CHAPTER III

ENVIRONMENTAL AND POLITICAL CONFLICTS:
SOME CASE STUDIES
ENVIRONMENTAL CONFLICT

As we move into a new century, it is becoming increasingly evident that social, environmental and economic issues are intertwined, so much so that the imbalance of one can lead to a series of catastrophic consequences. While striking a balance is what the future looks for yet, as the editorial column of Globe and Mail reflects it is inherently difficult, “We are standing at the intersection of two historic global movements: towards greater freedom of trade and towards more stringent protection of the environment. The reverberations of that collision are only now beginning to be felt.”

How might then environmental change lead to conflict? Scholars and experts working on this dimension have proposed various conflict scenarios. That environmental change may shift the balance of power between states either regionally or globally, producing instabilities that could lead to war. That global environmental damage increases the disparity between the North and South, poor nations may militarily confront the rich for a greater share of the world’s wealth. That warmer temperatures could lead to contention over new ice-free sea-lanes in the Arctic or more accessible resources in the Antarctic. Bulging populations and land stress may produce waves of environmental refugees that spill across borders with destabilising effects on the recipients’ domestic order and on

2 David Wirth, “Climate chaos”, Foreign Policy, no. 74, 1989, p. 10

73
international stability. That country may fight over dwindling supplies of water and the effects of upstream pollution. That in developing countries a sharp drops in food crop production could lead to internal strife across urban-rural and nomadic-sedentary cleavages. That if environmental degradation makes food supplies increasingly tight, exporters may be tempted to use food as a weapon. That environmental change could ultimately cause the gradual impoverishment of societies in both the North and South, which could aggravate class and ethnic cleavages, undermine liberal regimes and spawn insurgencies. Most important of all, many scholars indicate that environmental degradation will "ratchet up" the level of stress within national and international society, thus increasing the likelihood of many different kinds of conflict and impeding the development of cooperative solutions.

In all the above mentioned types environmental conflicts it is clearly evident that the poor countries, the developing states in the 'South' will be more vulnerable than the rich industrialised countries of the 'North'. Environmentally induced conflicts are thus likely to arise first in the developing world. Thomas F. Homer-Dixon taking this disturbing view

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8 Ibid., p. 151
says, "In these countries, a range of atmospheric, terrestrial and aquatic environmental pressures will in time probably produce, either singly or in combination, four main, causally interrelated social effects: reduced agricultural production, economic decline, population displacement and disruption of regular and legitimised social relations. These social effects, in turn, may cause several specific types of acute conflict, including scarcity disputes between countries, clashes between ethnic groups, and civil strife and insurgency, each with potentially serious repercussions for the security interests of the developed world."\(^{10}\)

While environmental change contribute to conflicts as diverse as war, terrorism, or diplomatic and trade disputes, it also has different causal roles: in some cases, it may be proximate and powerful cause, in others, it may only be a minor and distant player that involves many political, economic and physical factors.

**Conflict and Global Climate Change**

"Of all the pressing large-scale environmental problems facing society, global climatic changes appear to have the greatest potential for provoking disputes, worsening tensions, and altering international relations between developed and developing countries."\(^{11}\)


\(^{11}\) Peter Gleick, "Climate change and international politics: problems facing developing countries", *Ambio*, vol. 18, no. 6, 1993, p. 338
Carbon emission and the ‘greenhouse effect’ gases that are linked to global climate change have become highly politicised. The ‘South’ developing countries see many contradictions in the approach of the ‘North’ industrialised countries and are reluctant to forego the advantages that they feel rapid modernisation and industrialisation can bring. They feel not only fair that they should have a chance to develop but also that the industrial countries have a special responsibility to assist the developing ‘South’ in funding and financing appropriate responses.

Thus, the ‘South’ argues that climate change is being used as a pretext by the ‘North’ to perpetuate existing gaps between North and South, to divert attention away from the real causes of the problem, which stem from the profit-oriented production systems of the capitalist world. After all, many of the environmental problems of the South are direct responsibility of the North, historically through colonialism, but continuing today through resource extraction and consumption patterns, the promotion of modern technology, faulty development strategies, and domination of the world economic system.12

While finance and technical assistance is much needed from the ‘North’ to ‘South’, yet alone it cannot address the development crisis. Thus many analysts suggest using climate

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change as a lever to address a range of broader economic and social issues such as debt relief, trade imbalances and global inequities.

The global climate change in general and the ozone layer depletion in particular has evoked tremendous international response but at the same time negotiations over it has led to international North-South conflict as well as North-South disagreement. After the first agreement in Vienna (1985) many other negotiations came about — Montreal (1987), London (1990) and Copenhagen (1992) but each failed to comprehensively reach the required commitment. The North-South aspect of the problem then arises from the fact that, when a ‘universal’ principle is agreed upon between sovereign states, the economic consequences may differ in the extreme according to the initial positions of different states, and more precisely according to their historical level of development. Most if not all less developed countries have an other dream than to imitate the model of development that the ‘North’ countries followed. So to put an ‘accountable’ tag to the ‘Southern’ nations in order to drastically cut their carbon emission and CFC gases has invariably led to divided positions and equally divided opinions. In the ozone layer protection debate, India and China have lost no time in raising this objection.

