

CROSS-SECTOR COLLABORATION, SUSTAINABLE DEVELOPMENT, AND THE UNITED STATES-INDIA STRATEGIC RELATIONSHIP

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PURPOSE

THE paper addresses the following over-arching question: Within the context of the U.S.-India strategic relationship, and in light of the national interests shared by both countries, what factors will contribute to the success of cross-sector collaborative initiatives intended to address challenges associated with sustainable development?

Design/Methodology/Approach: *The paper first describes five major developments that have motivated the central question stated above. It then offers three propositions regarding prospects for increased collaboration among members of the military and other sectors of society to address sustainable development. Finally, the paper offers suggestions for further research.*

Findings: *The paper suggests the potential for cross-sector collaborations – i.e., collaboration involving some combination of representatives from the state, private (for-profit business), and civil (non-profit) sectors – involving the military and other sectors to address sustainable development for the purposes of addressing comprehensive security.*

Research limitations/Implications: *The paper suggests the need for further research on two fronts. First, broad yet simple templates of the global system needs to be formulated in order to help analysts and practitioners better understand the dynamics of cross-sector collaboration. Second, there needs to be further investigation of cases of collaboration involving the military and actors from other sectors in order to gain more insights about factors that contribute to successful collaborations to promote comprehensive security.*

Practical Implications: *In addition to strategic leaders from non-military sectors, the ideas stated in this paper will be relevant to experts engaged in research and debate about India's National Strategy for the coming decade. They are also relevant to members of the U.S. national security community.*

Originality/Value: *The paper weaves insights from different streams of academic literature in a coherent and useful way.*

Key Words: *Cross-sector Collaboration, Sustainable Development, National Security, India-U.S. Relations.*

This paper draws upon a few different streams of academic literature to address the following over-arching question.

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Within the context of the U.S.-India strategic relationship, and in light of the national interests shared by both countries, what factors will contribute to the success of cross-sector collaborative initiatives intended to address challenges associated with sustainable development?

Five developments have helped motivate the paper. First, leaders of organizations in all sectors, including government agencies, businesses, and non-profit organizations are all confronted with increasing complexity. Second, in some cases, that increasing complexity is associated with issues that one might associate with “sustainability” or “sustainable development”. Third, concerns about sustainability and the need to promote sustainable development has led to much thinking about national security affairs. Fourth, while a range of challenges still confront the national leadership of India, over the past two decades, the country has come to command a more important role on the global stage. Fifth, ties between the U.S. and India have recently grown stronger, and the countries have launched a range of joint initiatives. Part 1 of this paper outlines those developments.

Part 2 offers three somewhat speculative propositions. First, while most of the insights about cross-sector collaboration – i.e., collaboration involving some combination of representatives from the state, private (for-profit business), and civil (non-profit) sectors – have emerged from the business literature, those insights will become increasingly relevant to experts responsible for formulating and implementing strategy in the national security arena. Second, agents in the military sector will become more closely engaged in collaborations with other government agents, and with agents from the for-profit sector, and from civil society, especially when it comes to sustainability related matters that cannot be solved by agents in any particular sector. Third, given the special attributes of each country, and their shared national interests, cross-sector collaborations that involve the U.S. and India may provide fertile ground for better understanding the potential of sustainability related cross-sector collaborations.

Part 3 suggests the need for work on both system level models and on case studies about cross sector collaborations, on grounds that the results of that work will be relevant to the complexities confronting strategic leaders from a range of sectors, including the militaries of India and the U.S.

Developments

Increasing Complexity

People who serve as principal decision makers in organizations are confronted with the need to perform two distinct yet related sets of activities: management and leadership. Peter G. Northouse says that management produces order and consistency by planning and budgeting (establishing agendas, setting timetables, and allocating resources), organizing and staffing (providing structure, making job placements, and establishing rules and procedures), and controlling and problem solving (developing initiatives, generating creative solutions, and taking corrective actions.) Leadership produces change and movement by establishing direction (creating a vision, clarifying the big picture, and setting strategies), aligning people (communicating goals, seeking commitment, and building teams and coalitions), and motivating and inspiring (inspiring and energizing, empowering subordinates, and satisfying unmet needs) (Northouse, 2007).

In recent years, decision makers have found it increasingly difficult to perform these two critical activities. In 2010, the IBM Institute for Business Value, and IBM Strategy & Change reported the results of their fourth biennial survey of more than 1500 CEOs, general managers, and senior public sector leaders around the world (IBM Institute for Business Value, 2010). In the executive summary, the authors observed the following:

In our past three global CEO studies, CEOs consistently said that coping with change was their most pressing challenge. In 2010, our conversations identified a new primary challenge: complexity. CEOs told us they operate in a world that is substantially more volatile, uncertain, and complex. Many shared the view that incremental changes are no longer sufficient in a world that is operating in fundamentally different ways.

The authors reported four major findings: “Today’s complexity is only expected to rise, and more than half of CEOs doubt their ability to manage it; Creativity is the most important leadership quality, according to CEOs; The most successful organizations co-create products and services with customers, and integrate customers into core processes; and Better performers manage complexity on behalf of their organizations, customers, and partners”. At a general level, the findings of the survey suggest the need for collaboration to creatively carry out the tasks of leadership and management in a complex environment.

