

Water Security: A Discursive Analysis

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Abstract

Water resources continue to attract considerable attention and have increasingly become a significant feature of the world security environment. In order to locate water in the security continuum, it is necessary to revisit the debate on the traditional and non-traditional aspects of security. On the one hand, notions and images often conjured up when water issue is highlighted are often associated with concerns like national survival, inter and intra-state tension and the likelihood of “water wars”— the ‘securitisation’ of water. On the other hand, the security discourse also examines the necessity to ‘desecuritize’ water-related problems so as to reduce perception of threat and facilitate negotiations.

*In the world there is nothing more submissive and weak than water.
Yet for attacking that which is hard and strong nothing can surpass it.*
Lao-tsu, 6th century Chinese philosopher and founder of Taoism

Introduction

The increasing scarcity of water has been well evidenced and few challenge this assessment.¹ Continued population growth and drought from global warming will put enormous pressure on water resources – 40 per cent of the globe’s population is already short of fresh water and given current trends, this will rise to 50 per cent by 2030 and could be as high as 90 per cent in the region stretching from Maghreb to West Asia to the western part of India. The following statistics are indeed startling:²

- Nearly 450 million people in 29 countries currently face severe water shortage.
- 20 per cent more water than is now available will be needed to feed the additional three billion people who will be alive by 2025.

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- As much as two-thirds of the world population could be water-stressed by 2025.
- Aquifers, which supply one-third of the world's population, are being pumped out faster than nature can replenish them.
- Half the world's rivers and lakes are seriously polluted.
- Major rivers, such as the Yangtze, Ganges, and Colorado, do not flow to the sea for much of the year because of upstream withdrawals.

All this is compounded by the fact that 150 of the 200 major river-systems are shared by two nations, and some 50 by three or more nations. Although numerous treaties and agreements (hydro diplomacy) covering over 100 international river basins have been signed over the centuries, 158 of the world's international river basins lack any type of cooperative agreements.³ Hence, the likelihood of tension and conflict emanating from the consumption and distribution pattern of river waters cannot be underestimated.

In order to subject water resource to security interrogations, this paper proceeds in three stages. First, as a discourse, water is examined as 'symbolic capital'. Second, it debates the traditional and non-traditional aspects of security and considers the scarcity model as an appropriate structure to locate water in the security continuum. Finally, the nature and pattern of water conflicts (inter-state and intra-state) is analysed in West Asia and the Indian subcontinent.

Water as a Discourse: Symbolic Capital

According to Foucault, "Discourse constructs the topic. It defines and produces the objects of our knowledge. It governs the way that a topic can be meaningfully talked about and reasoned about."⁴ In positioning water issues as a discourse, it is essential to acknowledge the tenants of Didier Bigo's 'symbolic capital'.⁵ Bigo contends that certain voices are inherently endowed with more weight than others due to the 'symbolic capital' which is equivalent of positions of authority.⁶ Bigo links this authority to knowledge, which is an advancement of Foucault's power/knowledge.⁷ Accordingly, a statement becomes "power" when the audience takes the statement as "true". Various actors – political leaders, historians, the scientific community and the media – help in the 'mobilisation of knowledge resource' based on historical analysis, scientific evidences and statistics. Those actors who are endowed with 'symbolic capital' and those who are concerned with the production of 'power/knowledge' form an important link in shaping the security discourse. Here, two examples primarily demonstrated to enlarge perception and locate water issues in the security logic are noteworthy.

In the early 1980s, Boutros-Boutros Ghali as Egyptian minister of state for foreign affairs said, “The next war in our region will be over the waters of the Nile.”⁸ In 1991, a few months before being appointed as the Secretary General of the United Nations, he reiterated, “the next war in the Middle East will be fought over water, not politics.”⁹ Boutros Ghali was echoing the ‘symbolic capital’ of water and his recognition of the gravity of the situation in West Asia comes from historical analysis as well as his personal experience, which forms the ‘power/knowledge’.