Negotiations on the global climate change clearly demonstrates how a particular and all concerning environmental problem transcends into the realm of power politics where the aspects of military might, technological advancement and financial superiority (all such
associated with the developed countries) clashes with the principle of sovereignty (as harped, overemphasised and justified by the developing countries)

The North-South debate on global climate change falls into two criteria — ‘doing something’ and the ‘cost of doing something.’ North industrialised country like the US is clearly in favour of ‘doing nothing’: the dangers from greenhouse effects are weak (evidences admitting a double of carbon dioxide in 40 years with a greenhouse effect of +3c), the cost of fighting it may be very high and useless. Many South-developing countries also favour the ‘doing nothing’ because fighting the greenhouse effect would hinder their development and therefore, the results of global warming are irrelevant. Malaysia provides a good example of satisfying these criteria. As the Prime Minister Mahathir Mohammad did not hesitate to put in words, “Democracy, human rights, ecology, union rights, are but obstacles that advanced countries try to put on the road of their future competitors.”

Unlike the extreme ‘doing nothing’ countries, there are others that are guided by the GHG (Greenhouse gases) threat and follow the precautionary strategy. These countries — Bangladesh, Maldives, India, many in South America and Africa produce GHG well below the sustainable 500kg/capita of carbon emission (a target set, assuming a world population of 10 billion in 2040, the average sustainable quantity of emissions would be 500kg of

13 Quoted in Asiaweek, Hong Kong, 9-16 June, 1992, p.31
carbon per capita), they argue thus that they have a wide margin for globally GHG-
sustainable development: their contribution to the world production of GHG may increase
for a while without being a real problem, and that their very development will induce a
more GHG-efficient production of energy.

Consequently there are northern countries (the EEC states) that think that a precautionary
strategy is relatively inexpensive and really useful. Producing less than two tons per capita,
and evolving towards what they fashionably call a ‘service society’ with a steady
population, they think that the 500kg target is within their scope.

The ‘do something’ position of the ‘South’ (i.e. need to fight the greenhouse effect with
considerable help from the ‘North’) and the ‘North’ (i.e. their capacity to fight the
greenhouse effect and to unconditionally offer help to the world) is juxtaposed to the ‘do
nothing’ position that exist amongst the ‘North’ industrialised countries and the ‘South’
countries. This conflictual divide has thwarted any significant and abiding agreement on
climate change. While much of the dispute is on the negotiating table the effect however,
could lead countries to severe situations in which resort to arms and bloody scenarios
cannot be ruled out.

One particular case study that explains the relationship between climate change and
violence is the kingdom of Castile (much of modern day Spain) in the 15th century. Angus
Mackay has documented episodes of the popular unrest, which seem to have been produced directly by climate-induced food shortages.\(^{14}\) In March 1462, rioters rampaged through Seville after floods forced the prices of bread beyond the means of the poor. Castile presents a classic example of linkage of environment to conflict.\(^{15}\) Taking this as an example it can be suggested that decreasing supplies of physically controllable environmental resources, such as clean water and good agricultural land, would provoke interstate “simple-scarcity” conflicts or resource wars. The second suggestion is that large population movements caused by environmental stress induce “group-identity” conflicts, especially ethnic clashes. The third feature is that severe environmental scarcity will simultaneously increase economic deprivation and disrupt key social institutions, which in turn will cause “deprivation” conflicts such as civil strife and insurgency.

**Simple Scarcity Conflicts**

Scarcity of resources has been an essential feature throughout the history of conflicts. Nations have waged battles over it, more so on non-renewable resources such as oil and minerals. During W.W.II, Italy and Germany were driven to extreme extent in their acquisition for minerals.\(^{16}\) Japan during the war period sought to secure oil, minerals and other resources in China and Southeast Asia. In the Vietnam War, the US was motivated

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by the desire to protect its access to rubber, rice and tin. The 1991 Gulf war was at least partly motivated by the desire of oil.

However, it seems a sin Arthur Westing’s finding that conflict is more acute in cases of non-renewable resources like oil and minerals than renewable resources like forests and croplands. Westing’s compilation of twelve conflicts in the 20th century involving resources, beginning with W.W.I and concluding with Falkland war, shows just five conflicts centered on renewable resources of which the 1969 Soccer war between El Salvador and Honduras and the Anglo-Icelandic cold war of 1972-73, was nothing to do with renewable resources (cropland was the factor in the former case and fish in the latter). 17 The 1969 ‘soccer war’ on evaluation can be left to the ecological marginalisation.

