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Shirin Tahir-Kheli
Director, South Asia Program
Johns Hopkins University School of Advanced International Studies
Washington, DC, USA

Kent L. Biringer
South Asia Program Manager
Cooperative Monitoring Center
Sandia National Laboratories
Albuquerque, NM, USA

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Shirin Tahir-Kheli
Director, South Asia Program
The Johns Hopkins University School of Advanced International Studies
Washington, DC, USA

Kent L. Biringer
South Asia Program Manager
Cooperative Monitoring Center
Sandia National Laboratories
Albuquerque, NM, USA

Cooperative Monitoring Center Occasional Paper

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Cooperative Monitoring Center
Sandia National Laboratories
P.O. Box 5800
Albuquerque, NM 87185-1373

For specific information on this report contact:
Kent L. Biringer at the above address.

This report was prepared by Sandia National Laboratories
Albuquerque, NM 87185 and Livermore, CA 94550

Preventing Another India-Pakistan War: Enhancing Stability Along the Border

Abstract

This occasional paper assesses the role of cooperative monitoring technology for enhanced border stability, the absence of which has been a leading cause for war in the subcontinent. An assessment of the role of confidence building measures (CBMs) in India-Pakistan relations is undertaken in order to demonstrate that these have been adopted even during past periods of poor relations between the two countries. The authors examine specific parts of the common border and offer an analysis of the types of monitoring technology useful in limiting problems. By using technical monitoring and inspections, each side can begin to replace suspicion and doubt with knowledge and information useful in making informed political, military, and economic decisions while at the same time building confidence through common interactions. This paper makes the case for future engagement between India and Pakistan as encouraged in the course of President Clinton's visit to India and Pakistan in March 2000.

Acronyms

BJP	Bharitya Janata Party
CBM	confidence building measure
CENTO	Central Treaty Organization
CMC	Cooperative Monitoring Center
CTBT	Comprehensive Test Ban Treaty
DGMO	Director General of Military Operations
FMCT	Fissile Material Cut-off Treaty
LAC	Line of Actual Control
LOC	Line of Control
NATO	North Atlantic Treaty Organization
SAARC	South Asian Association for Regional Cooperation
SEATO	Southeast Asia Treaty Organization
UAV	unmanned aerial vehicle
UN	United Nations
UNGA	United National General Assembly

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Preventing Another India-Pakistan War: Enhancing Stability Along the Border

Executive Summary

The nuclear tests by India and Pakistan in 1998 changed the strategic context of relations between these two countries. It made future war unthinkable and emphasized the need for new rules of engagement with greater emphasis on cooperation. These rules govern discussions between the United States and India and Pakistan respectively, regarding "benchmarks" that include strategic restraint and resumption of a dialogue between India and Pakistan.

Conflict between India and Pakistan is most often a result of border problems. Given the additional nuclear element in any future conflict, the management of border issues becomes urgent. This paper offers a path to management of relations through joint monitoring of borders. The approach allows for joint application of monitoring technology to serve as a catalyst and to accelerate the process of achieving political agreements. Monitoring also provides a means for determining compliance with agreements as they are achieved.

Technology may also offer a measure of comfort where suspicion and doubt run high, as is the situation in the subcontinent. Each border region between India and Pakistan is discussed, along with an examination of the type of technology that can be usefully applied. The border regions include, from north to south, the Siachen Glacier area, the Line of Control and "working boundary" in the Kashmir area, the International Border along the main body of the Indo-Pak border, the Sir Creek area, and the maritime boundary, which extends into the Arabian Sea.

In the Siachen Glacier area, joint aerial monitoring missions may be possible for remote areas. Declarations and notifications supplemented with periodic inspections of deployment locations could reassure both countries that troops are not present. Radars mounted near critical peaks or passes could also detect ground or aerial activities in the region. The area has been proposed as a location for a bilateral scientific research center, similar to the existing research centers in Antarctica.

In the "working boundary" and the Line of Control area, the terrain is less rugged and more suitable to deployment of ground-based monitoring systems. Building confidence along this portion of the boundary could begin with discussions among military commanders. Portions of existing fences built by India could be used for conducting joint experiments on instrumented border monitoring.

On the international boundary, increased confidence between India and Pakistan could result from the addition of monitoring provisions to the existing military exercise and airspace agreements. Initial efforts could consist of advance notifications or invited observations of military activities or exercises near the border. This transparency measure could reduce tensions and misinterpretation of military intent. The cooperative use of radar-equipped tethered balloons to monitor for low-flying aircraft in selected portions of the border regions could enhance

existing agreements. Aerial overflights could help to verify compliance with bilateral agreements or promote cooperation on combating issues such as smuggling and drug trafficking.

This paper proposes the demilitarization of the Sir Creek area. Such an agreement could permit joint monitoring to ensure the absence of military or paramilitary troops or smugglers. A cooperative aerial monitoring regime could support such an agreement. Another cooperative venture could be in the environmental realm, where joint scientific studies of pollution, water quality, water flows, and other measurements important to coastal and estuarine plant and animal life could be undertaken.

The maritime boundary extends 200 miles into the sea, covering the exclusive economic zone of the two nations as well as their national security boundary. Cooperative deployment of ocean buoys by India and Pakistan could demarcate the area of dispute. This effort could be further enhanced through supplying global positioning system receivers to selected commercial or fishing vessels. These receivers could provide unambiguous location information that could also reduce claims of border violations.

The paper examines the impact of the Kargil operation in Kashmir in the summer of 1999 and assesses ways in which the dialogue can be resumed. In analyzing the international response to Kargil, the authors look at the promise of the visit of the Indian Prime Minister, Mr. Atal Behari Vajpayee, to Lahore in Pakistan in February 1999. There he joined the Pakistani Prime Minister Nawaz Sharif in signing a declaration outlining the blueprint for future conduct of relations, replacing confrontation with cooperation. Toward that end, the two leaders pledged consultations on confidence building measures (CBMs) to include areas of the nuclear program.

Domestic difficulties in India in the period immediately following the Lahore meeting made quick progress and forward movement difficult. It was only in October 1999 that the Indian electorate returned the Vajpayee government to power and that progress on the Indo-Pakistan front seemed possible. Shortly thereafter, the situation changed in Pakistan with the removal of Prime Minister Sharif and the return of the military to power. The relationship's progress ground to a halt once more.

Despite current difficulties, engagement between India and Pakistan is possible. The history of their relations over the past fifty years reflects their ability to surmount problems, including war, to re-engage and move forward. Details of agreed CBMs at different times is provided.

Political will is critical to peace between India and Pakistan. While India has thus far refused to engage with the military leader of Pakistan, the authors make the case for a re-assessment on the part of India. Pakistan's current need for better relations with its larger neighbor will eventually move the dialogue process further. The role of the United States remains critical to this endeavor.

Preventing Another India-Pakistan War: Enhancing Stability along the Border

Introduction

Since their respective nuclear tests of 1998, the volatile relationship between India and Pakistan is often referred to as the most dangerous potential flash point in today's international system. The nuclear tests finally demonstrated the highest costs of any future conflict between two neighbors whose past already reflects three major and two less widespread wars. Any future conflict is more than likely to stem from the differences over Kashmir, an area claimed by both sides. Furthermore, the likelihood of war increases if one adds the misunderstandings, the missed signals, and the involvement of non-state elements to the scenario of confrontation. In other words, there is no dearth of reasons why India and Pakistan may go to war.

This paper examines the possibility of conflict along the border, including the Line of Control (LOC) dividing the Pakistani part of Kashmir from Indian Kashmir. We offer an alternative approach through which India and Pakistan can begin to manage their border relations in a cooperative way, thereby reducing the chances of war. This approach would use jointly operated monitoring technology both as a catalyst to accelerate the process of achieving political agreements and as a means for monitoring compliance with such agreements when they are reached. By utilizing technical monitoring and inspections, each side can begin to replace suspicion and doubt with knowledge and information useful in making informed political, economic, and military decisions. At the same time, technical monitoring and inspections can build confidence through common interaction.

We want to stress at the outset that we recognize that technology is not a substitute for political will. But we also recognize that the pressure for India and Pakistan to manage their differences is increasing with time. Thus, the use of technology can assist both countries in what we hope will be their serious attempt to replace confrontation with cooperation. This they cannot achieve without working out a *modus vivendi* along their common borders, a task on which this paper focuses.

Background

The summer of 1999 amply demonstrated the potential of a serious derailing of relations between India and Pakistan over Kashmir. During the months of May through June, intense fighting took place between Pakistani-supported forces (along with some regulars) and Indian forces along the LOC in the Kargil sector of Kashmir. As a forthcoming study notes, the Kargil crisis, "though limited to the Kargil Sector, had all the trappings of a major war, i.e., large-scale troop deployments, hand-to-hand combat, heavy artillery dueling, use of air power by India and

heavy casualties."[1] Why was the Kargil war a setback? In order to explain the trauma of the Kargil conflict, one has to step back to re-examine the milieu in which it occurred.

In the changed atmosphere after the end of the Cold War, most parts of the world faced a new series of challenges and sought new solutions. South Asia was no different. To some extent, this hope was, and continues to be, realistic. For example, economic liberalization of the subcontinent began in the early 1990s with promise for finally bringing the economies of India, Pakistan, Bangladesh, Sri Lanka, and other neighbors into an open and free trading area. Enhanced economic relations were expected to lead to better political relations. The economic growth rates of the three larger members of South Asia improved after 1991. Creative ways of dealing with development pushed Bangladesh forward at even faster rates than anticipated. South Asia finally appeared poised to enter the new century with hope for a better economic future.

As South Asia focused on economic development, the Indian nuclear test of May 1998, followed by Pakistan's test, came as a major shock to the international security system. The world suddenly had two more self-proclaimed nuclear powers. This came at a time when nonproliferation was becoming the norm and arms control efforts focused on the reduction of existing United States and Russian nuclear arsenals. The international community, generally supportive of the effort to limit the nuclear club to the existing five members, considered the Indian and Pakistani nuclear tests an open challenge to the arms control/nuclear nonproliferation policies put in place with the Nonproliferation Treaty.[2] Thus, major powers and others who deliberately foreswore nuclear weapons were determined not to allow even a hint of recognition for the two new nuclear states and to make sure that the tests did not go unpunished.