The Bible mentions that the variations in water supply, for example, drought, drove Jacob and his family to Egypt, an event that led to years of slavery and finally to the consolidation of the Israelite tribe 400 years later.¹⁰ Joshua directed his priests to stem the flow of the Jordan River with the ‘power of the Ark of the Covenant’ while he and his army marched across the dry riverbed to attack Jerico.¹¹ During World War I, as the Ottoman Empire crumbled, water resources became a critical factor in defining the territorial interests of the French, British, Arabs and Jews in West Asia.¹² Also, through his own experiences as Egypt’s minister of foreign affairs from 1977 to 1991, Boutros Ghali had seen that emotions could run high over the sharing of the region’s most precious resource. Thus, when President Anwar Sadat offered the waters of the Nile to Israel in a bid to open discussions about the West Bank and Gaza, there was public outrage in Egypt and beyond, with upstream countries protesting that the Nile waters were not President Sadat’s to distribute at will. Thereon, ‘water wars’ as a dramatic alliteration was used in the article of the same name by Joyce Starr.¹³ In 1995, World Bank vice-president Ismail Serageldin made a much-quoted prediction about the future of war, “If the wars of this century were fought over oil, the wars of the next century will be fought over water.”¹⁴

Prime Minister Manmohan Singh’s 2004 Independence Day speech highlighting the importance of water is another example of ‘symbolic capital’. He identified water as one of the *saat sutras* requiring special attention. The challenge outlined by him was one of managing water resources as well as ensuring people’s participation in water management and conservation.

Water is a national resource, and we have to take an integrated view of our country’s water resources, our needs and our policies and water utilisation practices. We need to ensure the equitable use of scarce water resources...I urge you and all our political leaders to take a national and holistic view of the challenge of managing our water resources.¹⁵

Earlier, in his address to the nation on June 24, 2004, Manmohan Singh had said:

Water has emerged as a critical and contentious issue across the country...The government will reverse the neglect of public investment in irrigation, addressing the specific problems of each river basin, in an environment and people friendly manner.¹⁶

What then does 'symbolic capital' explain? First, it helps in understanding securitisation as a performative act or as Ole Waever says a "speech act".¹⁷ Speeches and statements thus become a reference point. According to Barry Buzan, security is a practice, "quality actors inject into issues by securitising them, which means to stage them on the political arena...and then to have them accepted by a sufficient audience to sanction extraordinary defensive moves."¹⁸ Second, the speech act is not merely political rhetoric but signifies "specific rhetorical structure"¹⁹ in which the securitised issue is presented as an issue of supreme priority – a movement from 'low politics' to 'high politics'.

The Security Debate

The fundamentals of security/insecurity, who is secure from whom or what, when, where and how, will always remain embedded in the security discourse,²⁰ which to use a significant line, "Every concept like security...has a story to tell; a story of their own coming to presence".²¹

In 1983, Richard Ullman in his thought-provoking article "Redefining Security"²² introduced a new approach to understanding international security by incorporating non-military considerations such as environmental dangers, disease, hunger, natural disaster and population growth. Ullman wrote, "the non-military tasks are likely to grow ever more difficult to accomplish and dangerous to neglect."²³

Contesting the Cold War exclusivity of security issues enabled a discourse that deconstructs the realist theories of state being the unitary actor. In the post-Cold War period, non-traditional aspects of security have been subject to a high degree of scholarly debate and research. The period has been a fruitful one for thinking about a broader agenda in security issues, both conceptually and in policy terms. While critics to 'broadening the security ambit' outright dismiss it as threatening "...to destroy its intellectual coherence and make it more difficult to devise solutions to any of these important problems"²⁴, its proponents, however, in a true Hobbesian sense, reason security through its multiple meanings.²⁵

In 1993, in order to come to terms and make sense of the rapidity of change in the international system, the Copenhagen School led by Ole Waever, Barry Buzan and others worked on the shift in referent object from state to society, the

so-called ‘securitisation’ of international relations.²⁶ The Copenhagen School (CoS) thus provided theoretical grounds for the conceptualisation of non-traditional security. The environment along with the military, the political, the economic and the societal became one of the five different sectors of security that interact and interconnect.²⁷ Security thus became a mode of reasoning that required protecting the referent object. The security discourse is now increasingly focusing on the dynamics of ‘securitisation/desecuritisation’ and ‘politicisation’. Securitisation of an issue, it is argued, advances the ‘friend/enemy construction’ while desecuritisation is emphasised at the societal level on ethical considerations.²⁸ Buzan, however, contends that securitisation is an extreme version of politicisation. Politicisation makes an issue relevant and involves responsibility, securitisation, on the contrary, involves the urgency of a threat, which legitimises actions outside the normal bounds of political procedure.²⁹

The scholarship that followed suggests a relationship between the environment, especially resource scarcity, and violent conflict – the Scarcity Model.³⁰ However, establishing a causal link has proven elusive.³¹ Thomas Homer-Dixon’s work underlines the relationship between the environment and conflict as an interactive and complex one and that environmental stresses and strains can be important contributors to conflict even if causally distant.³² In particular, he posits that environmental scarcity has insidious and cumulative social impacts, such as population movement, economic decline, and the weakening of states, which can contribute to sub-national violence.³³ These impacts can provide challenger groups with opportunities for action against a state that has been gradually eroded by civil war, corruption, economic mismanagement, rapid population growth or deteriorating renewable resources.

