was conducted this year in conjunction with USPACOM's JEI to leverage the complementary characteristics of amphibious and HA/DR operations.

These exercises are important vehicles in developing professional relationships and familiarity between the two navies and run the gamut of high-end naval warfare, including integrated air/missile defense, anti-surface warfare, anti-submarine warfare, and naval special warfare. In addition to the annual Pacific Fleet-Indian Navy Executive Steering Group meeting, we also hold regular naval bilateral staff talks, engage in port visits, and conduct personnel exchanges at all ranks. The U.S. Coast Guard, with the support of the Departments of Defense and Homeland Security, has also recently begun engagement and training with the Indian Coast Guard.

Army: The U.S. Army's engagement with India centers on the annual YUDH ABHYAS exercise. Conceived in 2001, YUDH ABHYAS exercising commenced in 2004 – the first year our conventional armies exercised together in India since 1962. YUDH ABHYAS has expanded from a company-size field training exercise to battalion live fire exercises and brigade-level command post exercises. In addition to the Executive Steering Group meeting convened annually between our

1. As outlined in Joint Publication 1-02, the U.S. Department of Defense defines joint as "activities, operations, organizations, etc., in which elements of two or more Military Departments participate."

2. As outlined in Joint Publication 1-02, the U.S. Department of Defense defines combined activities as "between two or more forces or agencies of two or more allies. (When all allies or services are not involved, the participating nations and services shall be identified, e.g., combined navies.)"

armies, there have also been numerous subject matter expert exchanges on challenges of mutual concern, including countering improvised explosive devices.

Marines: Although India does not have a direct counterpart to the U.S. Marine Corps, the Indian Army desires engagement with our Marine Corps to develop the capabilities of its amphibious units. Exercise SHATRUJEET is an annual, reciprocal, company-sized, ground field training exercise that could easily be expanded in size and scope. Since 2010, SHATRUJEET has focused on amphibious doctrine and operations.

Air Force: COPE INDIA, meant to be held bi-annually, is the primary exercise between our air forces. The last COPE INDIA, held in Agra, India, in October 2009, focused on mobility operations in a humanitarian assistance scenario. The IAF intends to participate in RED FLAGNELLIS in 2013, likely with both fighters and airborne warning and control system aircraft. RED FLAG is a joint, combined training exercise that provides a peacetime "battlefield" to train interoperability across a variety of mission sets, including interdiction, air superiority, defense suppression, airlift, aerial refueling, and reconnaissance. The IAF last participated in RED FLAG-NELLIS in 2008. In June 2010, the U.S. Air Force (USAF) and IAF conducted a UNIFIED ENGAGEMENT seminar focused on planning for future employment of airpower concepts, including: intelligence, surveillance, and reconnaissance planning; targeting hardened and deeply-buried targets; and combat search and rescue operations. The course of air force engagement is charted annually at the Pacific Air Forces (PACAF)-IAF Executive Steering Group, and several subject matter expert exchanges and exchanges are conducted annually on topics such as airfield engineering, intelligence, weapons and tactics, and flight safety.

Special Operations Forces (SOF): U.S. SOF interacts with Indian SOF through Joint Combined Exchange Training (JCET) events, incorporated as part of Service-sponsored exercises MALABAR, YUDH ABHYAS, and COPE INDIA. VARJA PRAHAR is the SOFexclusive exercise with India. It focuses on advanced rifle marksmanship, combat marksmanship, close-quarters combat, helicopter insertion, medical evacuation, combined mission planning, and scenario-based missions.

Operational Cooperation

The United States and India have partnered closely on HA/DR. We have incorporated disaster relief scenarios and elements into existing exercises and have established a working group to coordinate disaster relief activities more effectively. In 2005, we introduced the U.S.-India Disaster Response Initiative to spur greater training and engagement to prepare for combined responses to future disasters in the Indian Ocean Region.

Additionally, the U.S. Navy and Indian Navy have cooperated operationally on four separate occasions: security by the Indian Navy for U.S. ships transiting the Strait of Malacca after 9/11; disaster relief efforts after the Indian Ocean tsunami in 2004-2005; noncombatant evacuation operations in Lebanon in 2006; and counter-piracy operations in the Gulf of Aden since 2008.