Sustainable Development and Sustainability: Contribute to Complexity

The 1987 report of the U.N. Brundtland Commission defines “sustainable development” as “development which meets the needs of the present without compromising the ability of future generations to meet their own needs”. That definition is widely used. In contrast, the precise meaning of “sustainability” may be more elusive. For examples, in his discussion of the meaning of the word, Simon Dresner points out that author Michael Jacobs regards sustainability as a “contested concept”, as are other powerful ideas such as “liberty, social justice, and democracy” (Dresner, 2008). One useful definition of sustainability is “the capacity to improve the human condition in this and future generations without degrading the natural world” (A Dickinson Framework of Learning, 2012). That simple yet broad definition is relevant to the entire curriculum of an academic institution, as it encompasses environmental, social, ethical, spiritual, historical, cultural, and other ways of knowing. It also reflects the educational goals of helping students develop competencies needed to think critically, make informed decisions, communicate effectively, and solve problems by formulating and implementing strategies, policies and practices. Those multiple disciplines and relationships suggest the challenges confronting strategic leaders of organizations in all sectors.

Those surveyed for the IBM Report cited above attributes for rising complexity to the changing nature of global markets (“shifting of economic power to rapidly developing markets . . . [and] bigger government, and heavier regulation”), to the rapid changes associated with technology, and to macroeconomic factors, in that order. In order to better manage the systemic risk relevant to their own operations, over the past decade some large transnational companies have become actively engaged in collaborative initiatives in an attempt to shape factors which contribute to that complexity.

An extremely important example of an initiative to manage systemic risk and at the same time promote sustainable development is the 2030 Water Resources Group. This is a collaborative initiative created in 2008 by several transnational companies, operating in conjunction with the International Finance Committee of the World Bank and affiliated with the World Economic Forum. The Water Resources Group has helped articulate complex interrelationships in the so-called “water-food-energy-climate change nexus”, and has helped launch a range of projects to protect and promote the availability of fresh water resources in a variety of settings (Water Security, 2010). With respect to the focus of this paper, in 2010 the Water Resources Group and the Indian State of Karnataka initiated a collaboration to evaluate current and projected demands for fresh water to address means to enhance supply (The Water Resources Group, 2012).

Sustainability, Sustainable Development, and National Security Affairs

For the past two decades, the National Security Strategy of the United States has been based on four over-arching national interests: defense of the homeland; economic prosperity; promotion of U.S. values; and a favorable world order. While the national interests of the United States have not changed, in the current era, strategic leaders in government, the military, business, and civil society are confronted by complex challenges that have multiple causes and often lie at the intersection of matters related to globalization, sustainability, and security, and by forces that will shape the intermediate-term future of the global system.

Developments of that sort have influenced thinking about national security issues in a range of arenas. A first arena includes featured essays in influential journals. For example, *Foreign Affairs*,

the widely circulated publication of the U.S. Council on Foreign Relations has in the past few years featured a number of essays dedicated to such matters. A few items illustrate the point. Citing the growing range of non-state agents with the capacity to influence nation states, Richard N. Haass characterizes the current system as nonpolar, a structure much different from previous multipolar, bi-polar, and unipolar configurations (Haass, 2008). Motivated by the opinion that the role a nation state will play in the global system of the future will in large part be determined by its economic capacity and vitality, Leslie H. Gelb argues that in pursuit of national interests, the U.S. has placed too much emphasis on military instruments of power, and insufficient emphasis on economic instruments of power (Gelb, 2010). And fresh from his post in the Obama Administration, Peter R. Orszag links the structural issues associated with the U.S. healthcare system to U.S. national interests (Orszag, 2011).

A second arena includes the content of university courses about international relations and security studies. In a well-written textbook, Roland Dannreuther suggests that new areas of emphasis should include environmental security; access to resources such as water, food, and energy; migration; the call for intervention by the international community in civil and intra-state wars to end atrocities; and the dynamics of asymmetric power and asymmetric threats (including terrorism and the proliferation of weapons of mass destruction) (Dannreuther, 2007).

A third arena is represented by high-profile conferences. To illustrate, a large number of researchers and practitioners recently gathered at National Defense University to talk about economic security, albeit from a predominantly U.S. centric perspective. Major themes included the economic element of power; the voices of industry and government; and the fundamental importance of energy security, research and development, science and technology, and human capital formation to national security (Economic Security, 2010). Similarly, in January of 2012 a large number of experts gathered for a conference entitled "Environment and Security" (12th National Conference on Science, 2012). They tended to emphasize systemic relationships associated with the previously noted, the water-food-energy-climate change nexus.

The fourth and most important arena includes government assessments. The changing features of the external environment are provocatively described by the U.S. National Intelligence Council in their fourth analysis of key trends and factors in the global system (National Intelligence Council, 2008). Relative certainties identified by the Council include but are not limited to: the relative rise of new state powers, such as, China and India, and increasing relative power of non-state organizations; a shift in wealth and economic power from West to East; increasing demand for food, water, and energy resources; rapid population growth in so-called youth bulge states; and increasingly dangerous capabilities in the hands of terrorists. Key uncertainties include among others: the extent of an energy transition away from oil and gas; the speed of climate change; the possibility that Russia and China will advance towards democracy; whether nuclear arms in Iran will trigger a regional arms race; whether the Middle East will become more stable; and whether nation states continue to engage in multilateral initiatives to meet challenges and shape change.

Issues associated with the intersection of globalization, sustainability, and security have also helped shape the most recent articulation of U.S. national strategy, issued in May 2010 by the Administration of President Obama (Office of the President of the United States, 2010). In the opening paragraph of his cover letter to *National Security Strategy*, President Obama said the following:

"Time and again in our Nation's history, Americans have risen to meet – and to shape – moments of transition. This must be one of those moments. We live in a time of sweeping change. The success of free nations, open markets, and social progress in recent decades has accelerated globalization on an unprecedented scale. This has opened the doors of opportunity around the globe, extended democracy to hundreds of millions of people, and made peace possible among the major

powers. Yet globalization has also intensified the dangers we face – from international terrorism and the spread of deadly technologies, to economic upheaval and climate change”.