As sanctions were slapped on the two South Asian states after their nuclear tests, the United States took the lead in pressing for new codes of conduct by India and Pakistan. The "benchmarks" of desired behavior stipulate the following: signature by India and Pakistan of the Comprehensive Test Ban Treaty (CTBT) (which will end future testing); moratorium on the production of fissile material (which would eventually cap their ability to make nuclear weapons); support for multilateral restraint pending the conclusion of the Fissile Material Cut-off Treaty (FMCT);[3] strengthening of the nuclear technology control regime in line with international standards; strategic restraint to prevent a nuclear or missile arms race; and resumption of the India-Pakistan dialogue.

These guidelines resulted from agreement between the nuclear powers and other states, such as Japan, Australia, South Africa, Singapore, Brazil, and Argentina (nations that deliberately decided against a nuclear weapons option). In resolutions passed by the G-8 and by the United Nations (UN) Security Council after the nuclear tests, the international community asked

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[1] Major General Mahmud Ali Durrani, Pakistan Army, Retired, *India and Pakistan: The Costs of Conflict and the Benefits of Peace*, forthcoming, September 2000.

[2] Entered into force on March 5, 1970.

[3] This proposed treaty that calls for a halt to the production of fissile materials was under discussion at the Conference on Disarmament in Geneva.

India and Pakistan to hold the line in their development of a nuclear weapons program. Full lifting of sanctions imposed after the tests remains predicated on satisfactory implementation by India and Pakistan of the above-mentioned benchmarks.

Right after the nuclear tests, Indian and Pakistani leaders respectively talked of signing the CTBT. Slowly, however, the momentum was lost as the Indian government said that the creation of a national consensus on the issue was first required. Pakistan immediately took the same route. FMCT negotiations have been slow to start. India has said that it will participate in the negotiations and will sign the resulting treaty. India will not accept a moratorium in the production of fissile material pending the conclusion of the treaty. Pakistanis have problems with the FMCT if the treaty institutionalizes the Indian advantage by international acceptance of existing stockpiles of fissile material.

Discussions with India and Pakistan are more promising on the question of export control. Both say that they are careful in exercising control over their respective nuclear technology. Technical discussions with the U.S. focus on future legislation in India and Pakistan that will hopefully institutionalize the controls and prescribe penalties under law for violations.

The issue of strategic restraint offers several thorny issues. Questions related to the concept of "minimum deterrence" are difficult, with each of the newest nuclear powers resenting what they fear is a demand for openness and transparency in their respective nuclear weapons programs. The accompanying U.S. call for restraint and no arms race means modification of behavior between the subcontinent's rivals. In the case of India, even if one accepts that China looms large in India's nuclear calculation, the Indian program gets linked to Pakistan and the overall relationship between India and Pakistan.

Talks that started in July 1998 between the U.S. Deputy Secretary of State, Strobe Talbott, and his Indian and Pakistani counterparts on the above agenda included the need for the resumption of dialogue between India and Pakistan. And for a time, that call seemed to be answered. The opening created by the visit of the Indian Prime Minister to Pakistan in February 1999 offered real hope that the relationship between India and Pakistan was about to change for the better.

India's Prime Minister Vajpayee went to Lahore, the city that epitomizes Pakistan's independence, to meet with his Pakistani counterpart Prime Minister Sharif and signed a declaration on February 21, 1999. The declaration provided a new and ambitious road map toward a different and more productive peace between India and Pakistan and a commitment to a future based on cooperation. As Vajpayee said:

> There can be no greater legacy that we can leave behind than to do away with mistrust, to abjure conflict, to erect an edifice of durable peace, amity, harmony, and cooperation.[4]

[4] Text of speech, Prime Minister Atal Behari Vajpayee, Lahore, February 21, 1999.

The Lahore process set a timetable for dialogue and included several milestones, including meetings of the foreign secretaries slated for April 1999. There were strong reports from the inner circle that Prime Minister Sharif would accelerate that schedule with an early return visit to New Delhi. No one underestimated the difficulties of resolving key issues, such as Kashmir. However, political will, that elusive commodity in India-Pakistan relations, seemed to be in place at last!

The two prime ministers committed their respective states to consultations on confidence building measures (CBMs) in the nuclear and conventional areas aimed at conflict avoidance. Topics included notification of ballistic missile flight tests, reduction of risk in accidental or unauthorized use of nuclear weapons, continued unilateral moratorium on nuclear weapons testing, safety of navigation measures, and upgrading of military communication measures by the two sides.

The world breathed a sigh of relief. It seemed that the testing of nuclear weapons in 1998 did not, after all, mean a march toward conflict. The Lahore meeting was accepted as the official future policy of the two governments.

Yet, despite the commitment of the prime ministers, events conspired against smooth implementation of the agreement. Initially, domestic problems with no relationship to the Lahore process delayed the Indian side from moving forward quickly in the foreign secretaries' meeting in April. The loss of the no-confidence vote put the Vajpayee government in a caretaker status as elections were announced for September/October 1999. Under the prevailing conditions, no real movement in Indo-Pakistan relations seemed possible and precious momentum was lost. That delay turned out to be even more unfortunate.

While the election process was underway in India, severe fighting during the summer of 1999 along the LOC near Kargil created real concerns regarding a widespread war between India and Pakistan with a distinct possibility of such a war escalating into a nuclear exchange. For a while it seemed that the danger was no longer confined to the LOC but likely to spread along the entire border. The latest conflict was a reflection of the attempt by Pakistan to change the boundaries of its territory through the use of military force. This was the first such attempt by either side after the tests and demonstrated their nuclear weapons capability. The reaction to Kargil by UN Security Council and the G-8 members and others was greatly adverse. That reaction reflected the belief that unilateral action could not alter recognized borders between nuclear states.

Soon after India emerged from elections in the autumn of 1999 with the return of the Bharitya Janata Party (BJP) into power, Pakistan convulsed into a military coup. General Pervez Musharraf, Chief of Army Staff, ousted the elected Prime Minister, Nawaz Sharif. Normalization suffered another setback as India refused to have anything to do with the General, who was seen in New Delhi as the architect of the Kargil operation and thus viewed as an unsympathetic interlocutor.

The context and content of the Lahore Declaration itself partly explains some of the international unhappiness over Pakistan's role in Kargil. The world found it inconceivable that

Pakistan was sponsoring simultaneously a peace offensive in Lahore as it was furthering a military offensive along the LOC.

Border Violations and War

International praise for the Lahore Declaration was predicated on the belief that India and Pakistan had finally decided to commit themselves to a peaceful resolution of all disputes between them, including Kashmir. Lahore implied recognition that conflict was no longer an option and that "an environment of peace and security is in the supreme national interest of both sides and that the resolution of all outstanding issues, including Jammu and Kashmir, is essential."[5] In praising the Lahore process, the international community, particularly the United States, was cognizant of the history of Indo-Pak wars and the role of the LOC violations in sparking a larger conflagration, e.g., in 1948 and in 1965.[6] Hence, after the summer of 1999, active interest in managing the LOC and finding ways of reducing the likelihood of conflict there received greater attention. Beyond the LOC, the entire border between India and Pakistan remains susceptible to problems that could easily spill out of control in today's environment of suspicion.

India accuses Pakistan of supporting infiltration via the LOC in order to stir the insurgency inside Indian Kashmir. Pakistan insists that the borders are porous and that the cause of the problems in Jammu and Kashmir are the harsh policies of New Delhi creating a real human rights problem. Under these conditions, the authors believe that the approach described below offers something for both India and Pakistan. Pakistan will get verification of its claim that it is *not* involved in infiltration across the LOC or the international border. India will get verification of the Pakistani claim and also be able to limit infiltration. By undertaking joint steps to monitor, complications arising from differing interpretations can be minimized. The concept of cooperative monitoring is presented below, followed by an assessment of its application along each segment of the border.

The Cooperative Monitoring Concept

Our goal in assessing the role of cooperative monitoring technology for enhanced border stability is not to provide prescriptive solutions to regional problems but rather to expand the options being considered to overcome impediments to progress. Many of these impediments are a result of a history of conflict and mistrust. By utilizing technical monitoring and inspections, each side can begin to replace suspicion and doubt with knowledge and information useful in making informed political, economic, and military decisions while at the same time building confidence through common interactions.

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[5] Memorandum of Understanding signed by the Indian Foreign Secretary, K. Ragunath, and the Pakistani Foreign Secretary, Shamshad Ahmed, Lahore, February 21, 1999.

[6] The 1971 war resulted from Indian support for the separation of what was East Pakistan. Indian military defeat of Pakistan in the east resulted in the formation of independent Bangladesh.

Technology in itself is not a solution but rather a tool to be used in addressing the regional problems plaguing India and Pakistan. Employing cooperative monitoring technologies is done in conjunction with the political will to authorize its use. However, technology use need not await complete understanding or agreement among the parties. Technical experiments may precede formal agreements by demonstrating the ability to address the fears and concerns faced by the parties to the agreement.

Efforts to build confidence among nations can take many forms. The overall objective is to move from conditions of minimal confidence between nations to conditions that achieve higher levels of trust and cooperation. Minimal confidence is characterized by distrust, lack of communication, public resistance to cooperative efforts, and lack of infrastructure within the governments for promoting cooperative agendas. The infrastructure needed consists of political, diplomatic, military, and technical components.

The goals of confidence building are to achieve conditions of mutual trust, open communication and dialogue among parties, public acceptance and support for cooperative efforts, and an established infrastructure for addressing issues of concern. Successes along this spectrum of confidence building have been numerous over the past decade. These include improved interactions between U.S./Russia, North Atlantic Treaty Organization (NATO)/Warsaw Pact countries, and Argentina/Brazil. There are many elements that can contribute to confidence building. They vary from cultural exchanges and increased trade to technical exchanges and security agreements. This paper focuses on the role that monitoring technology can play in building confidence between India and Pakistan on issues related to monitoring of the boundary between the two nations.

Cooperative monitoring is the obtaining and sharing of agreed-upon information among the parties to an agreement. It makes use of technologies that are shareable among all of the parties to the agreement. The data collected as part of a cooperative monitoring agreement are equally accessible to all of the parties to the agreement. Finally, cooperative monitoring includes procedures for addressing anomalies in the monitoring information. In that way, questions or issues can be resolved to avoid escalation of concerns that could lead to conflict.

There are many examples of cooperative monitoring systems, including formal treaty verification systems as well as less rigorous confidence building measures (CBMs). The systems may consist of inspections or sophisticated sensor and data processing equipment accessed remotely. These systems are not limited to arms control or military applications, but also may monitor a wide range of other regional concerns including natural resources, commerce and trade, the environment, or emergency response issues.