Defense Trade, Personnel Exchanges, and Armaments Cooperation

Defense Sales: The United States remains committed to being a reliable and transparent defense supplier to India. Since 2002, India has signed more than 20 Foreign Military Sales (FMS) cases

for defense articles and services such as C-17 and C-130J aircraft, TPQ-37 radars, Self- Protection Suites (SPS) for VVIP aircraft, specialized tactical equipment, Harpoon missiles, Sensor-Fuzed Weapons, and carrier flight and test pilot school training. In less than a decade, and starting at zero, we have seen the FMS program grow to a combined total case value of approximately $6 billion.

Defense sales provide the Indian military with capabilities that mutually support both our nations' strategic priorities. Additionally, we view defense sales as a mechanism to enable new training and exchange opportunities between our militaries. The last five years have given us several opportunities to reach a new level of interaction between our militaries through defense trade. The C-130Js delivered beginning in February 2011 are the first U.S. military aircraft to have been delivered to India in half a century and have already been successfully employed to provide critical humanitarian assistance following an earthquake in Sikkim in September 2011. As part of that sale, the U.S. Air Force (USAF) trained more than 100 Indian Air Force personnel – including pilots, loadmasters, and maintenance staff. Once the C-17 contract is fulfilled, India will operate the second largest fleet of C-17s in the world. The former USS TRENTON, which was transferred to the Indian Navy in 2007 and christened the INS JALASHWA, has helped the Indian Navy expand its amphibious and expeditionary warfare capabilities.

The United States and India continue to seek ways to educate each other on our respective procurement and acquisition systems to enable further compatibility. We are working to find ways to adopt processes that will improve efficiency and make it easier for us to cooperate on defense trade. Over the past seven years, we have sent mobile training teams to India to present courses on the FMS process. U.S. defense personnel also participated in international acquisition seminars hosted by think tanks affiliated with the Indian Ministry of Defence.

Personnel Exchanges: Relationship building between U.S. and Indian defense personnel is one of DoD's highest priorities for the U.S.-India defense relationship. To take one example, the U.S. and Indian Air Forces currently maintain a standing T-38/Kiran instructor pilot exchange between Columbus Air Force Base, Mississippi and AFS Hakimpet in Hyderabad, India. We pursue many other personnel exchange opportunities to help build the foundation and connections essential for a robust partnership. Towards this end, the International Military Education and Training (IMET) program is a useful tool. The FY 2010 and FY 2011 IMET programs focused on exchange programs to enhance familiarity with each country's armed forces, strengthen professionalism, and facilitate cooperation during bilateral exercises and strategy discussions. Courses included Army War College, Air Command and Staff College, Naval Staff College, International Officer Preparation, the Judge Advocate Staff Officer course, and training in medical services, aircraft maintenance and maritime search/rescue. Additionally, the Asia Pacific Center for Security Studies (APCSS) has hosted more than 200 military and civilian Indian participants across all ministries. India has also established an APCSS alumni association.

Armaments Cooperation: Armaments cooperation is another key component of our defense engagement with India. India's capabilities in technology are rapidly improving, particularly in the private sector. In the defense sector, India has over fifty defense laboratories in the Defence Research and Development Organisation (DRDO), presenting opportunities for collaboration over a broad range of defense technologies and systems. Naval Postgraduate School and DRDO are implementing a letter of agreement signed in February 2011 establishing an educational exchange

program and joint research project program. To date, acquisition and technology cooperation between India and the United States has been primarily in the exchange of science and technology (S&T) information and collaboration in S&T projects. Some areas of current cooperation include power and energy, micro-aerial vehicles, situational awareness, energetics, and human effectiveness. The progress that has been made in armaments cooperation between the United States and India is notable, especially when compared to similar relationships with other countries, and given the relatively short time that the U.S.-India defense relationship has been developing.

II. Enhancing U.S.-India Security Cooperation

Over the next five years, we will continue to build the support structures necessary to ensure the maturation of a robust and mutually beneficial defense relationship with India in the Asia-Pacific and globally. We will advance the defense relationship by deepening people-to-people ties through continued military-to-military engagements, implementing agreed upon cooperation and pursuing new avenues of collaboration with particular emphasis on maritime security and counterterrorism activities, and expanding defense trade and armaments cooperation.