The scarcity model often referred to as the resource-deficiency thesis has its critics, particularly on the question of how tension and the resultant stress from scarcity can become transmuted into armed violence in the form of large-scale conflict.³⁴ Clearly, the model still requires rigorous tracing of the relationship between resource scarcity (as a key determinant) and its impact on war-making and war-prevention.³⁵ Nonetheless, Homer-Dixon reinforces his argument, “theorists have usually focused on the possibility of inter-state conflict over resources. We are claiming that because environmental scarcities are worsening we can expect an increase in the frequency of conflicts with an environmental component. . .”³⁶

Drawing upon the security debate, particularly the ‘scarcity model’, water resource thus becomes both an existential and immediate threat, and an important determinant in understanding the stresses in the new international system.³⁷ Three

factors contribute to water resource being a scarcity threat: depletion and degradation; increased demand and uneven distribution.

Those concerned with the water crisis and its future are divided into two schools. One, led by Aaron Wolf, indicates that water, as a source of conflict is more likely to occur *within* countries than *between* them. It focuses on water as a source of cooperation and an impetus for scientists and political leaders to use modern science and advanced technology to create new solutions and suitable alternatives.³⁸ The Wolf School also looks into the history, scope, and design of international water treaties.³⁹ The other, led by Peter Gleick argues that water scarcity as a source of conflict will be increasingly inter-state in nature and examines water-related conflicts. Gleick, however, makes it very clear that “water resources have rarely been the sole cause of conflict” but should be viewed as a “function of the relationships among social, political, and economic factors, including economic development.”⁴⁰ The Gleick School also evaluates the role of water as a tool and weapon (both political and military) of conflicts caused by other factors.

Security practitioners thus need to take into account water issues as part of their arsenal of tools, and explore two primary questions: What role do water issues play in stimulating international conflict and cooperation? Are conflicts over water sharing likely to be more ‘within’ (intra-state) or ‘between’ states (inter-state)? The Wolf-Gleick divide in terms of scope and focus is of obvious policy importance, particularly since threats emanating from water scarcity feature regularly as policy reports (for example, In India the UPA government’s Common Minimum Programme, the US intelligence community overview of “Global Trends 2015” and the UN Report on “Our Shared Responsibility”).⁴¹

Water as a Security Concern: West Asia and Indian Subcontinent

As mentioned, three factors contribute to water resource being a scarcity threat: depletion and degradation (supply-induced); increased demand (demand-induced) and uneven distribution (structurally-induced). The first two can be mapped through the water-stress index of Malin Falkenmark.⁴² However, it is the third aspect (interlinked with the first two) that is crucial in understanding security principally in terms of water sharing.

Since 1948, only 37 incidents of acute, violent conflicts over water have occurred. Thirty of these were between Israel and one or another of its neighbours.⁴³ It is evident from the above statement that the large river-systems in West Asia (including the Maghreb) – the Nile (Egypt, Ethiopia and Sudan); the Jordan (Israel, Lebanon and Syria); the Tigris and Euphrates (Iraq, Iran, Syria and Turkey) are

more of a catalyst for confrontation (inter-state) than the river-systems in the Indian subcontinent – the Indus system (India and Pakistan) and the Ganga-Brahmaputra-Barak systems(s).⁴⁴ The following observations account for this.

River water treaties in the subcontinent – the Indus Water Treaty IWT (1960) with Pakistan and the Ganges Water Sharing Treaty (1996) with Bangladesh have stood the test of time in spite of the adverse political climate. The IWT, in particular, with its three-tier approach of ‘defining the problem’, ‘commitment to negotiation’, and ‘arranging the negotiations’ is an exemplary case for joint venture/cooperative approach to resource sharing.⁴⁵ In West Asia, none of the water negotiations or water management plans have been successful, whether it was the Lowdermilk water management plan for the region on the TVA model (1950-51) or the Johnston Negotiations on the Jordan River (1953-55).⁴⁶ Water has been a major issue in the Palestinian-Israeli negotiations since the early 1990s, but to date, little progress has been made on either the bilateral or the multilateral track. In the Oslo II Agreement of September 1995, Israel recognised Palestinian water rights, but owing to its complexity and significance, the water issue – together with other thorny issues such as Jerusalem, borders, refugees, settlements and security – was left to the final status negotiations, which were to begin in May 1996 but only got underway in earnest in mid-2000. By then, a series of painfully negotiated Israeli interim withdrawals left the Palestinian Authority with direct or partial control of some 40 per cent of the West Bank and 65 per cent of the Gaza Strip.