They are also evident in a line of research and discussion associated with the National Strategy Project being conducted at the New Delhi based Institute for Defense Studies and Analysis. The web site for the project lists a range of working papers that focus on issues of water, food, energy, health and so forth (<http://www.idsa.in>).

India: Emergence as a Center of Influence; Ongoing Challenges

The Ministry of Defense of the Government of India makes the following observations on its web site (Ministry of Defense, Government of India, <http://mod.nic.in>).

India’s national security objectives have evolved against a backdrop of India’s core values; namely, democracy, secularism and peaceful co-existence, and the national goal of social and economic development. These are:

- Defending the country’s borders as defined by law, and enshrined in the Constitution;
- Protecting the lives and property of its citizens against war, terrorism, nuclear threats, and militant activities;
- Protecting the country from instability and religious, and other forms of radicalism and extremism emanating from neighboring states;
- Securing the country against the use or the threat of use of weapons of mass destruction;
- Development of material, equipment, and technologies that have a bearing on India’s security, particularly its defense preparedness through indigenous research, development, and production, *inter-alia* to overcome restrictions on the transfer of such items;
- Promoting further co-operation and understanding with neighboring countries, and implementing mutually agreed confidence-building measures; and
- Pursuing security and strategic dialogues with major powers, and key partners.

To complement that statement of objectives, there has been much active research, and sometimes intense debate about India as a rising power, the internal stresses and strains confronting the country’s leadership, the external challenges confronting the country, the possible role India will play in shaping the evolving global system, and the purpose of thrust of India’s national strategy and foreign policy.

As observed by Rohan Mukherjee and David M. Malone, there is general consensus that over time, India’s foreign policy orientation has passed through a series of stages; that is, periods of idealism and non-alignment in the 1950s and 1960s; of hard realism and alignment with the Soviet Union in the 1970s and 1980s; and a period of economically motivated pragmatism from 1991 forward (Mukherjee and Malone, 2011).

Although there is consensus that India’s foreign policy has passed through stages, there are some who argue that India lacks an over-arching strategy. As an example of this line of thought, Pratap Bhanu Mehta argues that while India’s strategic thinking and foreign policy over the decades has incorporated strands of both realism and idealism, it has not – and as of yet does not – conform to an overarching template (Mehta, 2009). He explores and successively dismisses three alternative templates: India as a model for others, based on its special characteristics as a peaceful and inwardly focused country; India as a pursuer of power that can be used to achieve regional objectives; and India as a shaper of the global system. Instead, he argues that India’s foreign policy should be labeled “cautious prudence”: cautious, because in the hands of India’s current leadership, foreign

policy is marked by an incapacity and unwillingness to use force; prudent because leaders do recognize that power does indeed matter in the conduct of affairs, and understand that policy must somehow be flexible and responsive to developments ranging from those which call for bilateral negotiations with China to those that will be hashed-out in multilateral forums.

Despite the criticism of Mehta (2009), the third stage identified by Mukherjee and Malone (2011) – economically motivated pragmatism – commands interest. In 1991, India was faced with difficulties in its external financial obligations. As a quid pro quo for multilateral concession, under the coordination of then Finance Minister (and now Prime Minister) Manmohan Singh, India pursued a series of externally-oriented liberalization measures, such as, reductions in tariff rates.

Furthermore, as noted by Gucharan Das, the country also began to pursue a series of incremental, internally-oriented liberalization measures (Das, 2006). He points out that from 1980 to 2002, the economy grew at an average annual rate of more than 6 percent, and from 2002 to the present, has grown at roughly a rate of 8 percent. That growth implied that in the 25 years leading to 2005, India rose to be the fourth largest economy in the world; the size of the middle class quadrupled; and when coupled with a reduction in birth rates from 2.2 percent to 1.7 percent per year, resulted in a rise in per capita income, based on purchasing power parity, from roughly \$1,200 to \$3,000. These measures helped stimulate forces that had been set in play during the early 1980s, and collectively had contributed to the rapid growth that India has enjoyed for nearly twenty years.

Nevertheless, progress on the economic front will continue to be a policy priority. For example, Lavanya Rajamani indicates that “India currently ranks 128th on the Human Development Index, 34.3 percent of its population lives on less than US\$1 a day, and an estimated 44 percent does not have access to electricity” (Rajamani, 2009).

Returning to the insights of Das (2006), India is also confronted with a range of other economic concerns, which has resulted in widespread discontent with the central bureaucracy, and a movement in India for an active civil society to work around government to find solutions to social ills. He argues that India has progressed along an un-trodden path of economic development, in that it has relied on “its domestic market more than exports, consumption more than investment, services more than industry, and hi-tech more than low-skilled manufacturing”. As a result of those features, gains in employment have not been widely dispersed throughout the country, and there is pervasive poverty in rural areas. Success has been based on the efforts of entrepreneurs. Furthermore, “rather than rising with the help of the state, India is in many ways rising despite the state”. Thus, Das argues there is widespread discontent in India with the central bureaucracy, which has impeded the efforts of small business, has for too long maintained rigid labor laws that benefit small segments of the work force, and has failed to deliver good performance in critical areas such as public education or health care.

