

A Braver New World?

In the wake of the appalling tragedies of 11 September and the global community's response, the United States is experiencing a profoundly difficult period of re-evaluation and adjustment. To prosecute a successful war against terrorism, America and its allies will need to transform their diplomatic, military and intelligence postures to a degree not seen since before the Cold War. Shock turned first to anger in the United States and elsewhere after the attacks on New York and Washington. It subsequently transformed into a steely resolve to find and punish those responsible. But military action, better intelligence, and freezing the bank accounts of suspects will not be enough. America was an idealistic proponent of the creation of the United Nations and Bretton Woods multilateral systems half a century ago. It needs to exercise equivalent vision and leadership now in the multilateral arena to re-energize the arms control and disarmament agenda, and address the root causes of proliferation and terrorism. Current events require American diplomatic leadership and a global collective security vision much broader than the illusionary security offered by missile defence and the 'war against terrorism'.

The international community's performance in this regard after the end of the Cold War was largely one of missed or only half-grasped opportunities. Existing multilateral disarmament machinery has become increasingly creaky. The Conference on Disarmament, which has failed to agree on undertaking substantive work since the conclusion of the Comprehensive Test-Ban Treaty (CTBT) negotiations in the mid-1990s, has seized up entirely. Some of the responsibility lies squarely at America's door. Until the Chinese and Americans can resolve differences over missile defence—which neither appears anxious to do—resumption of meaningful work in that forum is unlikely. America has not ratified the CTBT, nor does it intend to do so, thereby effectively preventing that international norm from entering into full force, and making an existing informal international moratorium on nuclear testing vulnerable.

As if this were not enough, in July 2001, after over six years of negotiations, the United States announced its rejection of a protocol to strengthen the Biological Weapons Convention. Moreover, it rejected the protocol negotiation process itself. In the absence of American participation, the protocol is dead. Without reinforcement of the norm prohibiting biological weapons embodied by the BWC, especially through measures to enhance compliance, America and the world will be more—not less—vulnerable to attack by germ weapons. The recent spate of anonymous anthrax attacks in the United States has, so far, failed to soften Washington's attitude towards accepting industry inspections. This is an attitude driven at least in part by American industry on the basis of a negative, although isolated, experience of Russian scientists sent to tour American facilities as part of

a bilateral exchange almost ten years ago. But on-site industry checks are a vital part of any effective regime to ensure that states, and those within their borders, are complying with the Treaty's prohibitions. They are already an accepted part of the Chemical Weapons Convention's inspection regime.

The United States claims that it is the dubious quality of mutually agreed, collective solutions to problems of international security, rather than a rejection of multilateralism *per se*, that motivates its retreat from recent negotiations. This is a rather precious distinction, although it would be a useful justification if it happened to be true. In fact, America's rejection of the biological weapons protocol and putting ratification of the CTBT on ice are because it has set verification hurdles far higher than these instruments were designed to achieve when they were negotiated. Additionally, the United States has taken a minimalist line on a number of issues on which it could be easily more constructive with a minimum amount of effort. Unlike most of its European NATO allies, for example, the United States has not joined the Ottawa Convention banning anti-personnel mines. It was also a force for ill at the UN Conference to tackle illicit trade in small arms and light weapons in July 2001. For example, it blocked language calling for international resolve against supplying military arms to non-state actors (i.e. terrorists) and language to help prevent the financing of such transactions.

Perhaps the most worrisome evidence of America's unilateral, 'full-steam ahead' attitude is its plans to continue to test, construct and deploy a missile defence system designed to protect the continental United States. Critics of these plans, including China, were quick to point out that a missile defence system would not have stopped the attacks of 11 September, where the weapons were not military arms such as bombs or bullets, but nothing more than box cutters and civil aeroplanes.