Cooperative monitoring systems supplement rather than replace other national means of data collection, including intelligence means. Ultimately, the entire set of shared and private data forms the basis of making national treaty compliance determinations.

In each case, establishment of a cooperative monitoring regime is a process. There is no single monitoring solution. A framework in which to consider the application of cooperative monitoring begins with a context for undertaking CBMs. The context has several elements that

include the subject of interest, the scope of the agreement, and purposes for which an agreement is being considered.

A desire for improved relations could eventually lead to specific agreements that form the basis for establishing monitoring regimes. The agreements, whether formal treaties or less formal CBMs, have certain objectives and provisions intended to achieve the goals. Some of these provisions have specific measurable or observable parameters. These may include objects, activities, processes, or movements. Signatures are the specific characteristics of the item, object, or process being observed. They may include optical characteristics, thermal profile, chemical composition, acoustic patterns, isotopic composition, or other measurable quantities associated with the observation. These signatures allow sensor systems to detect and classify differences between the items observed.

Once the objectives and provisions of an agreement have been determined and the monitoring parameters have been defined, it is possible to explore a wide range of monitoring system options using different types of technology. Other factors such as cost, manpower, redundancy, timeliness, data and hardware security, power requirements, sensor function and display, environmental conditions, and vulnerability need to be assessed. In addition, the level of access or intrusiveness permitted under the terms of the agreement will affect the types of possible monitoring systems.

There are feedback loops within the framework as well. Understanding monitoring options and limitations may result in a need to modify the original agreement to establish provisions that can be monitored.

The balance of this paper addresses cooperative border monitoring concepts to advance India-Pakistan relations. In this context, the term "border" applies to the established international border as well as the Line of Control in Kashmir and the further disputed regions of Siachen, Sir Creek, and maritime boundaries.

Cooperative Monitoring for India/Pakistan Border Applications

Tensions along the India-Pakistan boundary represent the greatest potential for escalation to armed conflict and the risk of all-out war. Tools to assist in monitoring border concerns may play a significant role in resolving uncertainties, providing warning, and managing border issues to avoid the outbreak of war. While conflict in Kashmir poses the greatest threat, incidents anywhere along the border could erupt into war. The sections that follow describe six distinct boundary regions that differ both physically and politically. These are the Siachen Glacier, the Line of Control (LOC) in Kashmir, the "working boundary," the recognized international border, Sir Creek, and the maritime boundary. Figure 1 highlights these boundary regions on a map of South Asia. For each region, specific monitoring options are suggested that could enable or sustain boundary agreements between India and Pakistan and lessen the chance of war.

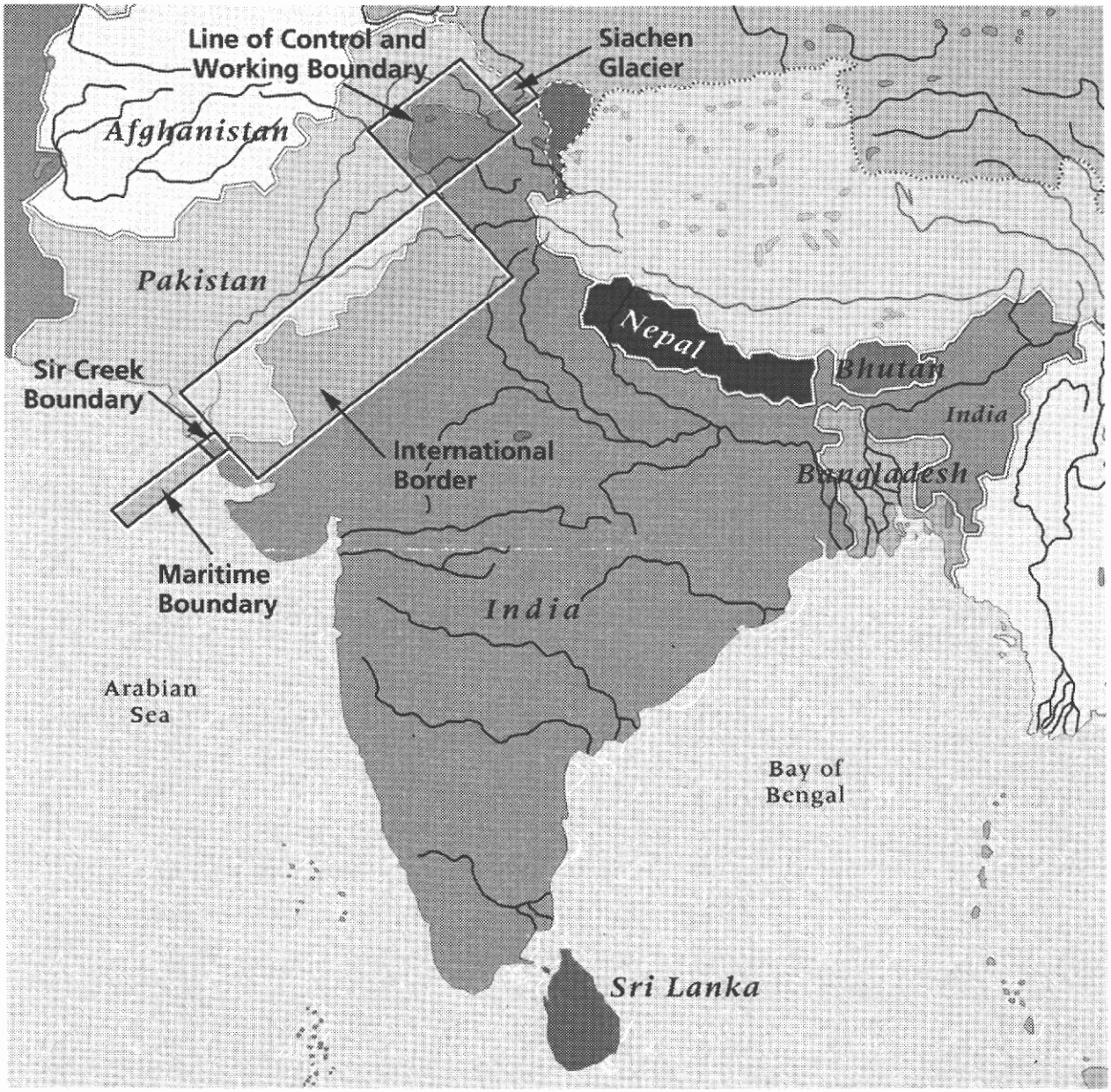

Figure 1. Boundary regions along the India-Pakistan border.

Siachen

At the northern extreme, India and Pakistan face off along the Saltoro mountain range in an area named for its most prominent feature, the Siachen Glacier. Since 1984, the two nations have battled over a 2500-square-km triangle of contested territory. The dispute arose over differing interpretations of a provision of the 1949 cease-fire, as well as the subsequent 1972 Simla agreement, that left a portion of the cease-fire line in Kashmir undefined. The boundary was specifically delineated only to map coordinate NJ9842. The cease-fire agreement had only defined the line to a certain specified point and from there "thence north to the glaciers." This

left a distance of about 65 km to the north undemarcated.[7] The area remained undemarcated until 1984, when Indian troops occupied the watershed line along the Saltoro range northwesterly from NJ9842. Pakistan laid claim to a line from NJ9842 northeasterly to the Karakoram Pass on the Chinese border. For the past 16 years, armed conflict has ensued along this "line of actual contact." Figure 2 shows a composite satellite image of the Siachen region that highlights the area of dispute. The area is among the highest in the world and is characterized by mountain altitudes of over 7,500 meters and by troop deployments at altitudes up to 6,700 meters. Nearby is K2, the second highest mountain in the world at over 8,500 meters.

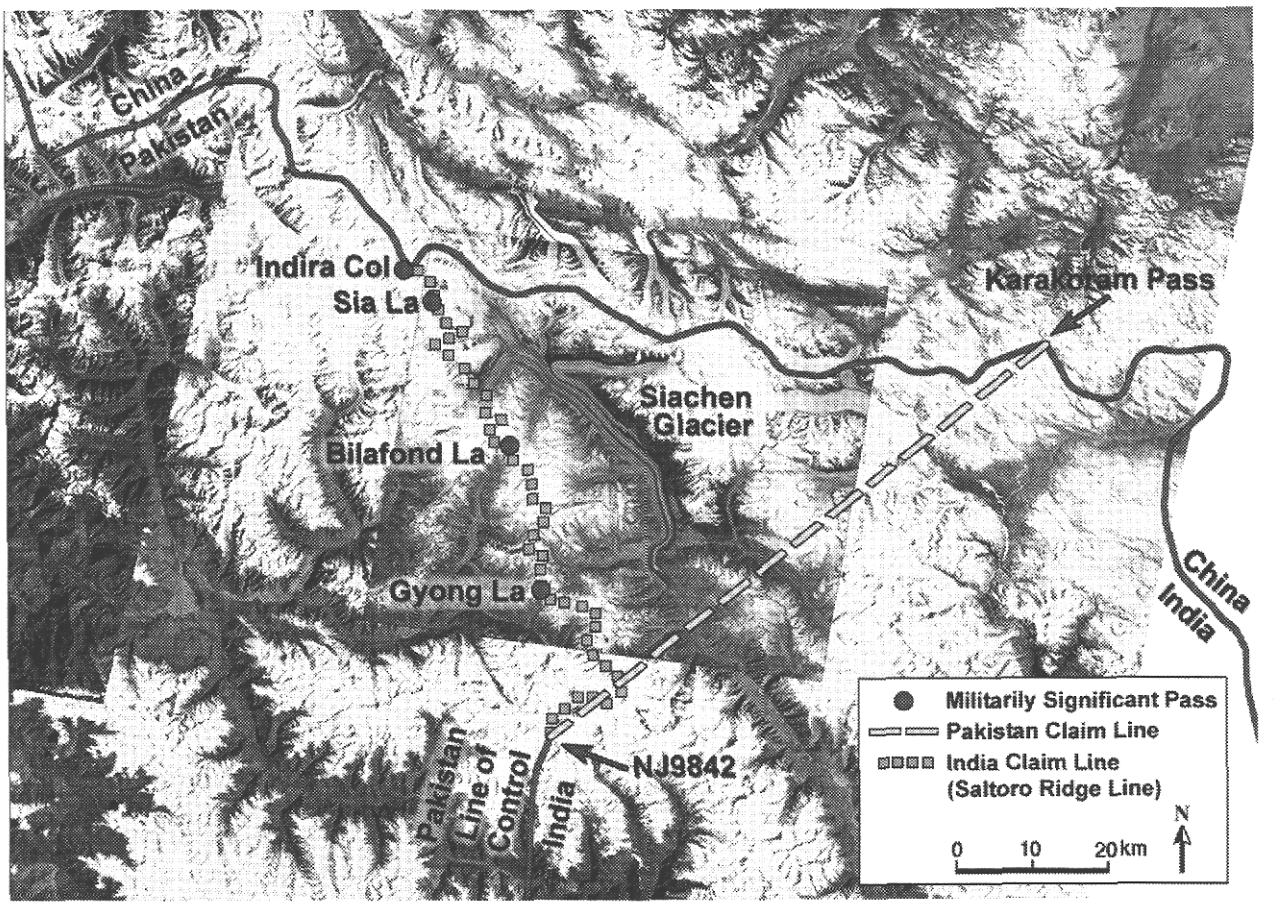

Figure 2. Siachen Glacier region composite satellite image showing claims lines and areas of dispute.