The reason why non-renewable resources is potent in creating conflict is because petroleum and mineral resources can be more directly converted into state power than can agricultural land, fish and forests. Oil and coal fuel factories and the military establishment itself. Military might not only depends upon the technology but also upon the energy. Countries, which are heavily dependent on non-renewable resources, tend to be more aggressive than countries, which are dependent on renewable resources. 18

17 Ibid., p. 215
While non-renewable resources have a history that ascertains its conflictual nature, it is, however, the renewable resource river water that has stimulated and is likely to stimulate interstate resource war in the future. Much of the hot-spot environmental conflicts are situated around river waters. What the Egyptian President Anwar el-Sadat said in 1980, “If Ethiopia takes any action to block our right to the Nile waters, there will be no alternative for us but to use force”, 19 holds very much true for water is the critical resource for national survival and since river water flows from one area to another, one country's access can be affected by another's action. Conflict is most probable when downstream riparian is highly dependent on river water and is strong in military terms in comparison to the upstream riparians. Downstream riparians often fear that their upstream neighbours will use water as a means of coercion. This situation is particularly dangerous if the downstream countries also believe it has the military might to rectify the situation. The relationship between South Africa and Lesotho and between Egypt and Ethiopia has this character. While water sharing in areas such as the Middle East has the propensity to further aggravate the conflict situation between the Arab and Israeli.

The Lesotho Case

The South Africa - Lesotho dispute over water offers an interesting case as to how a big country after failing to negotiate with a relatively smaller state can use coercive means to achieve its end. Facing critical water shortages, South Africa negotiated but without success

19 Quoted in Norman Myers, “Environment and security”, Foreign Policy, no. 74, 1989, p.32
with Lesotho for 30 years in order to diverts water from the Lesotho highlands to its arid region in Transvaal. In 1986, sensing the internal strife in Lesotho, South Africa decided to fish in trouble waters. It gave decisive support to a successful military coup against Lesotho’s tribal government. South Africa’s official line was a disguise to its actual motive. Helping the coup because Lesotho had been providing sanctuary to guerrillas of the African National Congress was a masquerade to its ulterior motive of the desire for water. It was, therefore hardly surprising that within months of the coup, the two governments reached an agreement to construct the huge Highlands water Project to meet South Africa’s needs.

International and transboundary water use conflicts are a complex feature. The issues of not only scarcity but also of security comes into play. Scarcity is the first strand —— security the other —— of a double helix along whose intertwined curves lie the constituent elements of hydro-political conflict. The consequences of water scarcity are as complex as its causes. It has the potential to trigger a series of events. For example, water scarcity often set afoot large-scale migrations from the countryside to the cities, creating large, dislocated, underemployed floating multitudes, particularly in the third world countries where this phenomenon is more typical. At an inter-state level water dispute can promote

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20 “Pretoria has its way in Lesotho”, Africa Report, March-April 1986, pp. 50-51

83
political tensions. State weakness and authoritarian regimes and thus becomes a determinant of both security and conflict.\textsuperscript{22}

International security in general and state security in particular is fast assuming different understanding in a world where the vital natural resources are diminishing rapidly, with the scale of its political and ecological problems growing quickly from local to global levels. As security in relation with the environment is redefining itself, it is in the process invariably coming in clash with the set and constricted nations of realist approach, that "squeeze environmental issues into a structure of concepts including 'state', 'sovereignty', 'territory', 'national interest' and 'balance of power'. The fit is bad, which may lead theorists to ignore, distort, and misunderstand important aspects of global environmental problems."\textsuperscript{23}

In a situation of constant tensions and hostilities, such as exists, for example, in Jordan and Euphrates basins, a resource issue like water scarcity is a constant underlying security factor that could act as a trigger for conflict. However, if the multilayered linkages between environmental factors and security and conflict are properly understood then security of water could in the same circumstances act as a catalyst for negotiations.\textsuperscript{24} In this regard Deudenczy wisdom of binding environmental/resource security concepts with those of national security is important: "... the nationalist and militarist mindset closely associated

\textsuperscript{22} Ted Gurr, n.9, pp 51-52
\textsuperscript{23} Thomas F. Homer-Dixon, n.10, pp. 84-85
\textsuperscript{24} Ibid., pp. 5-6
with national security thinking directly conflicts with the core of the environmentalist world view.... If the nation-state enjoys a more prominent status in world politics than its competence and accomplishments warrants, then it makes little sense to emphasise the links between it and the emerging problems of global habitability. Nationalist sentiments and the war system have a long established character that are likely to defy any rhetorically conjured redirection towards benign ends. The movement to preserve the habitability of the planet for future generations must directly challenge the tribal power of nationalism and the chronic militarisation of public discourse."  

The intricacies of conflict especially in the latter half of this century has multiplied and become more 'linked' to what can be described as nontraditional aspects of security (environmental degradation in particular). This circumstance has increased competition for resources, animated aggressive nationalist sentiments and created many flash points of possible conflict, subjecting the international system to greater strain than never before and making the resolution of conflicts exponentially more complex, therefore more difficult to achieve. This latter characteristic is especially peculiar to conflicts over water, since water is vital and pervasive and does not respect national boundaries in the course of its flow.