In West Asia, negotiations on sharing water resources have always been hostage to the volatile political situation. A successful negotiation on water, which is highly emotive and divisive, requires relative regional stability and strong leadership to conclude a deal. It is reasoned that the most significant factor leading to the successful signing of the IWT was the political stability provided under the leadership of Jawaharlal Nehru as well as Ayub Khan.⁴⁷

In West Asia, given the polarised politics (the Arab-Israel divide), unilateral action thwarts any bilateral/multilateral approach. Israel remains influenced by its unassailable regional position and technological optimism in coping with water scarcity. The Arab states, against this, regard water negotiations as “schemes” made by “imperialists and Zionists” to attain their end of territorial expansion in the heart of the Arab homeland.⁴⁸

Water is clearly a political and military tool as well as a military target in West Asia. In the post-Johnston negotiations, water became an important source of conflict that led to the 1967 Arab-Israel war. When the PLO came into existence, its first action was to sabotage the Israeli National Water Carrier in December

1964. As the PLO put it: “The water issue was the crucial one. We considered our impact on this to be the crucial test of our war with Israel”.⁴⁹ In response, Israeli Prime Minister Levi Eshkol declared: “Israelis are not trigger-happy, but if it came to it, we would have to fight for our water”.⁵⁰ PLO’s hostility, Arab diversion plans and Israeli small-scale attacks on the diversion works in Syria led to border violence that eventually culminated in the June 1967 War. In the subcontinent, this has never been the case. Even during the course of wars (1965, 1971) and Kargil, the waters of the Indus flowed peacefully. Probably the IWT has become a symbol that both India and Pakistan do not want to destroy. Though Pakistan from time to time voices its concern over India deliberately trying to run it dry (eastern province of Punjab considered to be the bread basket), it can, without paying any attention, be regarded as a typical lower-riparian bogey.

Water sharing even between the Arab states, based on their respective hydrological positions, has been contentious. Water has been a tool for tactical alliance, an instrument of coercion and a source of nationalism. Whether it is Syria’s Ba’athist agriculturalism or Saudi Arabia’s approach to food security or Turkey’s grand project of “national unity through regional economic development”, or Israel’s “making the desert bloom”, water is central to regional politics.⁵¹ Hydropolitics thus features predominantly in the strategic calculus of the region. For example, Turkey’s diversion of the Euphrates for agricultural purposes in the 1970s left Syria in a dire situation.⁵² Syria countered it by using the radical Kurdistan Worker’s Party (PKK) as a proxy to disrupt and destabilise Turkey’s Anatolia region and later on formed a tactical alliance (in the 1990s) with its rival Iraq on sharing of the Euphrates. It was only in 1998 under Turkey’s “face the consequences”⁵³ threat that the Assad regime signed the memorandum withdrawing its support for the PKK. Since the mid-1990s, hydrological cooperation as a test of reciprocity has emerged as an important element between Ankara and Jerusalem, though final agreements have remained elusive. This, because Israel considers water as an important component of its security and does not want to be over-dependent on extraneous sources. Turkey’s response has been to terminate the ‘water for guns’ swap deal and work on ‘water for money deal’.

Given the water stress in the region, water sharing will be an important aspect of the political landscape. The future of the Israel-Palestinian settlement will also depend upon whether Israel is willing to give up West Bank to Palestinian control and thereby relinquish its control over the aquifers that currently provide one-third of Israel’s water supply. It would also mean exposing the country to vulnerability from suspected Arab ventures to run the country dry at times of war. Therefore, to Israel’s water security is a prerequisite for dealing with Palestinian/Arab hostility.

The fact that Israel is contemplating giving up Golan Heights, where it controls Lake Kinneret, further makes water in the West Bank a critical component. Water links Golan and the West Bank to Israel's strategic thinking; Israel will wait to give up Golan to Syria only when a superior water arrangement in the West Bank is struck or it finds adequate water options.

Though the colonial legacy and the political contours of West Asia and the Indian subcontinent are markedly different, one can with all fairness state that there seems to be more humility in understanding and sharing water in the latter than it is in the former. The Indian subcontinent represents what Thomas Naff says: One of the paradoxical qualities of hydro-political problems is that, despite their complexities and stubbornness, they exhibit a tendency in certain circumstances to encourage negotiations where other problems would degenerate into conflict."⁵⁴

'Water security' in India requires two-fold analysis. From earlier observations, it is clear that for India water security is less of inter-state problem. The evaluation, therefore, requires an intra-state perspective (within).