Bolstering Military-to-Military Engagements

Combined Exercises: We plan to conduct increasingly complex joint and combined exercises with a focus on counterterrorism, maritime security, and HA/DR across all of the Services. Additionally, we will work together to convert the skills attained during these exercises into practical cooperation and action. As we continue to expand operational coordination in the Indian Ocean, we should continue to seek opportunities to exercise multilaterally with partners in the region. These habits of cooperation could facilitate timely responses to crises, such as those often triggered in the region by natural disasters.

Personnel Exchanges and Training: The relationships between our military personnel are strong and will continue to grow over the five-year horizon. At the 2011 DPG, both countries agreed to exchange lists of possible personnel exchange and training opportunities to help expand people-to-people ties between our military leaders at all levels. To that end, the United States is looking for ways to expand the formal Personnel Exchange Program for India across all of the Services. To maximize exchange and training opportunities offered by India, the United States will also seek to expand the number of U.S. officers regularly attending Indian Professional Military Education Schools, as well as other Indian military professional development schools. The objective is to increase the number of service personnel in each country who understand their Indian or U.S. counterparts.

Implementing Cooperation on Maritime Security and Counterterrorism

As our robust exercise slate and ongoing operational cooperation demonstrate, some of the most promising U.S.-India defense cooperation takes place in the maritime domain. As we look to build on our successes, we will work together to ensure that we actualize the cooperation already agreed upon in the *2006 Indo-U.S. Framework for Maritime Security Cooperation*. Deepening maritime security cooperation with India holds great potential over the next five years across a range of issues, including, but not limited to, maritime domain awareness, countering piracy, and HA/DR.

On the counterterrorism front, the United States continues to focus on al-Qa'ida and other terrorist threats that emanate from South Asia. For some of these groups, particularly Lashkar-e-Tayyiba (LT), India remains the primary target. LT's activities continue to threaten U.S. interests and South Asian regional stability. Therefore, we will continue to follow the guidance of our National Strategy for Counterterrorism which calls for joining with key partners, like India, to share the burdens of our common security goals. In doing so, we will seek to expand counterterrorism cooperation with India, and our current special operations engagements in the region will continue to focus on the mutually beneficial ways in which we can enhance each other's capabilities.

In both instances, DoD will work with the State Department and other interagency colleagues as appropriate to work with India in the emerging Asian regional security architecture and other multilateral forums, such as the ASEAN Defense Ministers' Meeting-Plus.

Maritime Domain Awareness (MDA): The United States would like to continue to work with India to improve our capabilities to identify threats in the maritime domain. We will continue to establish processes and capabilities to fuse information, especially across U.S. Combatant Command seams. Initiatives are already underway between the U.S. Navy and Indian Navy on MDA, and we will continue to look for ways to expand MDA information exchanges.

Countering Piracy: India's capability and capacity to participate in counter-piracy operations has been demonstrated consistently during the annual MALABAR exercise and in its counterpiracy operations off its west coast. The United States appreciates India's deployment of naval vessels to support counter-piracy operations through the SHADE (Shared Awareness and Deconfliction) mechanism. We will increasingly seek Indian participation and leadership in external operations or exercises related to interdiction, piracy, and port access. The United States appreciates India's continued contribution to the counter-piracy mission in the western Indian Ocean and will support India's leadership role in regional counter-piracy efforts.

Humanitarian Assistance/Disaster Response and Relief (HA/DR): In the next five years, the United States will continue to request India's participation in future PACIFIC PARTNERSHIP missions, the annual U.S. Pacific Fleet HA/DR event in the USPACOM area of responsibility. Indian inclusion would provide an opportunity to apply HA/DR lessons learned in other forums to a humanitarian civil assistance scenario with overlapping skill set requirements, and prepare for combined operations in an actual HA/DR event.

Naval and Coast Guard Cooperation: The U.S. Navy would like to work with the Indian Navy to improve capabilities to perform higher-end, operational missions in the Indian Ocean region as the strategic context dictates. Naval aviation, both maritime surveillance and carrier, provides immediate opportunities for this type of cooperation. Amphibious operations is another viable area in which to increase cooperation and capabilities. We could also exchange information on future capacity building plans during defense bilateral meetings to ensure regional capacity building efforts with third countries are complementary. The United States supports a strong U.S. Coast Guard – Indian Coast Guard relationship.