Mukherjee and Malone (2011) elaborate a range of other internal and external national security concerns for India. The country is faced with political fragmentation, which makes consensus more difficult, and slows the process of policy formation. Far more serious, India is coping with domestic insurgencies, and secessionist movements that are prompted by uneven economic development, and by the tensions between the central government and regionally-based ethnic and religious groups, and are often manifested in politically-motivated violence. India has regional security challenges: based on one measure, India counts as neighbors six of the “top 25 dysfunctional states in the world”. It is engaged in tricky bilateral relationships with Pakistan, China, Afghanistan, Bangladesh, Sri Lanka, and Nepal. At a global level, India is threatened by international terrorism, as vividly illustrated by the 2008 incidents in Mumbai; it is currently a concerned participant in debate about the nuclear proliferation regime; and is in the process of redefining its relationship with the United States.

The Evolving United States – India Strategic Relationship

Stimulated by rising interdependence and changing structure in the global system, and by what has been perceived as “common interests” and “common values”, there has been bipartisan support in the United States and India for a closer bilateral relationship. Ties have indeed grown stronger. For example, the administrations of U.S. President George W. Bush and Indian Prime Minister Manmohan Singh took a large step forward in 2008 by finalizing an agreement between the two countries regarding India’s access to civilian-use nuclear power technology.

From the outset, President Barack Obama and his team have continued to build on that foundation, and within the past three years the two countries have announced a range of initiatives to address shared national security concerns. Some of those initiatives call for state to state or military to military cooperation to address what one might regard as traditional security challenges. Other initiatives call for cross-sector collaboration to address newly emerging security challenges, including those that are sustainability-related – i.e., those that contribute to social, economic, and environmental outcomes that are favorable, equitable, and widespread in the current period and in the future.

In July of 2009, Secretary of State Hillary Clinton travelled to India, and at the conclusion of her visit, she and External Affairs Minister S.M. Krishna committed themselves, and their respective offices to strengthen the bilateral relationships between the two countries, and indicated that they would co-chair a US-India Strategic Dialogue that would meet on an annual basis.

In November of 2009, President Obama hosted Prime Minister Manmohan Singh at the White House, the first state visit during his term in office.

In the National Security Strategy of May 2010, President Obama notes that the relationship between the United States and India is “underpinned by our shared interests, our shared values as the world’s two largest democracies, and close connections among our people”.

In June 2010, Secretary Clinton and Minister Krishna successfully concluded the first round of the U.S-India Strategic Dialogue.

In November of 2010, President Obama visited India, and during an address to Parliament, he asserted, “It is my firm belief that the relationship between the United States and India . . . will be one of the defining partnerships of the 21st century”. He also endorsed India’s call for a permanent seat on the U.N. Security Council.

In July of 2011, Secretary Clinton and Minister Krishna successfully concluded the second round of the U.S-India Strategic Dialogue. In official comments, they restated or announced a number of cooperative initiatives between the two countries that fell under four major headings.

Security Partnership for the 21st Century: includes efforts to address counterterrorism, maritime security, cyber security, peacekeeping, and defense cooperation (Security Partnership for the 21st Century, 2011).

Shared Interests in Asia: includes efforts by both countries to engage countries of East Asia in dialogue and institution building; to advance prosperity in Afghanistan; to develop a shared vision for regional integration; and to develop a global strategic partnership (Advancing our Shared Interests in Asia, 2011).

Cooperation in Science, Technology, and Innovation: includes efforts by both countries to jointly promote science and technology research; to exchange insights about innovation; to develop an open source platform that will provide citizens of each country with access to e-government capacities, and to then share that platform with other countries; and to establish capacities to engage in space exploration and earth observation (“U.S.–India Science and Technology Cooperation”, 2011).

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Prosperity: includes efforts to promote bilateral investment flows between the two countries; to cooperate on aviation safety; to enhance productivity in the agriculture sector, and efficiency in water utilization; and to promote conditions leading to general health (“Prosperity”, Fact Sheet, 2011).

Looking beyond those recently launched initiatives, in September 2011 the Council on Foreign Relations and the Aspen Institute India released the document, “The United States and India: A Shared Strategic Future” (Council on Foreign Relations and Aspen Institute of India, 2011). It was the product of a Joint Study Group, which the two organizations had cosponsored. The Joint Study Group consisted of seventeen highly influential and knowledgeable individuals from the national security communities of the United States and India.

At the outset, the Report of the Joint Study Group stated three “core convictions”.

An ever more powerful and influential India in the international arena is deeply in the United States’ national interest.

A United States that maintains its power and influence in the international arena, especially in Asia, is deeply in India’s national interest.

The closest possible policy collaboration between India and the United States in all the dimensions of their relationship is increasingly important to both nations, helps sustain a favorable balance of power in Asia and beyond, and promotes international peace and stability beginning in Asia writ large.

The Report went on to enumerate six vital national interests that are common to both countries: (1) Slow the spread of weapons of mass destruction, and ensure the safe and responsible stewardship of nuclear weapons and fissile material; (2) Reduce threats from international terrorism; (3) Maintain a balance of power in Asia and in Europe that promotes peace and stability; (4) Promote the security of the global energy supply; (5) Cooperate in the management of the global economy; and (6) Effectively address climate change.

Propositions

While most of the insights about cross-sector collaboration have emerged from the business literature, those insights may become increasingly relevant to experts responsible for formulating and implementing strategy in the national security arena.