In India, quantitative supply problems are increasing. India will enter the 'stress zone' by 2025.⁵⁵ Water scarcity due to ground water depletion is already a major problem. To complicate matters, water quality is also deteriorating. For example, 80 per cent of the 14 perennial rivers in India are polluted. Organic pollutants from industrial activities are a major cause of degradation of water quality throughout the region. India, for instance, is the third biggest emitter of organic water pollutants with 1, 651, 250 kg/day.⁵⁶

In terms of internal security, river-water issues have, over the last decade or so, become a law and order problem with aggressive protests and threats of violence. The Cauvery River water rights have been a source of tension leading to violent expression and instability between Tamil Nadu and Karnataka. In 1991, rioting took place in Karnataka as the leaders of both the states took a confrontationalist posture. In 1995-96, a poor monsoon heightened tensions and in 2002 curfew was imposed in the town of Mandya as the agitation turned violent.⁵⁷ Likewise, the Sutlej-Yamuna Link (SYL) Canal between Punjab and Haryana has been an equally emotive issue and has resulted in violence. In 1986-87, 34 workers and an engineer were gunned down at a construction site in Ropar in Punjab and in 1990 two senior engineers were killed in Chandigarh.⁵⁸ Importantly, Karnataka's unilateral position not to abide by the Supreme Court's decision over the equitable distribution of water and Punjab's decision (July 12, 2004) to annul all inter-state river sharing agreements puts a serious threat to the federal nature of the Indian

polity and raises a serious debate over the control of resources. Clearly, such non-compliance sets a dangerous trend and creates a retaliatory situation. For example, if Karnataka prevents water from flowing to Tamil Nadu, then the latter can cut the supply of electricity to the former.⁵⁹

From the above, it emerges that at the intra-state level, water issues are about better resource management, a need for decentralised approach involving local population and active participation by civil society in the implementation of water sharing projects.⁶⁰ One can, from the context of the security debate, place water issues (intra-state level) as one of 'politicisation' rather than as one of 'securitisation'. However, the dynamics of river water sharing at the inter-state level, which was analysed as being 'rivers of accord' could change to 'rivers of discord' if the project to inter-link the country's rivers, the "national water grid"⁶¹ does not take into consideration the fears and apprehensions of neighbouring countries, Bangladesh and Nepal where these are genuine. According to the Ganges Water Treaty, India (as an upper riparian state) has to protect the flows arriving at Farraka, from where the river water is shared.⁶² The diversion of the Ganga to the southern peninsular, as planned under the inter-linking project, may have an impact on the flows at Farraka, and tantamount to a breach of the treaty. Even as the lower riparian state in the number of water treaties with Nepal, the implementation status of which is far from satisfactory, India and Nepal would have to agree on a balanced and mutually beneficial use of river waters, particularly the rivers Karnali, Kosi and Gandak.⁶³

Conclusion

To adopt the Foucauldian terminology of security "...not that everything is bad, but that everything is dangerous..."⁶⁴, water issues assume enormous significance. Sinuous rivers complicate ownership and intertwine the fate of nations. Therefore, to fully comprehend the dynamics of international conflict it is necessary to examine the relations between resource competition and other sources of friction. The "desecuritisation" of water issue, on the other hand, presents an opportunity to shift away from the 'enemy' construct and help to collectively craft broad policy prescriptions, explore new techniques and better water management. As countries rework on strategies to diversify sources of water supply and enhance self-sufficiency it is critical to negotiate a cooperative regime for the distribution of shared water supplies.