Counterterrorism: The *2010 Counterterrorism Cooperation Initiative* opened the door for increased cooperation and collaboration on counterterrorism (CT) issues. We will continue to seek

greater cooperation in information-sharing activities as well as in our training, exercises, and exchanges between CT specialists and on CT capabilities. USPACOM seeks to increase its Joint Combined Exchange Training exercises with India. Additionally, USPACOM will continue to train higher-ranking officers through the Combating Terrorism Fellowship Program (CTFP), which, in FY11, succeeded in training two dozen Indian officers during various CTrelated courses and seminars.

Expanding Defense Trade and Armaments Cooperation

Over the next five years, the United States will continue to establish itself as a reliable defense supplier to India and look for opportunities to enable further training and exchanges between our militaries as India continues its military modernization. The Department of Defense, along with the Departments of State and Commerce, will advocate for U.S. solutions to Indian defense needs. We recognize that India is also seeking to build its own indigenous defense industry, and is looking for the best technologies to use in its defense sector. The United States wants to develop deeper defense industrial cooperation with India, including a range of cooperative research and development activities. The United States is committed to providing India with top-of-the-line technology.

III. Joint Strike Fighter and Potential Co-Development of Military Weapons Systems

The Department of Defense is continually looking for ways to expand defense cooperation with India. We are seeking opportunities for increased science and technology cooperation that may lead to co-development opportunities with India as a partner.

India has demonstrated its interest in upgrading its inventory of fighter aircraft. It intends to purchase 126 medium multi-role combat aircraft and is working with Russia on the development of the Sukhoi/HAL Fifth Generation Fighter Aircraft (FGFA). The U.S. F-16 and F-18 competed, but were not down-selected, in the Medium Multi-Role Combat Aircraft (MMRCA) competition in April 2011. Despite this setback, we believe U.S. aircraft, such as the Joint Strike Fighter (JSF), to be the best in the world. Should India indicate interest in the JSF, the United States would be prepared to provide information on the JSF and its requirements (infrastructure, security, etc.) to support India's future planning.

The United States has taken many steps in recent years to facilitate science and technology and research and development cooperation with India. In so doing, we have signaled our unambiguous intent to pursue cooperative opportunities on increasingly sophisticated systems. As our relationship continues to mature, we expect co-development of armaments to become a reality.

APPENDIX D
U.S.-INDIA DISASTER RELIEF INITIATIVE

Fact Sheet
U.S. Department of State
Washington, DC
July 18, 2005

U.S.-India Disaster Relief Initiative

The United States and India committed themselves to aiding those affected by the December 2004 tsunami's devastation and, through the creation of the Tsunami Core Group, demonstrated their willingness and desire to be full-fledged partners in the relief operations. Recognizing that the combined efforts of the U.S. and India significantly enhanced the world's response to the tsunami disaster of December 26, 2004, the President and the Prime Minister announced today the launch of the U.S.-India Disaster Relief Initiative (DRI) to contribute to disaster preparedness and future relief operations.

The Disaster Relief Initiative will build upon the existent, strong civilian relationship between the two governments in disaster relief, involving the U.S. Agency for International Development and the Indian Ministry of Home Affairs. Through the Initiative, the U.S. and India seek to increase their ability to respond to disasters in an integrated fashion, partnering with other U.S., Indian and UN agencies, as well as international Non-Governmental Organizations (NGOs) and other governments as appropriate. The U.S. and India will continue to work together with the regional community on the development and implementation of early warning system programs.

As mandated by the New Framework for the U.S.-India Defense Relationship, the U.S. and India will strengthen their military capabilities to respond effectively to future disasters by conducting joint and combined military exercises. U.S. Pacific Command (USPACOM) and the Indian Integrated Defence Staff (IDS) will be the respective military leads in each country to establish a dialogue and identify additional military training needs, skills-development requirements, and other challenges to a speedy and effective disaster response.

As part of the Disaster Relief Initiative, the U.S. and India agree to cooperate to help build disaster response capabilities in other countries. They would also share best practices and experiences with a view to strengthening a regional response to natural disasters.