Cross-sector collaboration has become as an important aspect of the academic business literature. The literature in the field of organizational theory from the 1980s and 1990s tended to concentrate on relationships between organizations in the same sector. By the turn of the century, the focus had shifted toward cross-sector collaboration, such as, that between non-profit organizations (nonprofits) and for profit companies (businesses) (Austin, 2000). To illustrate, James E. Austin explored numerous case studies of collaboration between nonprofits and businesses in order to categorize different types and stages for relationships (e.g., philanthropic, transactional, or integrative); the type of value created (e.g., resource transfer or sharing of core competencies) for each partner, and the balance in value created between partners; alliance drivers (e.g., strategy, mission, and values; personal connections, etc.); and alliance enablers (attention, communication, organizational systems, and expectations). Throughout, Austin emphasized the evolutionary nature of such collaborative relationships.

By mid-decade, the focus had broadened further. For example, in a literature review, W. Selsky and Barbara Parker noted the time had come to consolidate the growing literature on what they termed “cross-sector social-oriented partnerships” (CPPS) (Selsky and Parker, 2005). They observed that the literature had cited three different rationales or “platforms” for collaboration: resource

dependence, in which each partner attempts to address internal shortcomings; social issues, in which partners respond to pressures exerted by external stakeholders; and societal sector constructs, in which lines between organizations in different sectors are blurred and problems cannot be solved by organizations in any single sector. They go on to thoroughly explore a large range of literature, categorized according to whether partnerships are either between the Business and Nonprofit, Government and Business, Government and Nonprofit sectors, or exist among all three sectors together. They then point to numerous channels for possible research, including modeling relationships, gaining additional insight about managing partnerships, issues that might be addressed, the co-evolution over the long-term by organizations within partnerships, and the role of power within partnerships.

In that vein, John M. Bryson, Barbara C. Crosby, and Melissa Middleton Stone define cross-sector collaboration as:

The linking or sharing of information, resources, activities, and capabilities by organizations in two or more sectors to achieve jointly an outcome that could not be achieved by organizations in one sector separately (Bryson, Crosby, and Stone, 2006).

They also included in their review a schematically-depicted framework for understanding cross-sector collaborations: Initial Conditions; Process; Structure and Governance; Contingencies and Constraints; and Outcomes and Accountabilities. In the process of elaborating the five components of their model, Bryson, Crosby, and Middleton Stone explored issues relevant to each component, and in doing so, stated 22 propositions about the formation and operation of cross-sector collaborations. Their final, summarizing proposition is provocative.

Proposition 22: The normal expectation ought to be that success will be very difficult to achieve in cross-sector collaborations.

Nonetheless, they do not believe that the challenges associated with cross-sector collaborations imply that strategic leaders should be intimidated and as a result refrain from the effort. Instead, and consistent with the themes of this paper, leaders must have clarity about the objectives of a proposed collaboration, and must be informed and mindful of best practices as well as potential pitfalls.

Another relatively recent and comprehensive discussion of cross-sector collaboration comes from Mark Gerencser and colleagues from the consultancy Booz Allen Hamilton (Gerencser et al., 2008). They assert that in the contemporary age, complex problems will require the collaborative efforts of “megacommunities” which they define as “communities of organizations whose leaders and members have deliberately come together across national, organizational, and sectoral boundaries to reach the goals they cannot achieve alone”. In their view, megacommunities take on “goals that are ongoing and mutable over time. Most importantly, megacommunities demand a change in orientation from the leaders of the various organizations involved (Gerencser et al., 2008)”.

One of the frameworks just noted, perhaps another from the literature, or perhaps a combination thereof might prove helpful and useful to analysts and strategic leaders engaged in consideration of collaborations in the U.S.-India Strategic Relationship. Meanwhile, references to cross-sector collaboration have begun to enter articulations of grand strategy in the United States. For example, *National Security Strategy* turns time and again to the notion of cross-sector collaboration, both within the United States and across national boundaries, as a means of responding to different dangers and challenges.

“We will pursue engagement among peoples – not just governments – around the world. The United States Government will make a sustained effort to engage civil society and citizens and facilitate increased connections among the American people and people around the world – through

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effort ranging from public service and educational exchanges, to increased commerce and private sector partnerships. In many instances, these modes of engagement have a powerful and enduring impact beyond our borders, and are a cost-effective way of projecting a positive vision of American leadership” (p.12).

“Our international order must recognize the increasing influence of individuals in today’s world. There must be opportunities for civil society to thrive within nations and to forge connections among them. And there must be opportunities for individuals and the private sector to play a major role in addressing common challenges – whether supporting a nuclear fuel bank, promoting global health, fostering entrepreneurship, or exposing violations of universal rights. In the 21st century, the ability of individuals and nongovernmental actors to play a positive role in shaping the international environment presents a distinct opportunity for the United States” (p.13).

New skills are needed to foster effective interaction to convene, connect, and mobilize not only other governments and international organizations, but also non-state actors such as corporations, foundations, nongovernmental organizations, universities, think tanks, and faith-based organizations, all of whom increasingly have a distinct role to play on both diplomatic and development issues (p.14).

Agents in the military sector will become more closely engaged in collaborations with other government agents, with agents from the for-profit sector, and from civil society, especially when it comes to sustainability related matters that cannot be solved by agents in any particular sector.

The issues under consideration in this paper are relevant to the concept of “comprehensive security”, which is often referenced by analysts and experts at the Asia Pacific Center for Security Studies of Pacific Command (PACOM). The notion of comprehensive security recognizes the necessity of promoting sustainable development to improve the well-being of people living in partner countries, which in turn contributes to societal stability.