References/End Notes

- ¹ Maude Barlow and Trevor Clarke, *Blue Gold*, The New Press, New York, 2002; See also, Thomas F. Homer-Dixon, "Environmental Scarcities and Violent Conflict," *International Security* 19 (1), 1994, pp. 5-40 and Sandra Postel, *Last Oasis*, WW Norton, New York, 1997. Both Homer-Dixon and Postel contend through their work that the scarcity of fresh water will be one of the chief resource issues of the 21st century. Bjorn Lomborg, *The Skeptical Environmentalist: Measuring the Real State of the World*, Cambridge University Press, Cambridge, 2001, represents a rare counterview, a "don't worry" situation on water scarcity, which has been severely criticised.
- ² "The World Water-Gap: The World's Ability to Feed Itself," World Commission on Water for the 21st Century, at <http://www.worldwatercouncil.org/Vision/84430C6FE8D4EAD8C12567C4002C248D.htm> (Accessed March 22, 2004).
- ³ Aaron Wolf and Ashbindu Singh, *Atlas of International Freshwater Agreements*, UNEP, Nairobi, 2003, at www.unep.org
- ⁴ Cited in Alec McHoul and Wendy Grace, *A Foucault Primer: Discourse, Power and the Subject*, Melbourne University Press, Victoria, 1995, p. 67.
- ⁵ The term 'Symbolic Capital' was coined by Pierre Bourdieu. It meant "...the concept of capital should be seen not only in economic terms, but also as applicable to a range of other resources such as knowledge and status, and these kinds of capital can be converted into each other." See <http://cio.ceu.hu/courses/CIO/listglossary.html> (Accessed October 2, 2004). Didier Bigo's 'symbolic capital' can be found in his study on internal security at the European level, including the roles of the police and the military.
- ⁶ See Claudia Aradau, "Migration: The Spiral of (In) Security", E-journal, at <http://venus.ci.uw.edu.pl/~rubikon/forum/claudia1.htm> (Accessed March 12, 2004).
- ⁷ Ibid. Foucault's 'power/knowledge' is a reciprocal, mutually reinforcing relation between the production and circulation of knowledge and subsequently the control and exercise of administrative power. See Alec McHoul and Wendy Grace, no. 4, p. 82.
- ⁸ Quoted in Daniel Hill, *Rivers of Eden: The Struggle for Water and the Quest for Peace in the Middle East*, Oxford University Press, New York, 1994, p. 66.
- ⁹ *The New York Times*, May 25, 1991.
- ¹⁰ *Genesis*, Chapter 41.
- ¹¹ *Joshua*, Chapter 4.
- ¹² Ironically the Sykes-Picot Agreement did not take water into consideration. Other factors such as the location of holy places, rail and oil lines, and political alliance took precedence. See David Fromkin, *A Peace to End All Peace: The Fall of the Ottoman Empire and the Creation of the Modern Middle East*, Avon, New York, 1989, p. 99.

- ¹³ Joyce R. Starr, "Water Wars", *Foreign Policy*, 82 (Spring), 1991, pp. 17-36. Starr is generally given the credit for coining the term 'water wars'.
- ¹⁴ Quoted in Joseph Nevins, "Resource Conflicts in a New World Order", *Geopolitics*, 9 (1), March 2004, p. 258.
- ¹⁵ Manmohan Singh's Address to the Nation on Independence Day, *Strategic Digest*, 34 (9), September 2004, p. 1272.
- ¹⁶ *Strategic Digest*, 34 (7), July 2004, p. 978.
- ¹⁷ "One can view security as that which in language theory is called a speech act: it is not interesting as a sign referring to something more real - it is the utterance itself in itself that is the act: by saying it something is done." Ole Waever, *Concepts of Security*, University of Copenhagen Press, Copenhagen, 1997, p. 221.
- ¹⁸ Barry Buzan, Ole Waever and Jaap de Wilde, *Security: A New Framework for Analysis*, Lynne Rienner Publishers, London, 1998, p. 204.
- ¹⁹ *Ibid.*, pp. 14, 204. Buzan says: "for the analyst to grasp this act, the task is not to assess some objective threats that 'really' endanger some object to be defended or secured; rather, it is to understand the processes of constructing a shared understanding of what is to be considered and collectively responded to as a threat". Also "Rethinking Security after the Cold War", *Cooperation and Conflict*, 32(1), 1997, p. 14. Buzan explains the 'rhetorical structure' based on existential threats to the referent object, protecting through exceptional measures the threatened referent object, which justifies and legitimises the actions.
- ²⁰ James Der Derian, "The Value of Security: Hobbes, Marx, Nietzsche, and Boudrillard", in David Campbell and Michael Dillon (eds.), *The Political Subject of Violence*, Basil Blackwell, Oxford, 1991, p. 97.
- ²¹ Michael Dillon, "Security, Philosophy and Politics", in Mike Featherstone *et al*, *Global Modernities*, Sage, London, 1995, p. 158. Dillon's statement has an uncanny resonance to Buzan's performative act.
- ²² Richard Ullman, "Redefining Security", *International Security*, 8 (1), 1983, p. 153; Jessica Tuchman Mathews' article of the same title appeared in *Foreign Affairs*, 68 (2), 1989, pp. 162-177.
- ²³ *Ibid.*, p. 153.
- ²⁴ Stephen M Walt contends that any attempt to widen the discourse on security is always resisted. "The Renaissance of Security Studies", *International Studies Quarterly*, 35, 1991, p. 212.
- ²⁵ In Thomas Hobbes' view, nothing in life can be achieved without security. If environmental degradation and resource depletion will be a source of future conflicts, then they are worthy of being in the security framework. See George H Sabine and Thomas L. Thorson, *A History of Political Theory*, Mohan Primlani for Oxford and IBH Publishing, New Delhi, 1973, pp. 427-29. Also Bertrand Russell, 'Hobbes's Leviathan' in *History of Western Philosophy*, Routledge, London, 1995, pp. 531-41.
- ²⁶ The Copenhagen School referent objects, ranged from the state to collective identities

to the survival of individual species and even the habitat. See Barry Buzan, Ole Waever and Jaap de Wilde, no.18, pp. 22-23; also Ole Waever, Barry Buzan, Morten Kelstrup and Pierre Lemaitre, *Identity, Migration and the New Security Agenda in Europe*, Pinter Publications, London, 1993. Buzan coined 'Societal Security'. Waever preferred the term 'Identity Security'.