A political settlement of the Siachen dispute would include increasingly comprehensive provisions for de-escalation, disengagement, and demilitarization.[8] In addition to national means of verification, compliance determination would be enhanced through efforts at bilateral cooperation in monitoring. Because of the large area, difficult terrain, and harsh climate, Siachen presents unique monitoring challenges. Monitoring efforts must detect and identify the presence or absence of troops and military equipment deployed in and around the Siachen area. Initial

[7] "Siachen: A solution being sought for the third time," *The Hindustan Times*, November 6, 1998.

[8] See *Freezing the Fighting: Military Disengagement on the Siachen Glacier*, Samina Ahmed and Varun Sahni, Cooperative Monitoring Center Occasional Paper, Sandia National Laboratories, SAND98-0505/1, March 1998.

determinations are possible through declarations and notifications supplemented with periodic inspections of deployment locations. As confidence is developed, the addition of ground-based monitoring technologies could provide a continuous assessment of relevant activities. Deployment of radars mounted near critical peaks or passes would also detect ground or aerial activities in the region.[9] Video monitoring could supplement other sensors by characterizing activities. Examples of operating web-based camera systems exist in similarly harsh environments. Figure 3 shows an Internet camera image from an Australian base in the Antarctic.[10]

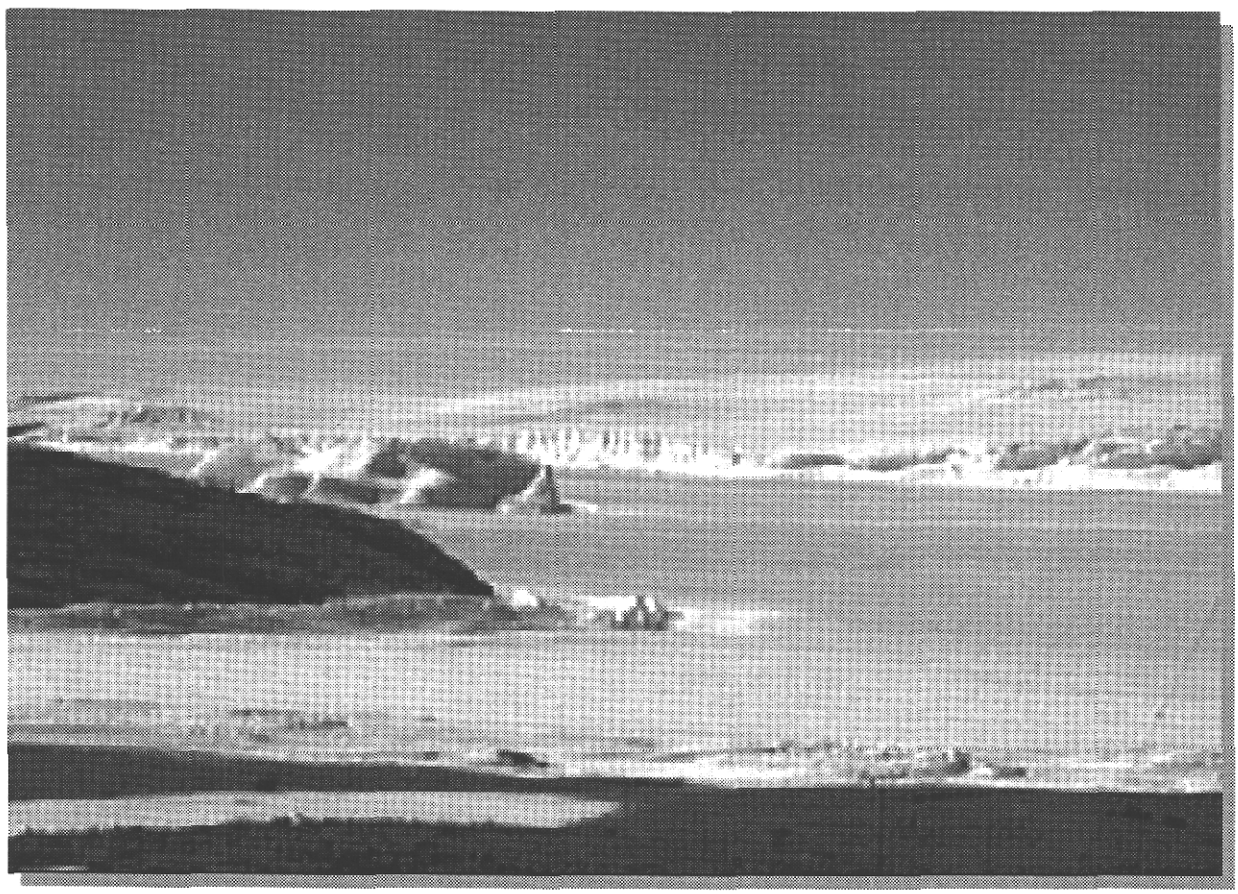

Figure 3. Internet photo of region surrounding Australian Mawson Station in Antarctica.

To provide broad area coverage of the remote Siachen region not possible with ground sensors, aerial remote sensing technologies would be required. Joint aerial monitoring missions could be used to demonstrate compliance with an agreement. This concept utilizes sensors on aircraft to periodically assess troop locations, equipment inventories, and status of operational or abandoned facilities. In this case, aircraft capable of high-altitude flight would be required to permit observation at these extreme elevations. It is even possible that high-performance unmanned aerial vehicles (UAVs) could be employed for this application to minimize concerns of piloted overflights. A variety of sensors including optical and video cameras, infrared line

[9] This idea has been proposed by Lawrence Livermore National Laboratory.

[10] See the Australia Antarctic web site at: http://www.antdiv.gov.au/stations/live.html

scanners, and radars could be used to provide the necessary assessments. Precedents for such cooperative remote sensing exist in the multilateral Open Skies treaty (signed but never entered into force) and bilateral agreements such as the 1991 Hungary/Romania open-skies agreement. (See Figure 4.) Severe weather conditions could limit short-notice aerial inspections, but such conditions would also hamper movements of ground forces.

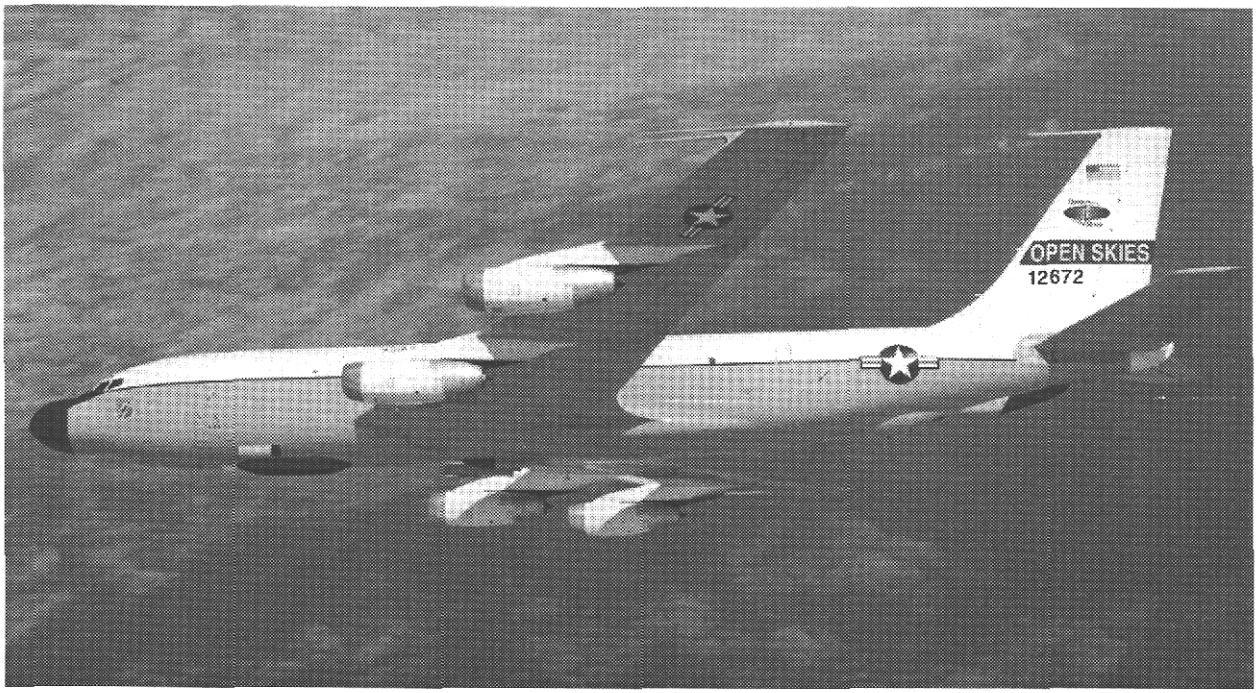

Figure 4. Example of Open Skies aircraft used for cooperative monitoring agreements.

An initial step in implementing monitoring provisions in Siachen is to conduct cooperative experiments to demonstrate the potential of these sensor technologies to operate and detect activities along strategic paths of movement and at fixed locations such as posts or pickets. Field experiments with ground-based sensors as well as trial flights of aerial monitoring systems could establish confidence in the technology. The process of working together to define and operate these systems could also build confidence between the parties.

As the countries move toward demilitarization of Siachen, concern may remain over the lack of national presence in the area. This concern can be addressed by replacing the current military presence with a scientific one. The concept for a Siachen Science Center suggests that the region be set aside for high-altitude scientific research in ways similar to that done in the Antarctic Treaty.[11] Cooperative efforts to conduct astronomy, glaciology, atmospheric science, human physiology, and many other fields of study could provide a joint India/Pakistan human presence in the area but for scientific, rather than military, purposes.