Given that many security related concerns are rooted in sustainability related matters, cross-sector collaboration may represent the most plausible way to make progress toward finding solutions. Professor of Climate Change Mike Hulme makes the case that climate change is indeed a “wicked problem” that lends itself only to “clumsy solutions” (Hulme, 2009). In turn, Hulme makes reference to Horst Rittel and Melvin Webber, who introduced the term wicked problems (Rittel and Webber, 1973). Wicked problems defy “optimal” and “rational” solutions because they exist within the context of systems that are complex and are characterized by much interdependence among elements within the system, and for these reasons are poorly understood. Clumsy solutions will often involve the pursuit of multiple and sometimes conflicting goals. Thus, at a basic level, clumsy solutions will often necessitate active participation by a range of agents, with each pursuing its own interests. (That condition raises a subsequent question as to whether those agents in the system recognize that their interests would be best served by participating in collaborative initiatives.) Those considerations imply that for the military officer in the field, participating in a cross-sector collaborative initiative represents a way to (A) tackle a complex issue that cannot be addressed by agents from any single sector; (B) leverage existing resources; and (C) build relationships with stakeholders in the host country.

With that in mind, the U.S. Army is the branch of the U.S. military that is most directly engaged in on-the-ground interactions in partner countries. For example, the U.S. Army has deep expertise in the fields of engineering and construction of infrastructure as it pertains to roads, water management, and so-forth. This implies that within the water-food-energy-climate change nexus, leadership must make informed decisions regarding the expertise represented by branches of the armed services, such as the U.S. Army Pacific (USARPAC), a component of PACOM.

Given the special attributes of each country and their shared national interests, cross-sector collaborations that involve the U.S. and India may provide fertile ground for better understanding the potential of sustainability related cross-sector collaborations.

To date, there have been some provocative examples of cross-sector collaboration that may provide insight to researchers. One source for possible case studies about cross-sector collaboration is the World Bank. For example, in July of 2011, the Government of India and the World Bank signed a one billion dollar Credit Agreement to help promote India's National Rural Livelihoods Project (NRLP) (The World Bank, <http://www.worldbank.org.in>). The Project targets 30 million people in India's 12 poorest states. The Project is consistent with a National Rural Livelihoods Mission that has been launched by the Government of India and is regarded as "one of the world's largest poverty reduction initiatives aiming to reach 350 million people or almost a quarter of India's population, with an outlay of approximately US\$ 6.5 billion". Participants might gain insights by understanding the developments that led up to that agreement.

Sanjaya Baru also provides insight to a possible case study for closer examination (Baru, 2009). He notes that throughout the ongoing period of rapid growth, the business community of India has become a more active and constructive voice in India's foreign policy initiatives and has been a partner in cross-sector collaborations. The community has exerted influence through a number of professional organizations, such as the Confederation of Indian Industry (CII), the Federation of Indian Chambers of Commerce and Industry (FICCI) and the Associated Chambers of Commerce (ASSOCHAM). Those associations have been instrumental in shaping the thrust of India's policy in the Uruguay Round of the General Agreements on Tariff and Trade (GATT) and the Doha Round of the World Trade Organization (WTO). Furthermore, Indian companies are making investments in think tanks and educational institutions around the world, and CEOs of Indian transnational enterprises are taking seats on boards of non-business sector organizations.

Looking ahead, within the context of the U.S.-India relationship, a large number of collaborative initiatives have been proposed from a few different quarters. One possible source is the previously noted sets of initiatives that were announced in July of 2011 by Secretary Clinton and Minister Krishna: "Security Partnership for the 21st Century"; "Shared Interests in Asia"; "Cooperation in Science, Technology and Innovation"; and "Prosperity". The final two categories might yield provocative sustainability-related case studies.

A second possible source comes from the previously cited *Report of the Joint Study Group*. The Group examined seven different geo-politically and geo-economically important issue areas, including the future of Pakistan; the challenges of Afghanistan; the rise of China; the transformation taking place in the Middle East; increased economic cooperation; climate change and energy technology collaboration; and defense cooperation. For each issue, they stated a set of prescribed policy initiatives. Cumulatively speaking, the Group offered sixty-five prescribed policies, too many to enumerate here. Nonetheless, a few seem quite relevant to the themes of this paper: "India and the United States should intensify their efforts to reach out to Pakistan civil society and its business community in an effort to strengthen and sustain democratic government in Pakistan;" "The United States and India should create a forum for small and medium-sized enterprises to complement the U.S.-India CEO Forum;" "The United States and India should announce and provide seed funding for a U.S.-India Center for Open Source Clean Energy Innovation to develop open source technological innovations that can then be provided to the private sector for use in marketable products;" or "The U.S. and Indian defense establishments should identify a high-visibility, high-difficulty, long-term joint collaborative research and development project".

A third possible source comes from the work of scholars, as suggested by the following short list. Tanvi Madan describes the central importance to India's future development trajectory of acquiring adequate supplies of oil and natural gas (Madan, 2009). Madan goes on to argue that over the next two decades, India's consumption of energy is expected to more than double, at which time India

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will be the third largest consumer of energy in the world, following China and the United States. Meanwhile, India is poorly endowed in gas and coals reserves. Thus, by 2030, India will turn to imports for 50 percent of its gas and 90 percent of its oil needs, which raises the question, how will India's foreign policy be influenced by "(1) investments by Indian private sector and, especially, state-owned oil and gas companies in oil and gas assets abroad; (2) proposed natural gas pipeline projects, (3) bilateral purchase deals for oil and natural gas, and (4) the 'energy diplomacy' designed to facilitate these efforts".