- ²⁷ Barry Buzan, *People, States and Fear: An Agenda for International Security Studies in the Post-Cold War Era*, Harvester Wheatsheaf, London, 1991, p. 17. E-journal, at <http://venus.cr.uw.edu.pl/~rubikon/forum/claudia2htm> (Accessed March 15, 2004). Aradau endorses desecuritisation techniques while arguing that desecuritisation can be equally unethical by reducing individual freedom and liberty.
- ²⁸ Claudia Aradau, "Beyond Good and Evil: Ethics and Securitisation/Desecuritisation Techniques", E-journal at <http://venus.cr.uw.edu.pl/~rubikon/forum/claudia2htm> (Accessed on March 15, 2004). Aradau endorses desecuritisation techniques while arguing that desecuritisation can be equally unethical by reducing individual freedom and liberty.
- ²⁹ Barry Buzan, Ole Waever and Jaap de Wilde, no. 18, p. 23-24.
- ³⁰ The scarcity-conflict model is fast becoming conventional wisdom in foreign policy, population and environment circles, structured by the likes of Stephan Libiszewski and Homer-Dixon and popularised and sensationalised by writers like Michael Renner, "Ending Violent Conflict", *Worldwatch Paper* No.146, 1999, and Robert Kaplan, "The Coming Anarchy", *Atlantic Monthly*, February 1994, pp. 44-76. Kaplan proclaimed the environment as the most important national security issue of the 21st century.
- ³¹ Critics to a de-centred security argue that because proving the causal link has been difficult, therefore the environment should be left to 'protection' rather than 'securitisation'. Daniel Deudney argues that turning the environment into an object of national security risks under-mining the positive forms of global environmental thinking and cooperation that have been emerging in recent years. See "Environment and Security: Muddled Thinking", *Bulletin of the Atomic Scientist*, April 1991, pp. 22-28.
- ³² Thomas F Homer-Dixon, "Strategies for Studying Causation in Complex Ecological Political Systems", Occasional Paper, American Association for Advancement of Science, Washington D.C., June 1995, p. 6.
- ³³ Thomas F Homer-Dixon, "Environmental Scarcities and Violent Conflict: Evidence from Cases", *International Security*, 19 (1), 1994, p. 5.
- ³⁴ For the scarcity debate, see "Environmental Security and Violent Conflict: A Debate", at <http://www.ics.st.edu/PROGRAMS/DIS/ECS/report2/debate.htm>
- ³⁵ The scarcity model through comprehensive modeling exercises has been undertaken at the University of Toronto under Homer-Dixon, The Environment, Population, and Security Project and *The Project on Environmental Scarcities, State Capacity and Civil Violence*.
- ³⁶ "Environmental Security and Violent Conflict: A Debate", at www.ics.st.edu/

PROGRAMS/DIS/ECS/report2/debate.htm, p. 17 (accessed August 22, 2004).