It is perhaps understandable, although regrettable, that rather than weaken American resolve to construct a missile defence, the terrorist attacks are likely to strengthen it. Paramount here is the psychological shock for Americans: the realization that their homeland is now a target. An easy extrapolation to make is that next time terrorists might attack with missiles—whether or not such a scenario is borne out by existing evidence. Although prior to 11 September Congress was reluctant to authorize the many billions of dollars necessary to continue missile defence deployment plans, in the wake of the attacks it has abruptly reversed tack. The Bush Administration now has a blank cheque for military expenditure to do what is 'necessary' to protect the United States and carry out the war on terrorism.

Shortly before the terrorist attacks, the United States told the Conference on Disarmament that it would be prepared to abrogate the 1972 Anti-Ballistic Missile (ABM) Treaty in order to proceed with its missile defence plans. The ABM Treaty was no good, it said, because it enshrines the doctrine of Mutually Assured Destruction (MAD). And anyhow, nobody likes MAD because it is a prescription for mass suicide. America's back-up argument is that, in any case, abrogation of the ABM Treaty is nobody's business but that of its members: the United States, the Russian Federation and a few of the successor states of the Soviet Union.

Do these pro-missile defence arguments stack up? No. First, the United States is not actually offering to abolish the deterrent underpinning MAD. In fact, every indication is that America intends to reduce its nuclear force to a level commensurate with operational efficiency (that is, to maintain MAD) while building another layer of defence—missile defence—tailored to different, but overlapping, threats such as 'rogue states' or accidental missile launches. This is the rationale underpinning the Bush-Putin accord reached just prior to the Crawford Summit in November 2001.

No amount of spin can alter the fact that missile defence cannot substitute for nuclear deterrence, or for negotiated nuclear disarmament to zero levels. If missile defences were a precondition for the eventual total elimination of nuclear weapons (the intent of Article 6 of the Nuclear Non-Proliferation Treaty, a treaty to which America does belong) this final step would be impossible for the United

States until it could be completely confident that it could repel a large-scale nuclear attack without mishap. The appalling human cost of a single nuclear warhead falling on an American city, even if hundreds of others are successfully intercepted, is too awful to contemplate. Technological solutions are not—and will never be—the answer to reducing America's dependence on nuclear deterrence. It boils down to a simple matter of reliability. What percentage of successful interceptions will the United States feel is high enough to be completely confident in its abilities to respond when attacked? 95%? 97%? 99.9%? No technology will ever be 100% reliable—especially a system as complex as the one the Bush Administration envisages. Therefore, following its own so-called logic, the United States will be 'forced' to keep its nuclear weapons as a deterrent.

Additionally, the technical challenges involved in kinetic 'hit-to-kill' interceptors are great and are far from being resolved. In light of September's terrorist attacks, and under pressure to get the system deployed, American policy-makers might decide to equip their immature missile defence interceptors with nuclear warheads, thereby reducing the need for pinpoint accuracy. Such a system would need to be tested. That would be end of the present testing moratorium, and probably of the CTBT itself.

Second, it is true that the ABM Treaty is a plurilateral treaty, and one no one likes. However, the implications of missile defence are such that China is afraid its small nuclear deterrent would prove ineffectual against America in a few years time, and it may decide to further significantly expand its nuclear forces, already in the process of modernization, so as to be certain they could overwhelm American missile defences. Expansion could trigger a nuclear 'domino effect' with India and Pakistan both joining the arms race. And it could still spell the end of the bilateral nuclear disarmament process between America and a disgruntled Russian Federation, which has a massive but decaying and loosely guarded arsenal, itself a possible terrorist target. These are truly global concerns.

The United States is the hyper-power of the post-Cold War world. America's power and influence are felt almost everywhere, which is one reason why it is a terrorist target in the first place. Nevertheless, it remains a player in the 'great game' of international relations rather than the referee. For the moment and the most part, obvious differences within the international community have been subsumed within the rubric of the new 'war against terrorism', at least in public. But claims that a 'what's good for the United States must be good for the world' attitude has desensitized it to the concerns of others on the multilateral stage will inevitably resurface.