With respect to fresh water resources for India and neighboring countries at a time of economic modernization, population growth, and climate change, Ben Crow and Nirvikar Singh advocate a multilateral approach dedicated to creating a new institution to oversee information sharing, water storage, water access, generation of hydroelectricity, construction, reforestation, and equitable access to the fresh water resources of the river systems of the Himalayas. The approach they have in mind is *multi-track*, in that it will involve governments, intergovernmental organizations, non-governmental organizations, and the private sector (Crow and Singh, 2009).

With respect to addressing the compelling issue of climate change, Lavanya Rajamani believes that due to the fragmented nature of the political system in India, it is hard for one to predict the actions that India will take or the role that India will play in the global community. She ventures that India will strongly resist international efforts toward mandatory *mitigation* of greenhouse gasses by developing countries, but may endorse efforts both within India and internationally that attempt to reduce greenhouse gasses via *adaptation* of new technologies and processes (Rajamani, 2009).

Finally, as to whether India will be a strong partner for the United States when it comes to managing the global commons – the “sea, air, space, and cyber domains” – C. Raja Mohan offers a qualified but optimistic yes, on grounds that the two countries will build on recent progress on establishing a maritime regime, and that India's inherent values and emerging interests will be in line with those of the United States and will help overcome existing structural difficulties (Mohan, 2010).

Concluding Comments

As noted at the outset, in the post 9/11 era, the external environment confronting strategic leaders in all walks of life has become more volatile, complex, uncertain, and ambiguous. Many experts in the national security arena now make reference to the complex interdependence in the so-called water-food-energy-climate change nexus. Furthermore, they have come to regard sustainability-related matters as a key contributor to that changing environment. Rather than thinking about sustainability as a condition that might be addressed after a country has reached a particular level of development and stability, they regard it as a necessary foundation for other desired outcomes. That has led experts to consider possible ways to promote sustainable development.

Over the past two decades, India has come to command a more important role on the global stage. It has pursued a distinctive path of development and in the past several years has achieved a rapid rate of economic growth. Furthermore, by way of geographic location, India is a country of geo-political and geo-economic significance. Meanwhile, the country is still confronted by a range of difficult internal and external challenges.

Informed by those factors and stimulated by what have been perceived as “common interests” and “common values”, there has been bipartisan support in the United States and India for a closer bilateral relationship. Ties have indeed grown stronger, and within the past two years the two countries have announced a range of initiatives to address shared national security concerns.

While the notion of cross-sector collaboration gained a foothold in literature about organizational theory

and was informed by attempts to address problems at the local, regional, national, and perhaps even international levels, it has now been extended to include issues relevant to the military sector and to national security concerns. In fact, the *National Security Strategy* of the United States, released by the Obama Administration in May of 2010, articulated the need for broad-based, international, cross-sector collaboration. For the purposes of the future research, it will be important to identify collaborative initiatives that have in the past, or will in the future, involve the military sector as an important stakeholder; are based in India; and are relevant to one or more of the four elements of the nexus.

When the idea of cross-sector collaboration is added to the entire set of ideas identified above – those ranging from the increasing interdependence and changing structure of the global system, including the rise to prominence of India; to the key certainties and uncertainties envisioned in the NIC Report; to the notion that sustainability-related matters are critical to national interest of both the U.S. and India; to proposed collaborative initiative in the U.S.-India strategic relationship – one cannot avoid the idea that strategic leaders must become comfortable with participating in and managing networks, with the notion of co-evolution of organizations within networks, and with systems-level frameworks of analysis.

In order to make progress in that direction, I believe that future research must involve two types of activities. First, there must be progress on constructing some simple frameworks that will accommodate analysis of the global system. Second, there must be some case-based research that will enable inductive understanding of those factors which contribute to success in cross-sector collaborations. The outcome of those activities will yield insights and tools that will help strategic leaders better prepare for forming, participating in, and managing cross-sector collaborations.

The need for an overarching template to promote system level thinking.

There does not appear to be a readily available, broad in scope yet nonetheless simple framework that would help students, analysts, and practitioners gain a clear image about relations in the global system, which in turn would help them engage in system analysis.

Nonetheless, an essay that is helpful in getting started in this direction is provided by the computer scientist John H. Holland, who in the late 1980s described the global economy as a complex adaptive system (Holland, 1988). That is, Holland makes the following observations.

1. The overall direction of the economy is determined by the interaction of many dispersed units acting in parallel. The action of any given unit depends upon the state and actions of a limited number of other units.
2. There are rarely any global controls on interactions – controls are provided by mechanisms of competition and cooperation between units, mediated by *standard operating procedures* (SOPs), assigned roles, and shifting associations.
3. The economy has many levels of organization and interaction. Units at any given level typically serve as “building blocks” for constructing units at the next higher level. The overall organization is more than hierarchical, with all sorts of tangling interactions (associations, channels of communication) across levels.
4. The building blocks are recombined and revised continually as the system accumulates experience – the system adapts.
5. The arena in which the economy operates is typified by many *niches* that can be exploited by particular adaptations; there is no universal *super-competitor* that can fill all niches (any more than would be the case in a complex ecology such as a tropical forest).
6. Niches are continually created by new technologies and the very act of filling a niche provides new niches . . . Perpetual novelty results.

7. Because the niches are various, and new niches are continually created, the economy operates far from an optimum (or global attractor). Said in another way, improvements are always possible, and, indeed, occur regularly.

Holland (1988) model can be translated very nicely from a conversation about the global economy to a more broad reaching set of politically, socially, and economically oriented entities that one might include in a simple model of the global system, especially if one replaces the word “units” in Holland’s original statement with the word “agent”. The latter word implies and emphasizes that the actors under consideration are rational beings that engage in purposeful decisions..