Water conflict occupies a large interest in the growing body of theoretical literature on the ecologically and environmentally caused conflict. Attempts by scholars like Fredrick Frey,

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Homer-Dixon and Peter Rogers to "fine-grain" conflict theory that encompasses the many-layered relationship between water and conflict is an important endeavour to bring key features of water conflict as distinct from any other type of conflict. In sum the scarcity of water displays certain distinguishing characteristics:

- Water is absolutely vital. As an issue it is pervasive. It has no substitute for human and animal use.
- Because of its complexity, water is fragmented as a strategic and foreign affairs issue, tending to be dealt with piecemeal, problem by problem, rather than comprehensively, both at inter-state and intra-state level.
- Water is a terrain security issue. When scarce, all concerned parties feel compelled to control the ground on or under which water flows.
- Water issue are zero-sum game, especially where two or more mutually antagonistic actors compete for the same resource. As a zero-sum security issue, water carries a constant potential for conflict.
- Riparian laws as a means of setting water issues remains rudimentary and most of the time ineffectual. Cooperation and negotiations between contesting parties is the best solution.
Power Factor

Since international law over water disputes has failed to bring desire results and since any resolve to the issue is best left to the amicable understanding of the parties concerned, therefore, the matter of power relationships among the basin actors plays a critical part. The factors of interest or need and riparian position are related to this pivotal issue. The key to any cooperation or “give and take” approach lies in the power symmetry or asymmetry in a given basin. If the power is approximately symmetrical then there will be a greater chance that goals will influence policies (cooperation high). However, where hostility is deep and intense and the actors are roughly equally powerful than the chances of conflict increases. If power is asymmetrical, that is, one actor is in a hegemonic position in relation to the other users as to be able to determine whether and in what circumstances cooperation will occur, then interests will induce cooperation only if they are sufficiently compelling to the basin’s most powerful state. Without the concurrence of the basin actor with overriding projectile power or sufficient defensive power, cooperation will not occur.

Cases

Euphrates Basin

Repeated efforts to establish a cooperative regime for the Euphrates among Turkey, Syria and Iraq have been unproductive for a combination of reasons: intense ill-will between the regimes of Syria and Iraq; historical grievances and mistrust by the two lower riparian towards Turkey; and the lack of urgency felt by Turkey, an upper riparian with sufficient
defensive power, to promote a cooperative regime energetically. With Iraq’s defeat in the Gulf war of 1991, Turkey is the basin actor with the most projectable power in addition to its defensive capacity.

Jordan Basin

Before 1967, Syria, Jordan and Israel were respectively the upper, middle and lower riparian. For a time, respective state interests induced the basin actors to cooperate tacitly in observing the Johnston Plan. Between 1953 and 1955, Eric Johnston, President Eisenhower’s special envoy, mediated discussions among Israel, Jordan and Syria over the apportionment of the Jordan river waters. Although negotiations over the Johnston plan failed and animosity and distrust continued, the principal users of the Jordan system adhered approximately and informally to the technical terms of the 1955 Plan, until the 1967 Six Day War radically altered the situation. The river water became one of the key factors in the outbreak of the 1967 war. Since 1967, any hope for cooperative water sharing in the Jordan basin without a prior political settlement, has evaporated.

Israel, the indisputable dominant power, has been able to satisfy its own needs unimpeded and has not as yet been compelled by an overriding motive to alter the situation. Neither Syria nor Jordan, singly or in some political/military coalition, have demonstrated an ability to improve their hydro-political status vis-a-vis Israel, or to produce change through cooperation.
Water as a source of conflict has usually been a contributing factor than a single issue that leads to conflict. This is truer in the Middle-East context where the Jordan’s water has been submerged within the context of other contentious issues among parties. Tangled relations among natural resources, the environment, and population growth state interact reciprocally with one another and with other causal factors, therefore it is theoretically easy to spy out eater or some other environmental factor as being a root cause of conflict. However, if a regime cannot deal effectively with the results of scarce resources and environmental degradation by maintaining the delivery of essential social services, the consequence could be discontent, anger and challenges to its authority, all of which could lead to serious conflict.

Thomas Naff puts forward that resource and environmental issues can be related to conflict in at least three ways, “... as proximate causes, as the means of conflict, and as the rationalization of conflict.”26 Historically, vital resources such as water have been used more as the means or rationalization of conflict than seen as its cause, and water has tended to play a multiple role in generating conflicts. In the causal equation of conflict, renewable resources are more important than nonrenewable ones as the roots and proximate causes of conflict, and will become progressively more so if current environmental trends continue.

The other aspect to be taken into resource related conflict is what Homer-Dixon says, "Humankind is more dependent on environmental conditions than on technology." ²⁷

Technology is indeed ominous and can play a crucial although indirect role in precipitating water and other resource conflicts by making possible exponentially greater extractions of the resource, by damaging or destroying the resource through the technologically caused overuse of an interdependent resource (logging and mining are prime examples) and by producing side-effects or by-products that severely damage or destroy the resource by, for example polluting it.