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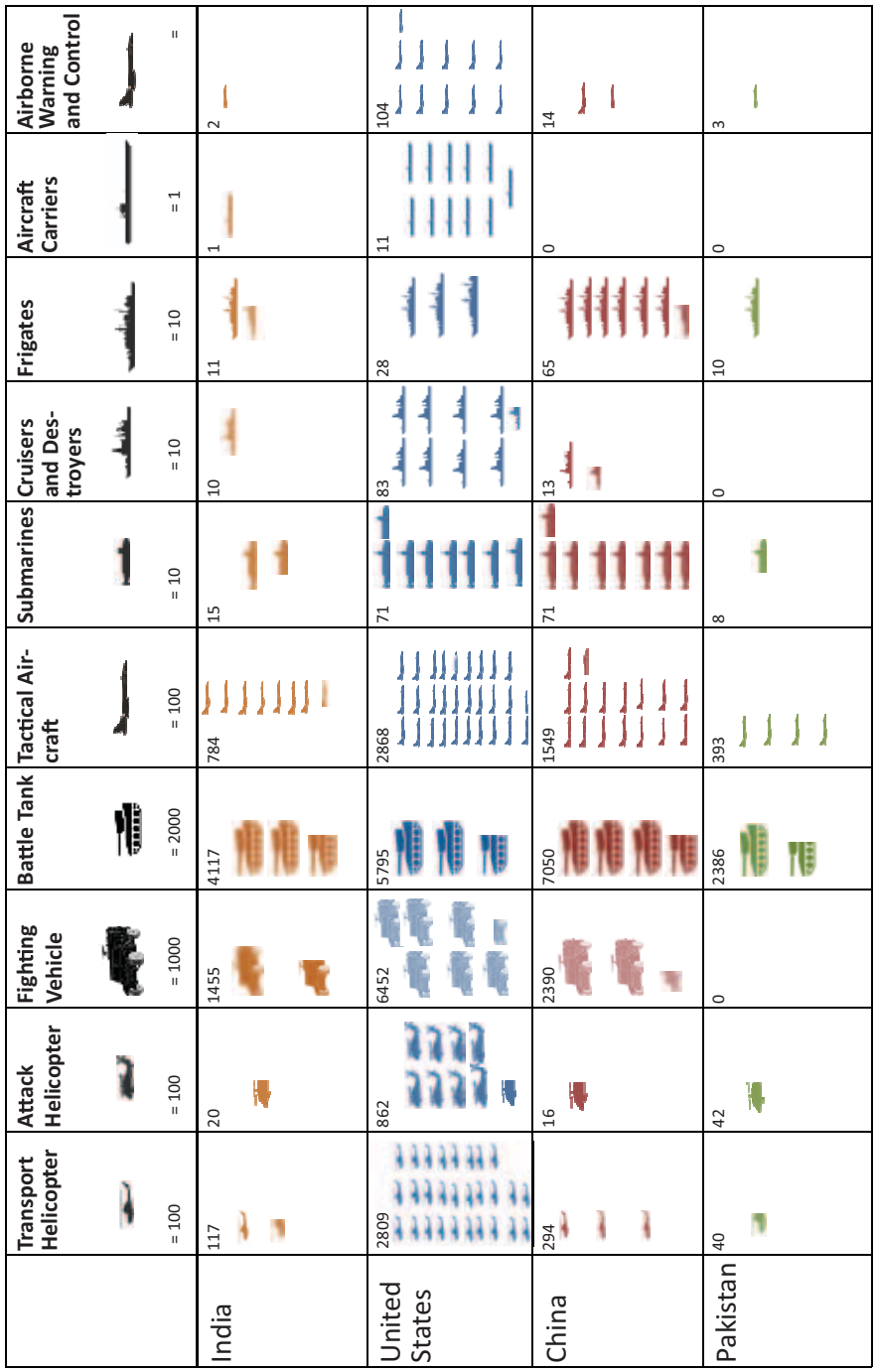
APPENDIX E
COMPARISON OF CONVENTIONAL FORCES

Comparison of Conventional Forces



Source: International Institute for Strategic Studies, *The Military Balance 2012* (Oxfordshire, UK: Routledge Journals, 2012).

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