Informed by the insights from Holland’s description, Fratantuono (2011) offers a simple framework for analyzing the interaction of agents in the global system that consists of six components (Fratantuono, 2011). He suggests that (1) the global system consists of a range of *agents*, including nation states; sub-state entities such as political parties, citizen groups, domestic business; non-governmental organizations; quasi-governmental organizations; intergovernmental organizations; and both legitimate and illicit transnational enterprises. In some instances, the term “agent” might be used interchangeably with that of “strategic leader”: that would be the case when a person is individually capable of influencing the global system. In most other instances, however, strategic leaders sit atop organizations of various purpose, scope and scale, serving as elected officials, military commanders, officers of companies, or managers of foundations. In those instances, an individual officer performs the activities of management and leadership, and the organization is the “agent”.

To continue on with the components of the framework, agents undertake actions within (2) a complex context, including historical, demographic, geographic, economic, political, ideological, and state-of-scientific-knowledge/technological factors. The actions taken by agents result in social, political, and economic outcomes both (3) within individual countries, and (4) across national boundaries. As time passes, the system exhibits (5) rising interdependence among the agents within the system, in terms of existence, operation, and cognition; and (6) changing structure of the existing system, which involves a reconfiguration of power among the agents (a vertical orientation), a physical relocation within the system of the agents (a horizontal orientation), and a revision to the rules or norms which govern the interaction among the agents. Furthermore, the entire system is marked by positive feedback mechanisms: that is, developments within any component of the system can alter those within any other component. Taken as a whole, the agents and thus the global system itself are engaged in a process of co-evolution. Such a framework would be helpful for analyzing complex situations and the approaches that might be taken by participants in cross-sector collaborations.

The Value of Case Based Research

As previously noted, there have been in the recent past some important initiatives that have involved cross-sector collaborations for the purpose of promoting sustainable development in India and in South Asia. Some have even involved members of the military. As of this writing, the author of this paper has not yet encountered a systematic study of the many cases of cross-sector collaboration that have been initiated in the various parts of the world and that have included parties affiliated with the various geographically-defined combatant commands of the U.S. military, including Pacific Command. Thus, an inventory and typology of such case studies, in order to engage in inductive reasoning about the factors which contribute to the success or failure of such initiatives, might prove beneficial.

Those insights should then be compared to those from the existing literature. As previously stated, to date, most of the insights about cross-sector collaboration have emerged from the business literature, which has primarily focused on the interaction of stakeholders from the for-profit, non-profit, and state sectors who are operating at local, regional, or national levels. In contrast, the issues under consideration in this paper are international in scope, in that they involve stakeholders from India and the United States; involve the military as a stakeholder, working alongside

stakeholders representing other government branches, for-profit companies, civil society, and inter-governmental organizations; and deal with sustainability-related matters that are relevant to the notion of comprehensive security. Such an investigation has the potential to make a contribution to *theory* by extending, a bit, the boundaries found in the existing theoretical literature. Making progress on this line of research will generate useful insights for strategic leaders working throughout the world in the government, for-profit, and non-profit sectors.

New Types of Thinking

In order to form, manage, or participate in a cross-sector collaborative initiative, leaders in any sector must engage in system-level thinking. With respect to the ideas shared in this paper, system-level thinking comes into play in two ways. First, the issues that are addressed by cross-sector collaborations are influenced by political, economic, social, ideological, geographic, and technological factors. Solutions will thus need to take into account multi-dimensionality. Second, by definition, the collaboration will include organizations from different sectors, with each having a different underlying core purpose. In order to make progress in tackling complex issue, the participating organizations will have to co-evolve in two respects. They will have to individually modify their respective internal structures and modes of operation, and over time their organizational cultures. In addition and perhaps more important, they will have to purposefully and collectively reformulate the laws, rules, or norms which govern the interaction of the participating parties, a process that may lead to a deepening of the relationships among the various organizations.

The first part of this paper described the results of a survey included in the report entitled “Capitalizing on Complexity” and noted that in the eyes of respondents, the most important skill for dealing with complexity is creativity. In light of the fact that Bloom’s taxonomy of learning related activities was recently reconfigured, the opinion expressed by respondents is provocative (<http://www.odu.edu>). That is, in the reconfigured taxonomy, the activity of “creating” now sits at the apex of the pyramid, atop increasingly sophisticated activities that escalate from “remembering” to “understanding” to “applying” to “analyzing” to “evaluating”. In that light, the necessity for system level thinking and the need to actively restructure organizations involved in cross-sector collaborations provide a challenge to educators. They must develop conceptual frameworks that will help interested parties – whether they are undergraduate students, graduate students, or mid-career professionals – to adopt a systems level view. Further, they must develop pedagogical approaches that permit individuals to actively and creatively engage ways to gain better understanding of cross-sector collaborations.

In addition to strategic leaders from non-military sectors, insights from those types of investigations would be relevant to members of the India Ministry of Defense, the India Armed Forces, and experts engaged in research and debate about India’s National Strategy for the coming decade. They would also be relevant to members of the U.S. national security community, including senior military officers and civilians at Pacific Command and the United States Army Pacific who have responsibility for shaping Theater Strategy and Theater Campaign Plans.

Finally, by using the insights that emerge from purposeful research, those who engage in cross-sector collaborations will contribute to strengthening the U.S.-India strategic relationship, one that appears to be of increasingly relevance to the national interest of both countries.

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