The competition over scarce natural resource is bound to intensify as demand increases in the face of environmental constraints and disruptions. Manipulation of scarce resources will become a crucial component of international conflict and states will increasingly disagree over the utilization of a transboundary resource or more aptly described as a 'functional boundary dispute.' ²⁸

**Group Identity Conflicts**

One of the best cited evidences in the recent past of how environmental and demographic pressures lethally combines to form a first-class example of an ecologically driven conflict ²⁷ Thomas Naff, n.21, p. 275
²⁸ Thomas F. Homer-Dixon, n.10, p. 95
is the 1969 hostility between El Salvador and Honduras. Dubbed as the "Soccer War" the
case shows striking evidence of population growth and land stress in the two countries,
most notably El Salvador. This Latin American country was the most densely populated
nation in the Western Hemisphere, with a population growth of 3.5% then. Apart this
massive human number, the country had lost much of its natural virgin forest, land erosion
and nutrient depletion were also severe. Added to this, certain changes in the country's
(Salvador) agricultural practice and land distribution, to the detriment of the poor farmers,
because powerful inducements to migration. As large mass of El Salvadorians crossed over
to Honduras, a volatile scenario of 'them' and 'us' (the chief component of group identity
conflict) was set.

It required no more than a harmless soccer match between the two countries did to trigger
off a violent conflict. The soccer war, has been pointed out as being the result of not only
land scarcity but also of "a process of competitive exclusion by which the small farmers
(were) increasingly squeezed off the land" by large land owners in Salvador. It has further
been pointed out, taking this case as a reference point that human behaviour is powerfully
constrained by social structure and the resource access it entails. The soccer war
demonstrated the socio-ecological system. These are the system's particular physical,

30 William Durham, Scarcity and Survival in Central America: The Ecological Origins of the Soccer war
political, economic and cultural features that affect the strength of the linkages between scarcity, population movement and conflict.

“Push” and “Pull” factors are important factors in decisions of potential migrants. These factors help distinguish migrants from refugees. While migrants are motivated by a combination of push and pull, the refugees are primarily motivated by push. Depending on the intensity and the time frame, environmental scarcity is more likely to produce migrants than refugees, because it usually develops gradually, which means that the push effect is not sharp and sudden and that pull factors can therefore clearly enter into potential migrants calculations.

The characteristics of a migrant is that they are essentially weak and marginal in their home society and because of their “marginalised” existence they invariably remain weak is the receiving state. Their weakness is compounded by the fact of their inability to organise themselves into an effective force in order to make demands. States keeping in view their politico-strategic imperatives and the region’s politics in which they operate after, much to their regional power politics conveniently back the migrants. Such an action is a critical one for migrants often need the backing of a state before they have sufficient power to cause conflict. Events in Bangladesh and North-East India is a classic case that represents group

31 Ibid., p.54
32 Astri Suhirke, “Pressure points: environmental degradation, migration and conflict”, Project on Environmental Change and Acute Conflict, Occasion Paper no. 3, March 1993, pp. 25-27
identity conflicts as does the Kashmir issue between Pakistan and India, where though the problem is not strictly “migrant” but ‘minority’ aspect. In both the cases as it will be seen in the analyses of South-Asia, conflict show a clear sign of development —— from state support to group animosity to insurgency and counter-insurgency.

Migration is also directly related to the competition over resources in a particular eco-region. The migration can be internal or ‘internally displaced people’ or to be more precise ‘environmentally displaced people’ and can also transgress interstate boundaries which can culminate in a massive number of ‘environmental refugees’. In much of the developing world resource war has led to battle lines being drawn on ethnic or tribal affiliations. Disputes over grazing, water or agricultural rights are a common source of migrant origination.

Sudan is the 80’s are a case point. Turbulence and civil-strife returned to the state of Sudan in 1983 after a period of three decades. In these three decades ecological degradation mainly caused by large-scale mechanized farming added a new dimension to the existing ether religions divide between Muslim Arabs in the northern part of the country and Christian black Africans in the southern part.33 By 1983 the collapse of subsistence economy of the huge portion in the north partly because of climatic change and chiefly because of over exploitation of natural resources by the merchant class created the biggest

33 Ibid., p.31
onslaught by the mainly northern Sudanese elite on the peoples of the South. A bloody
group identity conflict erupted because of internal displacement of people from the north
seeking greener pastures in the South. Because owing to its vast geographical size tribes is
Sudan have lived in relative isolation from each other, developing strong ethnic identities.34
Southerners and northerners is pole apart. When they confront, their identities and self-
image class owing to mechanized farming and structural adjustment programmes, which
devaluated farmers monetary assets and reduced subsidies for basic needs and social
services, the whole edifice of agro-pastorals across the plans of northern Sudan, the source
of livelihood of 14 million people began to collapse. With less land available to them and
less family labor because of migration, many peasants intensified their traditional cultivation
methods, leading to further environmental degradation.