[11] Kent L. Biringer, *Siachen Science Center: A Concept for Cooperation at the Top of the World*, SAND98-0505/2, Cooperative Monitoring Center Occasional Paper, Sandia National Laboratories, March 1998. Also available at: http://www.cmc.sandia.gov/issues/papers/siachen/index.html

Line of Control

The Line of Control (LOC) extends south of Siachen through the former principality of Kashmir. This line was established in January 1949 as a cease-fire line at the conclusion of the first India-Pakistan war. The cease-fire line was formalized with the signing of the Karachi Agreement in July 1949. Following the third India-Pakistan war in 1971, the cease-fire line (with some modifications) became the Line of Control. The Simla Agreement of July 1972 specified the line of control resulting from the December 1971 cease-fire and called for the line to be respected by both sides without prejudice to the position of either side. The line is characterized by different terrain from valleys and rivers in the southern regions to high mountains in the north. The length of the LOC is 740 km.[12]

While the LOC has been the subject of numerous agreements between India and Pakistan, efforts to cooperatively monitor the line do not exist. An agreement to implement cooperative monitoring could contribute to building confidence and reducing tensions along the LOC. Because this region, specifically the Kargil sector, represents one of the recent flashpoints in India-Pakistan relations, there is an urgency to implement confidence building measures along the LOC. Detecting and characterizing illegal cross-border movements are vital to regional stability. These crossings may be politically, militarily, or economically motivated but, in each case, threaten the fragile relationships of the region.

Border tension could be reduced through military-to-military interactions in the form of enhanced communication, exchange visits to deployment locations, reduced threat posture, and efforts to implement provisions of the Lahore Declaration.[13] To begin, periodic joint meetings of military officials at predetermined locations along the LOC could be held. These meetings could later be expanded into inspections of selected military deployments along the LOC to demonstrate compliance with cease-fire or other agreements. Similar provisions exist in the 1993 and 1996 CBM agreements between India and China on Peace and Tranquility and on Military CBMs along their Line of Actual Control (LAC).

After establishing an effective dialogue and inspection regime, ground-based sensors could be deployed to supplement efforts by ground forces to monitor for unauthorized movements or actions along portions of the LOC. Use of specific sensors could vary along the LOC based on terrain, perceived threat, costs, and extent of sensor coverage. (See Figure 5 for an example of ground-based sensors.) The LOC is a very porous boundary because of the variable terrain and wooded conditions in some portions. Instrumented fences could be deployed over relatively level terrain that represented primary routes of infiltration. Ground-based radars could provide broad area coverage over more rugged regions. Seismic and magnetic monitoring could provide detection and some characterization along known roads, paths, or other routes of passage. Selective use of other ground-based technologies, such as fiber-optic cables and infrared break-beams, could be employed to detect movement across selected zones of interest.

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[12] *The Hindu*, July 28, 1999. Other values are given in other references, e.g., 790 km in the "About India" web site at www.aboutindia.com/neighbors/neighbor.htm.

[13] Shirin Tahir-Kheli, "The Role of Technology in India-Pakistan Agreements," *Balusa VII-India and Pakistan: Opportunities in Economic Growth, Technology and Security*, Foreign Policy Research Institute, Philadelphia, June 3, 1999.

Sensor activations could alert both sides of possible violations of the integrity of the LOC. A joint monitoring center could collect all sensor inputs and disseminate information.

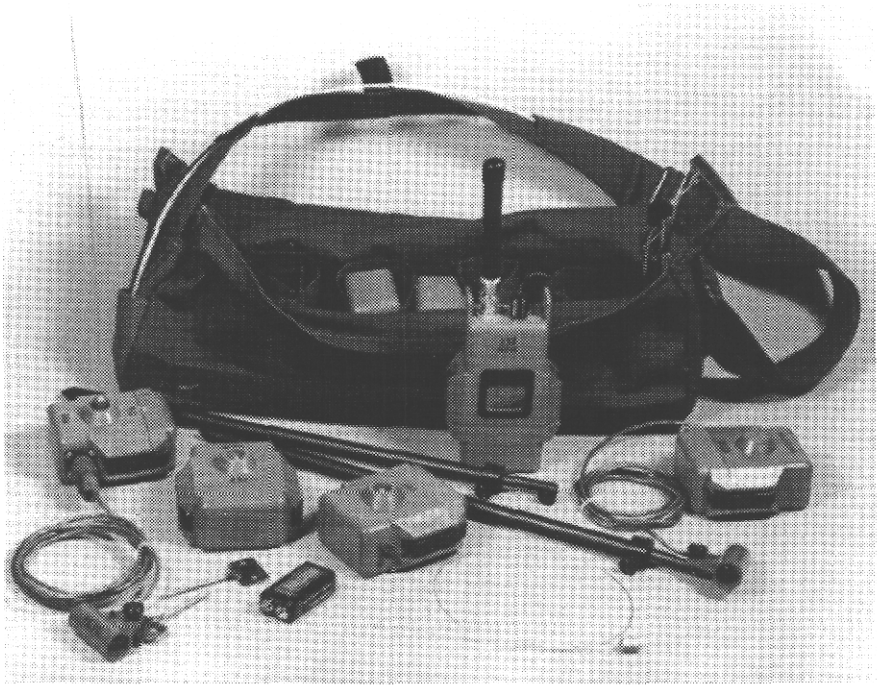

Figure 5. Example of ground-based sensors used to implement cooperative monitoring agreements.

In the 1970s, Israel and Egypt, along with the United States, used sensor systems to monitor terms of the Sinai accords. These systems helped maintain a cease-fire agreement and enabled the eventual withdrawal of Israeli forces from the Sinai. Two mountain passes, considered critical for launching a military attack across the Sinai, were instrumented with sensors and watch stations. This system ensured a separation of forces and permitted the peace process to evolve.[14]

Because of its extent, the LOC could also be monitored using aerial remote sensing. Jointly manned aircraft, with a stipulated suite of cameras and sensors, could be deployed to periodically overfly agreed portions of the LOC.[15] Such a capability could ensure that there is no military buildup, unannounced exercise, or other threatening military action along or near the LOC. Again, the process of defining and implementing such a cooperative monitoring regime is in itself part of the confidence building process.

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[14] Michael G. Vannoni, *Sensors in the Sinai: A Precedent for Regional Cooperative Monitoring*, SAND96-2574, Sandia National Laboratories, reprinted June 1998. Also available at: http://www.cmc.sandia.gov/issues/papers/vannoni2/index.html

[15] John H. Hawes and Teresita C. Schaffer, "Risk Reduction in South Asia: A Role for Cooperative Aerial Observation?" Stimson Center Report No. 31, *Aerial Observation and Confidence Building*, Michael Krepon and Michael Newbill, editors, August 1999.

Working Boundary

While considered by India to be part of the international border, a "working boundary" between Pakistani Punjab and Indian Kashmir is not considered by Pakistan to be an international border because of the dispute over Kashmir.[16]

Cooperative monitoring options along the working boundary are similar to those along the LOC. However, the terrain is less rugged and more suitable to deployment of ground-based monitoring systems. India has been unilaterally fencing much of this boundary. Pakistan has objected to this action. Building confidence along this portion of the boundary could begin with discussions among military commanders.[17] Portions of existing fences could be used for conducting joint experiments on instrumented border monitoring.

Figure 6 shows a composite commercial satellite image of the India-Pakistan boundary in Kashmir. The use of satellite and aerial imagery can be a tool to facilitate cooperation and resolution of territorial disputes. For example, such imagery helped define areas of separation and boundaries as part of the Dayton Accords, which resolved the conflict in Bosnia and Herzegovina. Such tools could be useful for South Asian negotiators in defining inspections, overflights, or ground-based instrumentation deployments in Siachen, along the LOC, or along the working boundary.

International Border

Most of the 2900-km boundary between India and Pakistan is an internationally recognized border.[18] The border is formed between the Indian States of Punjab, Rajasthan, and Gujarat with the Pakistani provinces of Punjab and Sind. The terrain varies from coastal salt marshes, through deserts, to the agricultural districts of the Punjab. While there is little official cross-border traffic, there is a great deal of smuggling and unofficial commerce. This area has also seen past conflict and near conflict accompanying large military deployments and military exercises. To minimize these threats, the *Agreement between India and Pakistan on the Advance Notice of Military Exercises, Maneuvers and Troop Movements* was concluded between the two sides in 1991. It applied along the international border as well as the LOC. In that same year, another agreement, *Prevention of Air Space Violations and for Permitting Over-Flights and Landings by Military Aircraft*, was also concluded.

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[16] See the Pakistan government web site at: www.pak.gov.pk/media/line_of_control.htm.

[17] A four-day meeting between border commanders was held in Lahore to discuss exchange of fire along the working boundary. See expressindia.com, November 23, 1999.

[18] *World Fact Book 1999*, Central Intelligence Agency, www.odci.gov/cia/publications/factbook/in.htm. The total distance of 2912 km includes disputed areas such as Sir Creek, LOC in Kashmir, and Siachen.