The best way to counter this resentment, and keep the international community on board with it, is for America to re-engage in good faith in the multilateral system and begin tackling in that setting some of the root causes underlying terrorism and proliferation. It is states, after all, that often train and sustain violent movements when they cannot achieve their goals legitimately. While it cannot impose a *Pax Americana* in the Middle East, the United States could continue to use its unique position to put pressure on Israel and Palestine to go back to the negotiating table, for instance. Plus, the United Nations system, despite its many imperfections, still provides a good structure for alleviating poverty and under-development. Therefore, being more forthcoming in paying its UN dues on time and in full would also be a welcome gesture from America.

Security is ultimately a two-way street. Missile defence may yet be both necessary and feasible. However, Washington could do better in having regard for the global consequences of its actions where abrogation of the ABM Treaty is concerned, and consult with others on its plans rather than merely informing them as it has done to date. Given its vulnerabilities, it is clearly in America's own interests to come up with ideas to replace the draft biological weapons compliance protocol it rejected. America should join the Ottawa Convention, and be a bit less touchy about tackling small arms proliferation.

The jury is still out on the 'war against terrorism' launched in the wake of the attacks of 11 September, and probably will be for some years to come. Much of this campaign's success will ultimately depend on whether leverage exerted by the United States in pursuit of its goals to suppress terrorism is translated into farsighted leadership in multilateral disarmament and arms control—or whether it is squandered in unilateral options that alienate significant elements of the international community.

A.H. Rees

South Asian Cooperation in Antarctica

The Antarctic Treaty has been proposed by Kent L. Biringner as a model for India and Pakistan to emulate in a bilateral context for certain contested regions in the Himalayas.¹ A dispute over the Line of Control in the Siachen Glacier region of Kashmir has led to fighting between India and Pakistan at altitudes of 6,000–8,500 meters (20–25,000 feet) in an environment almost as severe as that of Antarctica. Biringner's proposal suggests that the two countries cease military actions in Siachen without losing any political advantage by putting their territorial claims on the Siachen Glacier in abeyance, in a manner similar to what was done in the Antarctic Treaty for Antarctica. The Siachen Glacier could then be declared a zone of peace and a cooperative Siachen Science Center created, which could be used for the types of studies being conducted in Antarctica.² Such a step could go a long way towards creating an atmosphere conducive to a peaceful resolution of the far more contentious dispute over the entire region of Kashmir.

Relations between India and Pakistan are quite hostile and the Siachen Glacier is a zone of active warfare. Therefore, collaboration in the Siachen region is quite unlikely at the present time. Talks between the two countries have restarted, and although they are presently stalled, the talks have not been called off completely. There is every expectation that talks will continue now that a process of dialogue has started. Therefore, there is reason to investigate opportunities for Indian and Pakistani collaboration that are reasonably likely to be implemented, and that could form the first steps in a process leading towards peace and stability.

As a step towards collaboration in Siachen, India and Pakistan could collaborate in Antarctica using the framework provided by the Antarctic Treaty System. Both India and Pakistan have led expeditions to Antarctica and are interested in Antarctic research. India maintains a permanent base, called Maitri, in Antarctica. In the current scenario of Indian and Pakistani relations, even incremental progress towards the improvement of relations could be deemed an extremely optimistic prognosis. Collaboration in Antarctica would be much less sensitive than collaborative projects within areas of territorial dispute between the two countries. Collaboration in Antarctica could form the basis of a project to be implemented in the near term and could be proposed through existing regional networks of scientists collaborating, for instance, on climate change research. The prospect of using the Antarctic Treaty for initiating a process of gradual improvement in Indian and Pakistani relations drives the discussion presented here.

Background

The Antarctic Treaty set an important precedent for demilitarization and international cooperation. During the Cold War, scientists from twelve countries spanning the great ideological divide of the

times collaborated on research activities in Antarctica during the International Geophysical Year (designated from 1 July 1957 to 31 December 1958). A year later the success of this collaboration resulted in the signing of the Antarctic Treaty. The treaty covers the area south of the 60 degrees south latitude, known as the Antarctic Treaty Area, and restricts the use of this area to peaceful purposes and research. The Treaty put territorial claims on hold, and fostered international scientific cooperation. The Treaty and Antarctica offer unique opportunities for promoting Indian and Pakistani cooperation.