By 1984 at least 4.5 million people had become destitute and homeless. The only way for
many of them to survive was to migrate to the towns, where food was comparatively more
available. The unprecedented exploitation of the clay region of northern Sudan by
extensive “tractorisation”, along with persistent draught, led mechanised farm-owners, from
the late 70’s onwards to push inexorably southwards into the Nuba mountains and the
Ingessena region, with a view of using the areas of the major cattle economies of the
Nilotic tribes of the south.35 Land was not the only resource that the migrants from the

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34 Mohammad Suliman, “Civil war in the Sudan: from ethnic to ecological conflict ”, *The Ecologist*, vol. 23, no. 3, 1993, p. 105
35 Ibid., p. 108
north looked for. Water was also a factor. All rivers in Sudan are part of the Nile water system, most of which originate either outside the country or in the south.

When the US oil giant Chevron discovered oil in 1981 in the region of south, this resource became another added factor along with land and water. The importance of these resources and Sudan's northern elite ambition to redivide the southern portion of the country led in 1983 to a civil war. This led to the formation of the Sudan People's Liberation Army (SPLA) and the Sudan People's Liberation Movement (SPLM) against the expansionist and marginalised policies of President Gaafar Nimeiri. The SPLA/SPLM gained major support from the internal displaced people and the rural poor. The 1983 civil war in Sudan clearly demonstrates how economic exigency leads to internal migration, which transforms itself into group identity that further aggravates into civil violence.

**Civil Strife and Insurgency**

Resource degradation and depletion often affect economic productivity. In poor and developing countries it is a severe contribution to deprivation, which in the process disrupts key social institutions, which in turn causes conflicts such as civil strife and insurgency?

How does then environmental degradation and depletion undermine the state? Undermining here means to weaken sharply the capacity and legitimacy of the state (more and potently so in the developing world). For example, erosion in upland Indonesia
annually costs the country’s agricultural economy nearly half a billion dollars in discounted future income.\textsuperscript{36} Likewise dryland degradation in Burkina Faso has reduced the country’s annual gross domestic product by nearly 9\% annually because of fuelwood loss and lower yields of millet, sorghum and livestock.\textsuperscript{37} In China studies indicate that the net effect of environmental problems are enormous because of China’s physical size and its booming economy, the cost of mismanagement and combined effect of numerous environmental problems is at least 15\% of the country’s gross national product.\textsuperscript{38}

The multitude effects of environmental scarcity, of large population movement and of economic decline has the seeds to weaken sharply the capacity and legitimacy of the state. A discerning pattern of environmental conflict follows: First, scarcity increases financial and political demands, for example to mitigate the social effects of loss of water, soil and forest, governments spend huge sums on industry and infrastructure such as new dams, irrigation systems, fertiliser plants and reforestation programmes. There is hence, a definite financial and resource loss that only reduces the incomes of elite’s directly dependent on resource extraction but also expands marginal groups that need help from government by producing rural poverty and by displacing people into cities where they demand the basic needs of life. In response to swelling urban population, governments introduce subsidies that in turn drain revenues distort prices and which in turn hinder economic productivity.

\textsuperscript{36} Ibid., p. 110
\textsuperscript{38} Ibid., p. 135
A widening gap between state capacity and demands on the state, along with hampered economic productivity, often provokes, aggravates popular grievances, increases rivalry between the “haves” and “have-nots” and erodes state’s legitimacy. A deprivation conflict emerges. Civil strife becomes a function of both the level of grievance motivating challenger groups and the opportunities available to these groups to act on their grievances.

The Philippines provides evidences of the links between environmental scarcity, economic deprivation and civil strife. The island has witnessed serious strife from time to time, usually motivated by economic stress. Cropland and forest degradation in the upland reaches of the country accounts for the current insurgency in the country. Guerrilla attacks and assaults on military stations are motivated by the poverty of landless agricultural labourers and farmers displaced from the remote hills. The roots to this rebellious group goes back to the 70’s, when the communist New People’s Army and the National Democratic Front found upland peasants receptive to revolutionary ideology, especially where coercive landlords and local governments left them little choice between rebellion and starvation. This was a heightened feature during the Marcos regime, when the legitimacy of the government was rock bottom. The increasing external debt encouraged the Marcos government to adopt draconian stabilisation and structural adjustment policies. This led to an economic crisis in the first half of the 1980’s that perpetuated agricultural
employment, reduced opportunities for alternative employment in the industrial sector and gave a further push to migration into the uplands.\textsuperscript{39}

Finally, the insurgents gained adherents because they built on indigenous beliefs and social structures to help peasants define their situation and focus their discontent. It has become a spiritual search for liberation and the political search for independence.

The causal processes like those in the Philippines can be seen around the world: population growth and unequal access to good land force huge numbers of rural people into cities or onto marginal lands. In the latter case, they cause environmental damage and become chronically poor. Eventually these people may be the source of persistent upheaval, or they may migrate, stimulating ethnic conflicts or urban unrest.

Migrating groups trigger ethnic conflicts, while decrease in wealth can cause deprivation conflicts such as insurgency and rural rebellion. In developing countries, the migrations and productive losses may eventually weaken the state, which in turn decreases central control over ethnic rivalries and increases opportunities for insurgents and elite challenging state authority.