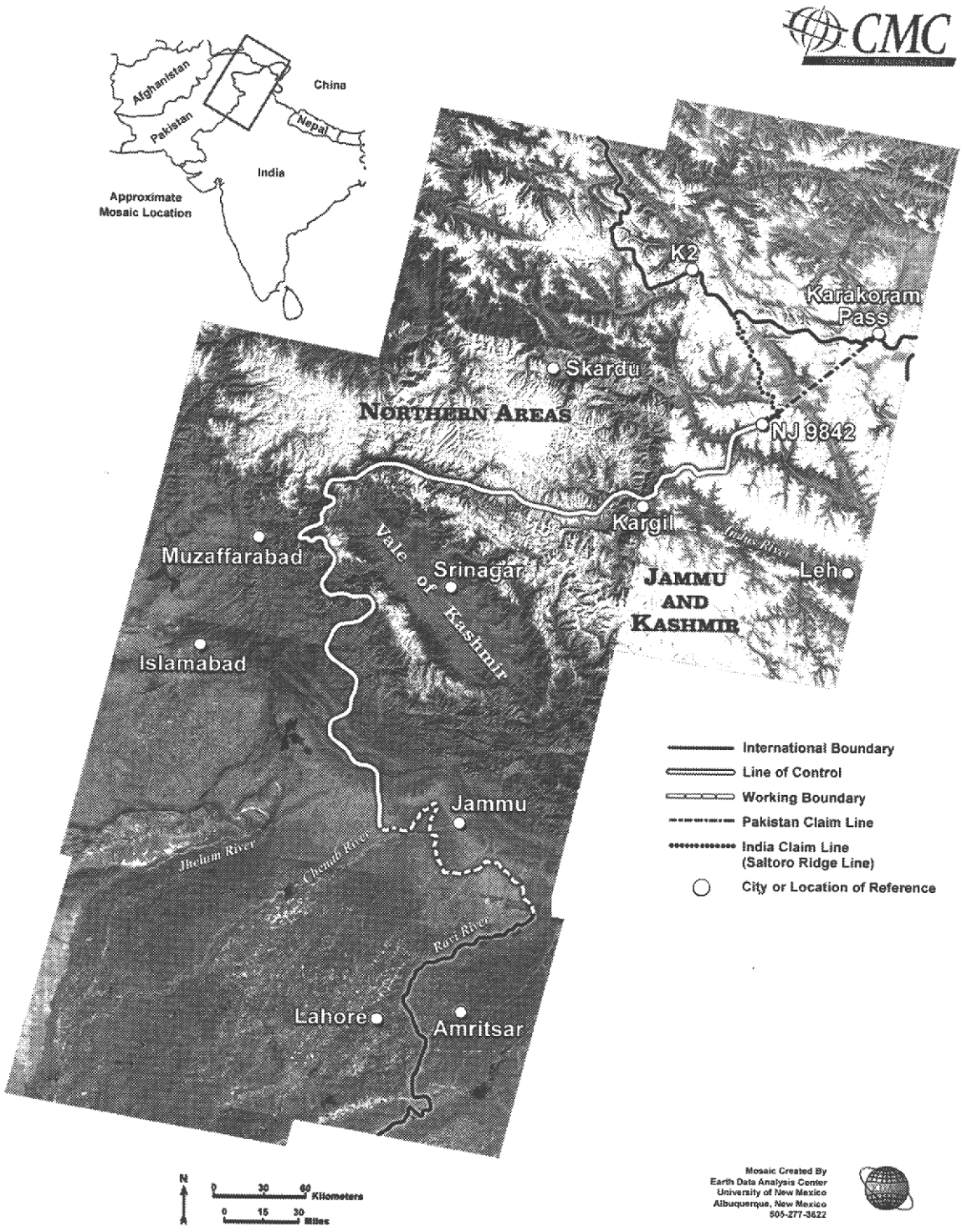

Figure 6. Composite satellite image of Kashmir showing Siachen, the Line of Control (LOC), the working boundary, and the international border.

Increased confidence between India and Pakistan could result from the addition of monitoring provisions to the existing military exercise and airspace agreements. Initial efforts could consist of invited observations of military activities or exercises near the border. This transparency measure could reduce tensions and misinterpretation of military intent. Notifications and monitoring of these activities could prevent the countries coming to the brink of war, as was the case during the Brasstacks military exercise of 1986 and 1987. In addition to notifications or monitoring of military activities along the border, agreements on further restrictions of movements or deployments may be possible. Such agreements could be expanded to include broader demilitarized or arms limitation zones along the borders to further increase warning times and reduce likelihood of conflict. The two sides could also work together to provide better border demarcation particularly in the more remote and less populated desert regions.

The cooperative use of radar-equipped tethered balloons to monitor for low-flying aircraft in selected portions of the border regions could enhance the existing agreement on Prevention of Air Space Violations. This technology can also assess ground movements in the border regions. Tethering a balloon controls the altitude and position of the instrumentation. Joint staffing of the balloon deployment and data collection could establish a precedent for cooperative monitoring and data sharing. Technologies of this type are deployed along the U.S./Mexican border and other international borders, including that between Kuwait and Iraq. These systems do have some operational limitations, especially in severe weather conditions. A more extensive border monitoring regime could include cooperative aerial overflights along the established border to verify compliance with bilateral agreements or to work together to combat issues such as smuggling and drug trafficking.

Other regional precedents exist for border cooperation. India and China concluded two border agreements in 1993 and 1996. While many of the provisions (including notifications, exercise limits, and aircraft restrictions) are similar to those already in place in India-Pakistan agreements, others offer additional prospects for building confidence. Chief among them may be exchanging maps, conducting flag-officer level meetings at designated border locations, assisting in the sharing of information on diseases, and providing disaster assistance. Similar CBMs could be employed along other sections of the boundary.

Border cooperation could also support economic development and trade. There currently is a large "unofficial" trade between India and Pakistan. There is a huge potential for legitimate trade if tensions and restrictions were lifted. Efforts to technically cooperate in monitoring and facilitating trade could pay tremendous dividends. These efforts might include border development zones, modern customs and border crossing stations designed to streamline paperwork and vehicle inspections, and cooperative efforts to build an infrastructure of roads and communication to move goods and services between the trading partners. In this case, technology and monitoring systems are used not only to prevent actions, but also to facilitate legitimate activities, such as authorized cross-border trade. Since there is a minimum of existing cross-border infrastructure, there are opportunities to work together to design border crossings and related infrastructures (i.e., roads, pipelines, power, communications, etc.) to take advantage of the latest technologies. For example, improved customs records and communication could enable quicker border inspections and more cost-effective movements of goods. Other examples

include use of electronic shipping records, instrumented border crossings, real-time shipment tracking, and tags and seals for improved cargo security.

Environmental cooperation along the border offers another means for establishing the infrastructure for border cooperation. Cooperation on water resources involves joint measurements of river flow rates or surface or ground water quality. Joint efforts could help to better coordinate information related to flood management or watershed terrain mapping. Deployment of a network of air quality monitors along the border could help in better managing industrial development and responding to public health threats. Such air quality measurements could even include measurements of atmospheric radionuclides as an initial step in cooperation on nuclear topics.

Sir Creek

The Sir Creek issue involves defining the international boundary along Sir Creek, a 100-km-long estuary in the saline wetlands of the Rann of Kutch between the states of Gujurat in India and Sind in Pakistan.[19] The dispute stems from maps drawn in 1914 and 1927 that trace different boundaries along Sir Creek. The earlier map depicts the boundary on the east bank of the creek. The later map depicts the boundary along the midpoint of the creek. The official Indian government position interprets these maps as defining the boundary along the midpoint of the creek, with the boundary shifting as the creek meanders. Pakistani officials interpret the boundary as being along the east bank of the creek, and fixed geographically.[20] In addition to the historical dispute, accumulated sediment has created new land that did not exist at the time of the earlier maps, requiring an extension of the boundary to the new shoreline. How this line should be extended is also in dispute. The direction of the line will affect the determination of Indian and Pakistani Exclusive Economic Zones along the continental shelf and beyond.

Sir Creek is the subject of its own working group in the bilateral dialogue between India and Pakistan. Because of its finite length and disputed nature, Sir Creek offers the potential for its own specific monitoring regime. As in the case of Siachen, one possibility is a demilitarization of the Sir Creek area. Such an agreement could permit joint monitoring to ensure the absence of military or paramilitary troops or smugglers. A cooperative aerial monitoring regime could support such an agreement, build confidence, and help to avoid conflicts such as the downing of a Pakistani naval aircraft in August 1999. That incident stemmed from unilateral aerial observation near disputed territory. The regime could permit periodic aerial overflights along the disputed boundary with jointly manned aircraft.

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[19] A. G. Noorani, "CBMs for the Siachen Glacier, Sir Creek, and Wular Barrage," *Crisis Prevention, Confidence Building, and Reconciliation in South Asia*, edited by Michael Krepon and Amit Sevak, Henry L. Stimson Center Book, 1995.

[20] Gaurav Rajen, *Cooperative Environmental Monitoring in the Coastal Regions of India and Pakistan*, SAND98-0505/11, Cooperative Monitoring Center Occasional Paper, Sandia National Laboratories, June 1999. Also available at: http://www.cmc.sandia.gov/issues/papers/coopenv/index.html

Another cooperative venture could be in the environmental realm where joint scientific studies of pollution, water quality, water flows, and other measurements important to coastal and estuarine plant and animal life could be undertaken.[21] This could shift the focus to cooperation while the political process continues to address Sir Creek as an area of territorial dispute. Coastal cooperative environmental programs have been conducted successfully in other regions. One example is the effort between Israel and Jordan to cooperate in establishing the Red Sea Marine Peace Park.[22]

Maritime Boundary

Not to be overlooked is the boundary between nations that extends beyond land into the sea. Because of disputes over the coastal land boundary along Sir Creek, there is an accompanying dispute over the maritime boundary that extends 200 miles into the sea, covering the exclusive economic zone of the two nations as well as their national security boundary. The undemarcated and disputed nature of this maritime boundary has already caused international incidents; fishermen from both sides have been detained for claimed violation of maritime boundaries. Continuing this boundary dispute could lead to increased naval conflict. Conflict in the region also limits the potential of both sides to attract the capital investment to develop the natural resources potential of the region, including offshore oil or gas deposits.

Several maritime CBMs could contribute to improved relations. While the exact maritime boundary may remain in dispute, efforts to demarcate the extent of the region of dispute could reduce the number of incidents of vessels mistakenly entering disputed territory. Cooperative deployment of ocean buoys by India and Pakistan could demarcate the area of dispute (see Figure 7). At a minimum, this could alert the commercial and military vessels of both sides to areas to be avoided. This effort could be further enhanced through supplying global positioning system receivers to selected commercial or fishing vessels. These receivers could provide unambiguous location information that could also reduce claims of border violations.

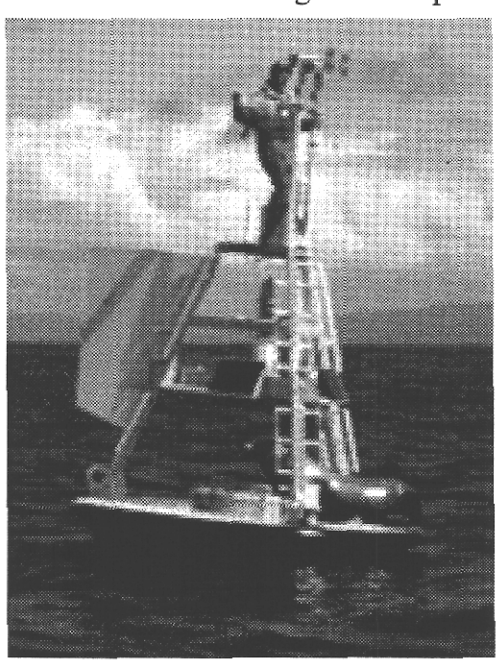

Figure 7. Example of a buoy that could be used for cooperative monitoring efforts.