There are currently forty-four signatories to the Antarctic Treaty, with twenty-seven having consultative and voting rights and another seventeen non-voting associate members.³

There are thirty-seven permanent stations occupied year-round. Countries with permanent stations are Argentina, Australia, Brazil, Chile, China, France, Germany, Great Britain, India, Japan, New Zealand, Poland, Russia, South Africa, South Korea, the United States and Uruguay.

India and Antarctica

India is a signatory to and consultative member of the treaty. India has also signed and ratified the following conventions, protocols and agreements that are a part of the Antarctic Treaty System.⁴

- Agreed Measures for the Conservation of Antarctic Fauna and Flora—India acceded 7 March 1988;
- Convention on the Conservation of Antarctic Marine Living Resources—India acceded 17 July 1985; and
- Protocol on Environmental Protection to the Antarctic Treaty—India acceded 4 October 1991.

India maintains a permanent base in Antarctica and is a member of the Scientific Committee on Antarctic Research (SCAR) and the Standing Committee on Antarctic Logistics (SCALOP). Indian expeditions to Antarctica started in 1981. The lead agency is the Indian Department of Ocean Development (IDOD). The Indian permanent stations in Antarctica are built and operated by IDOD. Logistical support is provided by the Indian Defense Services. The IDOD also operates an Antarctic Study Center at the National Institute of Oceanography in Goa, India. This is a state-of-the-art national facility that does low-temperature research on ice cores from Antarctica and from the Himalayas.

In 1983, India established the Dakshin Gangotri station in Antarctica (latitude 70°05' South, longitude 12°00' East). Since then, annual expeditions—including a team that stays over the winter—have continued. The Dakshin Gangotri station has become a base for supplies and a transit camp. India now maintains the Maitri permanent station in the Schimacher ranges (latitude 70°46' South, longitude 11°50' East) established in 1989. Twenty-five personnel usually stay at Maitri through the winter.

The Maitri station includes a main block with living accommodations, medical facilities, communications and control systems and a laboratory, and three other blocks housing a workshop, power supplies, central heating systems, water storage tanks, a kitchen and dining hall, and chemical toilets and incinerator-type toilets.⁵ Six diesel generator sets of 62.5 KVA provide power to the station. The IDOD and the Indian Defence Research and Development Organization (DRDO) are currently investigating the use of fuel cells to provide power for the Maitri station.

Water supply to Maitri comes from the adjacent Priyadarshini Lake. Waste water is treated and disposed of on-site, and solid waste ash from incinerators is packed into drums for removal from Antarctica.

The Maitri station has communication links with India through satellite and high frequency band transmission. High-speed Internet capabilities for the station are being worked on by the IDOD and the DRDO. E-mail connections exist.

Research teams stationed at Maitri have involved a few visiting foreign scientists. For example, the 1998 expedition involved fifty-one personnel (approximately 70% scientists), of which three were German scientists.

Pakistan and Antarctica

Pakistan is not a signatory to the Antarctic Treaty and does not at this time maintain a permanent base in Antarctica. The Pakistani National Institute of Oceanography (PNIO) has conducted two expeditions to Antarctica (1990 and 1992). The objectives of these expeditions (according to material published by the PNIO) were:

- multi-disciplinary research and surveys in marine and terrestrial areas of Antarctica;
- training and research in technologies needed for Antarctic resource development and utilization;
- establishment of a research station at a suitable location in Antarctica; and
- installation of a weather station that would send weather data to Pakistan via satellite.