\textsuperscript{39} Ibid., p. 137
Power Politics Vs. Environmental Concerns

On a purely theoretical aspect, the “Functionalist” theory of international politics, an alternative to the fairly self-explanatory ‘Power Politics’, claims that states (as actors in an international cooperative set-up) will willingly transfer sovereignty over matters of public concern to a common authority. Cooperation over environmental issues like global warming or over resources like water, then, may induce cooperation over other, more contentious and emotional issues. Accordingly, therefore, there are numerous water commissions and global warming conventions, declarations and protocols. On the other hand the ‘Realist’, critics of ‘Functionalism’, respond that states that are antagonists in the “high politics” of war and diplomacy tend not to be able to cooperate in the realm of “low politics” of environmental concern and welfare.

Taking two case studies —- the greenhouse gases (GHG’s) emissions leading to environmental concern of climate warming and the Jordan river water sharing in the highly conflictual Middle-east region, it can be concluded that the Realist school of thought offers practical reality than the Functionalist approach.

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Greenhouse Warming

In 1986, in Villach, Austria, under the auspices of the World Meteorological Organisation (WMO), the United Nations Environment Programme (UNEP) and the International Council of Scientific Unions (ICSU) an alarming conclusion was presented. The meeting concluded that releases of greenhouse gases (GHG's) could lead in the first half of the next century to "a rise of global mean temperature.... Greater than any in man's history." More importantly, the meeting urged that the global warming issue be moved into the policy arena, meaning that it be given the political priority.

In 1988, as the principal vehicle for negotiations, and recommendations, the Intergovernmental Panel on Climate Change (IPCC) was created. In 1990, 137 countries in Geneva signed Ministerial Declaration of the World Climate Conference. While the declaration was indeed a truly global response to a global issue yet it was an inadequate step. In fact, two key components of the declaration has divided the world communities (the North and the South) ever since:

1. The developed countries should lead the way by reducing their emissions of climate-altering greenhouse gases.

2. The developing countries will require financial and technological cooperation to participate meaningfully in meeting international climate objectives.

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In stressing that “developed countries must take the lead. They must all commit themselves to actions to reduce their major contribution to the global net emissions and enter into and strengthen cooperation with developing countries”, the declaration shifted the responsibility, if not total but a large portion of it, to the poor developing world without much stress on the rich industrialised countries who accounted for the maximum emission of GHG’s. Clearly the power politics of the ‘North’ countries hampered any long-term global approach to the issue. By putting forward that “to enable developing countries to meet incremental costs required to take the necessary measures to address climate change and sea-level rise, consistent with their development needs”, the declaration recommended that “adequate and additional financial resources should be mobilised and best available environmentally sound technologies transferred expeditiously on a fair and most favourable basis.”

However, the transfer of technology ahhs clearly made the rich ‘North’ countries even more powerful. By dictating conditions and setting norms and attaching various other issues when selling their technologies, the developed world has made a power game of what in essence is a real global environmental concern requiring real commitments by the international community. As the century draws to a close, the concerned voices raised in 1986 still haunts us, in fact even more for the average global temperature has increased.

44 Ibid., pp. 5-6
45 Ibid., p. 6
without any formal agreement on limiting GHG's. Instead greenhouse negotiations has turned out to be a North-South battleground.

Climate change does pose some unique challenges to international cooperation. Because the impacts of greenhouse warming are so uncertain and distant, there is a possibility of "winners" and "losers" among states. In addition, efforts to limit the magnitude and rate of temperature rise, and to adapt to the effects of warming, will require perhaps costly changes in energy, industry, agriculture, development and population policies, as well as in consumer lifestyle. Further, as energy is so essential to the development of such heavily populated, low-income countries as China and India, they will be reluctant to forgo fossil fuels unless economical alternatives are available. Though Greenhouse warming requires a mutual commitment by all countries, developing countries willingness to act is likely to depend on their first seeing evidence of concrete action by the industrialised world. The developed 'North' has failed on this account. The US alone accounts for 1/4th of global carbon dioxide emissions. The industrialised countries together account for 85% of accumulated greenhouse gases, where as their share of the total world population is only 1/4th. Domestic imperatives, economic competition and powerful oil lobbyists have dictated terms and thwarted a global effort to reduce greenhouse gases.
The conflict of interests between ‘North’ and ‘South’ countries are based on two crucial points:

1. That developing countries have caused little of the existing global warming, therefore industrialised countries must bear the bulk of the responsibility.

2. As economic development accelerates, Developing countries may account for the preponderance of greenhouse gas emissions by the middle of the next century.

It is in the latter that the concern for global warming as viewed by the ‘North’ is critical. While scientific findings and projections are there and need for precautionary actions are felt, the problems for reducing greenhouse emissions are —— how, when and by whom.