[21] *Ibid.*

[22] Aqaba Region Authority, 1997, "The Red Sea Marine Peace Park - Aqaba, A Summary," *Proceedings, Middle East Seas Regional Strategy Workshop for the International Coral Reef Initiative,* Aqaba, Jordan, September 21-25, published by the U.S. National Ocean Service, U.S. National Oceanic and Atmospheric Administration, Silver Spring, MD, USA.

Cooperative efforts at search and rescue or disaster response in coastal regions offer additional opportunities for technical collaboration. Joint communications to share information on emergencies and periodic exercises to test the ability to work together could serve as confidence building measures. Developing a maritime risk reduction center could also be considered. While these represent only the beginning of potential areas of maritime cooperation, they are achievable and may be politically acceptable. They provide the basis for expansion to even broader areas of cooperation in the future.[23]

Can There Be CBMs Between India and Pakistan?

Skeptics view CBMs between India and Pakistan as impossible to achieve. This view is based on the belief that relations are currently so bad between the two countries that there is little likelihood of agreement on new measures such as those proposed here or even implementation of existing ones. In other words, this view subscribes to the notion that CBM activity has to await the resolution of differences between India and Pakistan. However, the actual record shows otherwise. A look at the history of relations over fifty years shows that India and Pakistan have in fact moved forward on CBMs even as state-to-state relations remained poor. In order to demonstrate this fact, the following section highlights past agreements, on confidence building measures between India and Pakistan.

The Early Period, 1947-54: This was a time for the resolution of many urgent issues resulting from partition of the subcontinent. Partition in 1947 was accompanied by a great loss of life as nearly six million people moved across borders. Despite the difficult circumstances, India and Pakistan were able to settle a number of issues dealing with the division of assets, exchange of evacuee property, establishment of lines of communication, movement of people, visa schemes, and the establishment of air, sea and rail links. Throughout this period, the two countries had a great deal of official interaction. On May 4, 1948, the Inter-Dominion Accord entered into force. The waters of the Indus River—the lifeline of West Pakistan—were divided and a mechanism was set up for compensation to India by Pakistan for the share of water released. While the matter was not considered resolved, a working solution was found while the search for a more permanent solution continued.

The Second Phase, 1955-1964: Although this was the period where the foreign policies of India and Pakistan respectively took a marked turn away from each other, they maintained contacts with each other. India became a founding member of the Non-Aligned Movement and Pakistan joined U.S.-sponsored pacts, i.e., the Baghdad Pact (later renamed the Central Treaty Organization, or CENTO) and the Southeast Asia Treaty Organization (SEATO). Politics in South Asia appeared polarized and the rhetoric sharpened as India accused Pakistan of bringing the "Cold War" to the subcontinent. However, both sides kept their lines of communication open and many residual issues of partition continued to be resolved. Included in these was the division of the waters of the Indus, adjudicated eventually with the help of the World Bank. The

[23] For additional maritime cooperation steps, refer to *Maritime Cooperation Between India and Pakistan: Building Confidence at Sea*, Dr. Ayesha Siddiqa-Agha, Occasional Paper 18, SANDDOC 98-0505/18, Sandia National Laboratories, to be published.

agreement awarded the three eastern tributaries of the Indus to India and the western three were awarded to Pakistan. A program for the *joint* development and operation of the Indus Basin river system was initiated. Careful arrangements were made to build canals and storage dams to divert waters from the western rivers and to replace the supply lost to Pakistan from the eastern rivers. It was remarkable that India and Pakistan worked with the World Bank and its appointed engineers to fashion an agreement that did not rely on the principle of historical usage of the waters of the Indus basin. Instead they found an equitable way to resolve the issue permanently. Prime Minister Jawaharlal Nehru of India and President Ayub Khan of Pakistan signed the *Indus Waters Treaty* in Karachi, Pakistan, on September 19, 1960. This treaty has served as the ultimate CBM, surviving many downturns in the relationship between India and Pakistan.

The 1965-1971 Period: The 1965 war between India and Pakistan was a direct consequence of Pakistani infiltration across the LOC. India reacted to this action with a massive crossing of the international border near Lahore. The war lasted less than three weeks but suspicions of each other lasted much longer. Yet, a number of CBMs were put in place within a relatively short time after the war. The first "hot line" between India and Pakistan was established in the aftermath of the 1965 war. It put the respective Director General of Military Operations (DGMO) of India and Pakistan directly in touch for the first time, with the aim of preventing a 1965-type situation. That line continues, despite the laments of both sides that it is highly underused.

The 1971 war between India and Pakistan led to the formation of Bangladesh and ended with 90,000 Pakistani prisoners of war in India. Yet, in July 1972, the two prime ministers met in Simla to review the situation and to turn the page in relations beyond the conflict. They agreed to a framework for the relationship and an official and formal end to the conflict, with India releasing 90,000 Pakistani prisoners of war. Some adjustments in territory were made as the status quo ante was restored along the international border and the two armies stayed on where they were in place along the LOC.

The 1972-1986 Period: Two events in the region influenced the next considered move by India and Pakistan toward CBMs. The first was the revolution in Iran and the second, the Soviet invasion of Afghanistan. Occurring in 1979, these events made another spurt in the relationship necessary despite the fact that initial Indian and Pakistani reactions to the Soviet invasion were different, with Pakistan becoming the front-line state in challenging the Soviet occupation of Afghanistan.

Worrying about the creation of a two-front crisis situation for Pakistan, the United States (which headed the anti-Soviet coalition in Afghanistan) encouraged India and Pakistan toward CBMs. Some of these were implemented: for example, a Joint Commission was set up, headed by the respective foreign ministers. A variety of subcommissions dealt with trade, tourism, travel, etc., and met before the biannual meeting of the foreign ministers. In addition to the dialogue provided for in these mechanisms, Indian and Pakistani officials met at the margins of the annual meetings of the United Nations General Assembly (UNGA) each autumn. Furthermore, the South Asian Association for Regional Cooperation (SAARC), which was launched at Dhaka in December 1985, also offered another venue for consultations at the highest level while setting up a modest agenda for cooperation.

The 1987-1994 Period: Darkening clouds over South Asia in July 1986 and January 1987 came as a result of large-scale Indian military exercises ("Brass Tacks") and the Pakistani response to them.[24] Tensions resulting from the confrontation seemed to force some new thinking about ways in which relations could be better managed. Formal and impromptu talks between the leaders of the two countries[25] finally resulted in a number of new CBMs between India and Pakistan. These were important and covered a number of areas. For example, the *Agreement on the Prohibition of Attack against Nuclear Installations and Facilities* was signed on December 31, 1988, in Islamabad by the two foreign secretaries and witnessed by the two prime ministers, Rajiv Gandhi and Benazir Bhutto, respectively. Earlier fears of impending attack on the facilities resulting in an all-out war fed the need for the agreement.

On April 6, 1991, India and Pakistan agreed on *Advance Notification on Military Exercises, Maneuvers, and Troop Movement.* That deal was the result of the near-war conditions that large-scale military exercises created in 1986 and 1987.

A concurrent deal was signed as the *Agreement on Prevention of Airspace Violations.* Another agreement dealt with *Permitting Over-Flights and Landing Military Aircraft.* Given the shared border and the potential for inadvertent violations, the agreement sought a buffer against violations of airspace and resulting escalation of tensions.

Control over the production and use of chemical weapons was another area in which the nations chose to move ahead, recognizing that the issue did not contain the political baggage of the nuclear issue. The use of chemical weapons in the Iran-Iraq war was fresh in the minds of regional leaders. After extensive discussions, India and Pakistan signed a brief but comprehensive joint declaration on the *Complete Prohibition of Chemical Weapons* on August 19, 1992.

In a joint declaration, India and Pakistan pledged to become original state parties to the then-proposed *Chemical Weapons Convention* – which they did when the treaty went into effect on April 29, 1997. Both explicitly acknowledged the role of CBMs in promoting friendly bilateral relations based on mutual trust and goodwill. They declared that they would forego the development, production, acquisition, stockpiling, and use of chemical weapons.

All of the above measures were adopted even as India and Pakistan continued to disagree on Kashmir. After 1989, the rising insurgency inside Indian Kashmir increased tensions but other areas of CBMs (cited above) moved forward.

The Recent Years, 1995-1999: Even as violence (which India blamed on Pakistani support for the insurgents) inside Kashmir threatened the India-Pakistan relationship, both countries tried to find common ground and move forward in new directions. For example, they

[24] The size of the Indian exercises and their location (below the traditional route of attack in the Panjab) worried the Pakistanis, who launched their own "Saf Shikan" exercises on the Pakistani side of the Rajasthan border directly across from the area where the Indian exercises were under way. A war-like situation was created between the two countries as a result of the massing of troops and equipment. Political leaders managed to lower tensions after a few anxious weeks.

[25] Formal, such as the bilateral meetings at UNGA or SAARC Summits; informal, as in the sudden decision of President Zia to travel to India for a cricket match.

cooperated in stemming the trafficking of illicit drugs and worked together to combat a large-scale infestation of locusts in the Rajasthan/Sind/Southern Panjab areas in 1996 and 1997.

In the spirit of a common search for areas of potential agreement, the energy area was particularly singled out. The sale of excess electricity from Pakistan to India was discussed as a possibility. A joint natural gas pipeline through Pakistan to the western areas of India was identified as another area of possible collaboration. Discussions focused on sourcing, financing, and security of supply. Apart from the relevant government officials, some experts with links to the government and involving some of the crucial constituencies held intensive discussions in Rajasthan in 1997 to examine the possibilities of constructing a secure supply regime.[26]

Furthermore, the foreign secretaries of India and Pakistan met in Islamabad in June 1997 and focused on a comprehensive agenda for improving relations. They agreed to the cessation of hostile propaganda against each other (which had been escalating as a result of events in Kashmir). They also agreed to set up a mechanism to address the following issues in an integrated manner: Peace and Security, including CBMs; Jammu and Kashmir (a major development, as India had refused previously to enter into any such discussions with Pakistan); Siachen; Wullar Barrage Project/Tulbul Navigation Project; and Promotion of Friendly Ties in Various Fields. Subsequent follow-up meetings were held in New Delhi in November 1998. This framework still exists, although it is currently suspended. The Lahore summit of February 1999 was expected to give a push to the entire process. Instead, the Kargil operation derailed normalization.