The Pakistani objectives of establishing a research and a weather station offer an opening for interested countries to share their experience and their technologies that have been improved through field deployment. This would allow Pakistan to avoid costly mistakes that others have suffered from earlier. This certainly is an opportunity for India to consider—some of its non-sensitive technologies might be the best suited in many ways for Pakistani teams. It is unlikely, for instance, that any other Antarctic Treaty state has developed (as has been done for Maitri) long shelf-life ‘chapattis’ and ‘poories’, the staple breads of Pakistani and Indian diets!

South Asian cooperation in Antarctica

A collaborative programme in Antarctica including all South Asian countries might be more palatable for policy-makers than a bilateral programme between India and Pakistan. Giving access to Bangladeshi, Bhutanese, Maldivian, Nepali, Pakistani and Sri Lankan scientists, journalists and/or educators to stay the winter at Maitri could generate considerable regional goodwill for India. Pakistan has already demonstrated its interest in Antarctic research. Bangladesh and Maldives are extremely low-lying countries and have much to fear from sea-level rise and global climate change. Parts of Sri Lanka too would be severely impacted by sea-level rise. Mountain countries such as Bhutan and Nepal are very concerned at the possible melting of Himalayan glaciers and downstream floods. Cold weather technologies would also be of interest to these mountain states. The scientific communities in these countries would be very well disposed to collaborative research on global climate change for which Antarctica is an excellent location. There are several South Asian networks

already established for scientific cooperation that provide a framework for proposing such projects. American sponsorship could help implement relevant projects using the existing frameworks.

The long-term goal of developing a Siachen Science Center could begin with Indian and Pakistani collaboration in Antarctica. An inducement for India to consider participating in a cooperative research programme in Antarctica that includes Pakistan could be offers of American assistance in developing Antarctica-specific technologies—for example, modifying commercialized fuel cells and getting improved Internet access to the Maitri station.

Video feed from Antarctica displaying Indian and Pakistani scientists working together in a harsh environment could be of great value on the television screens of South Asia in promoting the benefits of cooperation. These pictures could have beneficial symbolic value similar to those of American-Soviet collaboration in linking the Apollo and Soyuz space modules.

Critics might complain that in bringing Pakistani scientists to Maitri, there are risks of Indian sensitive technologies being exposed. Indian capabilities in cold weather engineering would be exposed to Pakistani observation. Pakistani technological support to its troops in high altitude Himalayan areas could also be improved through more active participation in polar research programmes. However, Pakistan could easily conduct cold weather engineering research within its own high altitude areas, and such risks are far smaller than the potential benefits of improved relations through greater cooperation. South Asian cooperation in Antarctica would be truly fitting of the name of the Indian station Maitri—it translates as 'friendship'.

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Reference

K. Biringer, 1998, *Siachen Science Center*, CMC Occasional Paper, Sandia National Laboratories, Albuquerque, NM, US, SAND 98-0505/2.

Notes

1. Biringer, 1998; <http://www.cmc.sandia.gov/issues/papers/siachen/index.html>
2. The Indian sub-continent was originally a part of Antarctica, and the high regions of the Himalayas offer unique locations to complement Antarctic research.
3. The twenty-seven Consultative Parties are Argentina, Australia, Belgium, Brazil, Bulgaria, Chile, China, Ecuador, Finland, France, Germany, India, Italy, Japan, the Republic of Korea, Netherlands, New Zealand, Norway, Peru, Poland, Russia, South Africa, Spain, Sweden, the United Kingdom, the United States and Uruguay. The seventeen Non-consultative Parties are Austria, Canada, Colombia, Cuba, the Czech Republic, Denmark, Greece, Guatemala, Hungary, the Democratic Republic of Korea, Papua New Guinea, Romania, the Slovak Republic, Switzerland, Turkey, Ukraine and Venezuela.
4. India has not signed the Convention for the Conservation of Antarctic Seals, presumably as it is not a sealing nation.
5. The information presented in this section comes primarily from reports of the Indian Department of Ocean Development (IDOD) and the Indian Defence Research and Development Organization (DRDO). The DRDO has produced the technologies used in the design and construction of the Dakshin Gangotri and Maitri bases.