- ³⁷ Read, Michael T. Klare, "The New Geography of Conflict", *Foreign Affairs*, May/June 2001.
- ³⁸ Aaron Wolf, "Conflict and Cooperation along International Waterways", *Water Policy*, 1(2), 1998, pp. 252-65; Also Sandra Postel and Aaron Wolf. "Dehydrating Conflict", *Foreign Policy*, September/October 2001, pp. 60-67. Wolf coordinates the Transboundary Freshwater Dispute Database, Oregon University, which includes a computer database of over 400 water-related treaties, negotiating notes and background material on 14 case-studies of conflict resolution, news files on cases of acute water-related conflict, and assessments of indigenous/traditional methods of water conflict resolution.
- ³⁹ See Aaron Wolf's Transboundary Freshwater Dispute Database, at <http://www.transboundarywaters.orst.edu/>
- ⁴⁰ Peter GliECK, "Water and Conflict: Fresh Water Resources and International Security," *International Studies*, 1, 1993, p. 92. Also "Water, War and Peace in Middle East", *Environment*, 36, 1994. GliECK heads the Pacific Institute for Studies in Development, Environment and Security, Oakland, California. See <http://www.pacinst.org/>
- ⁴¹ For complete text of the UPA's Common Minimum Programme, see *Strategic Digest*, 34 (9); for Global Trends 2015, see <http://www.cia.gov/cia/reports/globaltrends2015/globaltrends2015.pdf> or for summary see, <http://www.cia.gov/cia/reports/globaltrends2015/>; For complete text of A More Secure World: Our shared responsibility, Report of the Secretary General's High-level Panel on Threats, Challenge and Change, see <http://www.un.org/secureworld/report2.pdf>
- ⁴² Malin Falkenmark and Carl Widstrand "Population and Water Resources: A Delicate Balance", *Population Bulletin*, Population Reference Bureau, 1992. The Falkenmark Index though a subjective evaluation is used by many organisations including the World Bank. A country whose renewable fresh water availability, on an annual per capita basis, exceeds about 1,700 cubic metres will suffer only occasional or local water problems. Below this threshold, countries begin to experience periodic or regular water stress. When fresh water availability falls below 1,000 cubic metres per person per year, countries experience chronic water scarcity, in which the lack of water begins to hamper economic development and human health and well-being. When renewable fresh water supplies fall below 500 cubic metres per person, countries experience absolute scarcity. None of the countries in South Asia are in the water stress stage yet but estimates indicate that India will reach the stress zone by 2025 with Pakistan and Sri Lanka shortly after 2025. Countries in West Asia are already in the water stress zone.
- ⁴³ Aaron Wolf and Ashbindu Singh, no. 3.
- ⁴⁴ There is a difference of views between Bangladesh and India on whether these rivers constitute one basin or system or three systems. Ramaswamy Iyer, "Water through the Security Lens", *Contemporary India*, 2 (2), April-June 2003, p. 76.
- ⁴⁵ Ashutosh Misra, "Bridge over Troubled waters", *Hindustan Times*, January 5, 2002.

- ⁴⁶ For a good account of the negotiation process, see Thomas Naff and Ruth Matson (eds.), *Water in the Middle East: Conflict or Cooperation?*, Westview Press, Boulder, 1984.
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- ⁴⁸ Cited in Meron Medzini (ed), *Israel Foreign Relations*, Ministry of Foreign Affairs, Jerusalem, 1976, p. 487.
- ⁴⁹ Quoted in John Cooley, “The War over Waters”, *Foreign Policy*, 54, 1984, p. 27.
- ⁵⁰ Thomas Naff and Ruth Matson, no. 46, p. 43.
- ⁵¹ Uttam Sinha, “Bridge over River Jordan”, *The Pioneer*, March 18, 2000.
- ⁵² Ilan Berman, “Water and Turkish Security”, *Turkish Policy Quarterly*, 1(4), Winter 2002, pp. 43-49.
- ⁵³ *Ibid*, p. 44.
- ⁵⁴ “The Iraqi Marshlands: Can they be saved? Assessing the Human and Ecological Damage”, The Brookings Forum, May 7, 2003, see <http://www.brook.edu/comm/events/20030507.pdf> (Accessed November 18, 2004).
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- ⁵⁶ *World Resources 2002-2004*, World Resource Institute, Washington, DC, 2003, pp. 141-43.
- ⁵⁷ *The Times of India*, New Delhi, June 8, 2004, p. 11.
- ⁵⁸ *Ibid*, p. 11.
- ⁵⁹ T.V.R. Shenoy, “Recipe for Chaos”, at <http://www.rediff.com/news/2002/oct24flip.htm> (Accessed Dec 16, 2004)
- ⁶⁰ See Suresh Prabhu, “Garland of Hope”, *The Times of India*, Editorial, August 14, 2004. Also R.K. Pachauri, “Floods and Droughts”, *Times of India*, Editorial, July 28, 2004.
- ⁶¹ *Ibid*. The river inter-linking plan was set up under the National Water Development Agency (NWDA) and envisages transfer of flood waters into deficient basins by creating a network of canal and storage basins, besides generating hydel power.
- ⁶² For the debate on interlinking rivers, see B.G. Verghese and Ramaswamy Iyer, “Rivers of Discord”, *Times Samvad*, *The Times of India*, November 6, 2002.
- ⁶³ Dwarika Dhungel, “Nepal-India Water Resources Relationships: Looking Ahead”, in Observer Research Foundation, *India-Nepal Relations: The Challenge Ahead*, Rupa, New Delhi, 2004, p. 187.
- ⁶⁴ M. Foucault, ‘On the Genealogy of Ethics’, interview by P. Rabinow and H. Deryfus, *The Foucault Reader*, Pantheon, New York, 1984, p. 343.

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