War Prevention: Creating Political Will

As discussed in this paper, cooperative monitoring can contribute to moving India and Pakistan beyond some of the current issues of distrust and impediments to progress in their relationship. Options exist for collaborative projects to monitor activities and issues along all the boundary regions of the two states. Some of these options build on established political will and an existing framework of agreements that include both security and environmental topics.

Costs have not been explicitly defined in this paper. Costs to implement the monitoring and inspection provisions outlined here vary widely. Some efforts, such as periodic meetings or inspections, can be conducted for very little cost, incurring mainly incremental costs if inspectors or meeting participants are already government or military personnel. Other systems such as extensive border monitoring deployments over long distances could require tens of millions of dollars to implement fully. However, in nearly all cases, the costs of these efforts to reduce tension are small compared to the high costs of conflict. For the Siachen conflict alone, recent estimates suggest that India spends $350,000 to $500,000 a day on its Siachen deployments.[27] In addition to the high financial costs, there are tremendous costs in the human suffering, both military and civilian, resulting from this ongoing conflict.

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[26] Toufiq A. Siddiqi and Shirin Tahir-Kheli, "Cooperation in South Asia Through Collaboration in Energy and Environment," Report, United Nations Development Programme, 1997.

[27] "India and Pakistan: Frozen in Fury on the Roof of the World," *New York Times*, May 23, 1999.

The main question we address in this section is: do the leaders of India and Pakistan have the desire and the ability to make and implement agreements? The answer is a qualified "yes." We will discuss the point below with explanations of why India and Pakistan are likely to re-engage despite the stern rhetoric and the missed opportunities. We take as our starting point that even at the end of the Kargil operation, on July 14, 1999, Indian Prime Minister Vajpayee reaffirmed the Lahore process, committing to bilateral resolution of conflicts. He noted that India and Pakistan have to continue to deal with each other because "you cannot change geography."[28] Following his re-election in October, Vajpayee repeated that pledge. While the military coup in Pakistan made India less willing to talk, General Pervez Musharraf in his first detailed address after assuming power, vowed that Pakistan wanted good relations with India and desired peaceful borders with its larger neighbor.[29]

During the fighting in Kargil throughout the summer of 1999, the international community recognized the Indian government as the party wronged by Pakistani actions. The political leadership of Prime Minister Vajpayee was lauded for resisting pressure from its own military establishment to cross the international border to "teach Pakistan a lesson," an action that could broaden the conflict into an all-out war. When Prime Minister Sharif of Pakistan came to Washington and met with President Bill Clinton on July 4, 1999, he heard about Indian restraint and the recklessness of Pakistani action in Kargil. There was no room for compromise and Pakistan was told firmly to restore the status quo ante.

In the year following Kargil, there were some encouraging trends towards possible re-engagement. The first of these is the view within India that it must engage with Pakistan and that non-engagement with Pakistan is not sound foreign policy. Proponents of this opinion are increasingly vocal. Even after the October Coup in Pakistan that brought the Chief of Army Staff, General Pervez Musharraf, to power in October 1999, some opinion makers in India made the case for re-engagement. Basing their views on the continuing importance of the military in Pakistan, proponents argue that India cannot continue its stand of rejecting third-party involvement (meaning the U.S.) in Kashmir if it continues to reject bilateral dialogue as well. These critics view messages that are carried from India to Pakistan and vice versa via the U.S. (as occurred in the course of the Clinton visit to the subcontinent in March 2000) as acknowledging the role of an outside power. Hence, in this view, it is far better for India to engage directly with Pakistan.

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[28] Jaideep Sareen, "Pak Will Have to Initiate Dialogue Says Vajpayee," *The Hindustan Times*, July 15, 1999.

[29] Text of General Musharraf's speech, *Dawn*, October 18, 1999.

The Vajpayee government has sought a greater role for India and pursues a permanent seat in the UN Security Council as the crowning recognition of India's position by the international community. At the same time, the Prime Minister himself is the key player in the equation with Pakistan. Indian rejection of a dialogue with Pakistan detracts from the image of a responsible India going the extra mile for peace. Hence, India will continue to come under pressure from the international community, especially the United States and the G-8, to re-open discussions with Pakistan.

The Indian government has said that it will not enter into a dialogue with Pakistan until there are indications of a changed posture by Pakistan in Kashmir. Indian Minister for External Affairs, Mr. Jaswant Singh, has said that the "proper environment" will need to be created before talks can resume. The criteria include the following: "an end to anti-Indian propaganda by Pakistan; the abjuring of violence; demonstrated end of encouragement to cross-border terrorism; cessation of the cry of 'Jihad' against India."[30]

Pakistan denies its support for the insurgency in Kashmir, pointing instead to the human rights situation in Kashmir. The government of Pakistan calls for meaningful discussions with India on Kashmir. Most Pakistanis see the end of Pakistani support to Kashmiri insurgents as the end point of discussions, not a starting position. Yet, the military leadership now running Pakistan recognizes the difficulty of maintaining their focus on the economic revival of their country in the face of the impasse with India. General Musharraf's statements on his willingness and desire to resume a dialogue with India reflect Pakistan's domestic need for peace.

Another potential hope for progress comes in the form of the role of the U.S. President Clinton raised the issue of improved Indo-Pak relations during his visit to India and Pakistan in March 2000. Addressing the need for India to get beyond its disappointment with dialogue, Clinton said in his address to the Indian parliament:

> I [also] believe that India has a special opportunity, as a democracy, to show its neighbors that democracy is about dialogue. It does not have to be about friendship, but it is about building working relationships among people who differ...one of the wisest things anyone ever said to me is that you don't make peace with your friends...
>
> Engagement with adversaries is not the same thing as endorsement. It does not require setting aside legitimate grievances. Indeed, I strongly believe that what has happened since your Prime Minister made his courageous journey to Lahore only reinforces the need for dialogue...
>
> Let me also make clear, as I have repeatedly, I have not come to South Asia to mediate the dispute over Kashmir. Only India and Pakistan can work out the problems between them. And I will say the same thing to General Mussharaf. But if outsiders cannot resolve this problem, I hope that you will create the opportunity to do it yourselves, calling on the support of others who can help

[30] Interview, BBC World Television, Asia Today program, January 19, 2000.

> where possible, as American diplomacy did in urging the Pakistanis to go back behind the line of control in the Kargil crisis.
>
> In the meantime, I will continue to stress that this should be a time for restraint, for respect for the line of control, for renewed lines of communication.[31]

In Islamabad, the U.S. President pressed for a dialogue but also noted that it was in Pakistan's interest to reduce tensions with India, stating:

> I understand your concerns about Kashmir. I share your convictions that human rights of all its people must be respected. But a stark truth must also be faced. There is no military solution to Kashmir. International sympathy, support, and intervention cannot be won by provoking a bigger, bloodier conflict. On the contrary, sympathy and support will be lost. And no matter how great the grievance, it is wrong to support attacks against civilians across the line of control.[32]

Despite delays, both countries have little choice but to engage with each other. Our approach uses joint operation of monitoring technology both as a catalyst to accelerate the process of achieving political agreements and as a means for monitoring compliance with such agreements when they are reached. Technology is obviously not a substitute for political will. We also recognize that either country can choose to undertake these types of monitoring arrangements unilaterally. However, unilateral action cannot begin to resolve the border problems between India and Pakistan.

Instead, joint steps can be taken initially by the two countries to start the process of crisis prevention in the subcontinent. For example, India and Pakistan can:

- Declare a cease-fire in all disputed regions.
- Meet and agree on the experimental deployment of monitoring technology along a segment of their border.
- Create joint oversight of the monitoring technology.
- Share more civilian and military information along the border.

The ideas presented in this paper seek to enhance border stability and cooperation and ultimately lead to peace between India and Pakistan. It is hoped that by thinking about the many possibilities for cooperation, some will bypass the political, military, and financial constraints that could limit implementation and that prevent India and Pakistan from moving ahead with

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[31] Remarks by the President to the Indian Joint Session of Parliament, New Delhi, India, March 22, 2000, Official Text, The White House, Washington, D.C.

[32] Remarks by the President in Greeting to the People of Pakistan, Islamabad, Pakistan, March 25, 2000, Official Text, The White House, Washington, D.C.

improved relations. As history shows, past difficulties in relations have not kept India and Pakistan from agreement on some issues of mutual concern. The border conflict in Kargil demonstrates the importance of moving forward toward better management of border problems. Technology can be an important tool in such an undertaking.

It is hoped that steps such as those proposed above could provide the leadership of India and Pakistan with an alternate path for, as President Clinton said in New Delhi:

> In the end, for the sake of the innocents who always suffer the most, someone must end the contest of inflicting and absorbing pain.[33]

[33] Ibid.

About the Authors

Shirin Tahir-Kheli is the Director of the South Asia Program at The Johns Hopkins University, Foreign Policy Institute, School of Advanced International Studies, in Washington, D.C. She serves as a Senior Fellow at the Foreign Policy Research Institute, Philadelphia, PA. She was formerly the United States' Ambassador to the United Nations for Special Political Affairs (1990-1993) and served at the National Security Council (1984-1990). Tahir-Kheli was a member of the Presidential Commission on the Public Service under President George Bush and served as a member of the Board of Trustees of the Aga Khan University in Pakistan (1996-1999) and is a member of the Advisory Board of Princeton University's Institute for the Transregional Study of Contemporary Middle East, North Africa, and Central Asia. She received her Ph.D. in International Relations at the University of Pennsylvania in 1972. Tahir-Kheli has taught numerous courses in comparative politics and international relations at The John Hopkins University, the U.S. Army War College, and Temple University. She is the author of numerous publications, including *India, Pakistan, and the United States: Breaking with the Past* (Council on Foreign Relations Press, 1997) and *The United States and Pakistan: The Evolution of an Influence Relationship* (New York: Praeger, 1982.)

Kent Biringer is a Distinguished Member of the Technical Staff at Sandia National Laboratories in Albuquerque, New Mexico, and serves as Deputy Program Manager and as South Asia Project Manager at the Cooperative Monitoring Center (CMC). The CMC works with U.S. and foreign participants to explore ways that technology can facilitate regional confidence building in such areas as arms control, nonproliferation, and environmental security. Kent has worked at Sandia for 24 years in solar and fossil energy research, systems analysis, arms control, nonproliferation, and cooperative monitoring. His educational training is in mechanical engineering with bachelor's and master's degrees from Rice University. Before coming to Sandia, he worked for Atlantic Richfield Oil Company.

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