How Political Imperatives/Consideration Dictate Global Response /Agreement To Global Warming

Participation- Select Vs. Total

While building an international greenhouse control regime since 1986 was much needed, however, the start to it was markedly one-sided. The conferences were not only attended by a small number of countries but were, in that number, dictated by the industrialised countries. It was a typical superior ‘North’ attitude of being the custodian and guardian of the world, of shaping and defining the interest of the developing ‘South’. By inadvertently shrinking the number of participants, the rich developed countries blinkered themselves to a global approach on the climate issue. While certain declaration was made, the idea, however, was to preach environmental constraints and conditionalities to the developing
countries without doing enough to set their own house in order. Moreover, the spirit of the
declarations in various meets was hardly followed in letter. It was obvious that domestic
imperatives and vested interests of the industrialised countries made null and void the
declarations.

Sensing a need to move away from agreements reached by select band of industrialised
states, the UN General Assembly decided to conduct negotiations directly under its own
auspices so that a larger representation, in particular the developing world interest was
looked into. The idea arose — initially at the Toronto Conference, 1988 on "The changing
Atmosphere: Implications for Global Security" — of adopting an international convention
on the atmosphere by 1992. However, many states in particular the US expressed the view
that 1992 was extremely early and, therefore, an implausible target date for completion of a
climate convention. The US as a leading voice of the industrialised countries was extremely
reluctant to sign any binding treaties on GHG's reduction. It favoured the unilateral
approach that would suit its domestic benefits.
Table 1

<table>
<thead>
<tr>
<th>Conferences</th>
<th>Participants</th>
<th>Key Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Toronto Conference on the Changing Atmosphere, June 1988</td>
<td>46</td>
<td>Establishment of a &quot;world Atmosphere Fund&quot; financed in part by a levy on the fossil-fuel consumption of industrialised countries to facilitate technology transfer to the Third World. A reduction in Co2 emissions by approximately 20% of 1988 levels by the year 2005</td>
</tr>
<tr>
<td>Hague Conference, March 1989</td>
<td>24</td>
<td>To apportion &quot;fair and equitable assistance&quot; to those countries that are asked to bear an &quot;abnormal or special burden, in view ... of the level of their development &quot;</td>
</tr>
<tr>
<td>Noordwijk Ministerial Conference on Atmospheric Pollution and Climate Change, Nov. 1989</td>
<td>68</td>
<td>Reversing deforestation to make forests a net sink for carbon by early in the next century, to be accomplished by &quot;a world net forest growth of 12 million hectares a year &quot;</td>
</tr>
<tr>
<td>Bergen Ministerial Declaration, 1990</td>
<td>34</td>
<td>Full support for the early completion of the work on a framework convention on climate change and the development of protocols dealing with, inter alia, greenhouse gases and deforestation, with a view to signing not later than at the 1992 Conference on Environment and Development</td>
</tr>
</tbody>
</table>

Sources: Statement from International Meeting sponsored by Government of Canada in Toronto, June 27-30, 1988;
Statement from International Meeting sponsored by Government of the Netherlands in The Hague, March 11, 1989;
Statement of Ministerial Conference sponsored by Government of the Netherlands in Noordwijk, Nov. 7, 1989;
Deserving special attention, in this context, is the Intergovernmental Panel on Climate Change (IPCC), which UNEP (United Nations Environmental Programme) and WMO (World Meteorological Organisation) launched in November, 1988, to meet the need for a balanced international scientific assessment of the risks and impacts of rapid climate change, and of potential responses to it. At the same time that the IPCC was beginning to conduct its scientific and policy investigations, an impetus had begun to establish open-ended negotiations on multinational framework convention dealing with climate change. By mid-1990, UNEP and WMO had passed resolutions authorising the first open-ended negotiating session and initiated informal inter-governmental discussion.

While the work of the IPCC —- the principle vehicle for agenda formation in the area of climate change —- has been a success story in monitoring the state of scientific knowledge relating to climate change and in bringing this knowledge to bear in a policy-relevant fashion, yet and more importantly the political will of respective countries has been weak in implementing the findings.

With the Rio Earth Summit in 1992, participation has been universal without any comprehensive agenda to thwart the GHG's emission. The matter still remains, even after the latest Kyoto Conference on global climate change (December 1- December 10, 1997), a cluster of 'North' interest Vs the ‘South’ considerations.
Non-Initiation — Each Expecting The Other To Take Action

Non-initiation of countries both in the ‘North’ and ‘South’ falls into two groups — the “No Regrets” and the “Wait and See”.

These two groups divide the scientists, economists, environmentalists and national leaders. The “No Regrets” feel that the problem of global climate change is linked to other critically important problems of environment and development. This group thus argues that human welfare, by and large, will be enhanced, not jeopardised, through strong efforts to mitigate environmental effects — that taking strong action will lead to a “not regret” outcome. The “Wait and See” group prefers the conservative strategy of postponing action. The proponents of this group argue that the scientific evidence for global warming is incomplete; thus, hastily contrived strategies could do more harms than good. The “No Regrets” group favours a policy of “action then learning”: opting now for measures whose benefits include experimentation, foresight and cost-effective prevention. The “Wait and See” group believes in “learning then acting”. The proponents of this viewpoint argue for a sustained commitment to research — to developing new technological options for conservation, energy supply and reducing climate uncertainty.

It is clear that after the 1992 Rio Summit, there has been a virtual vertical divide on the approach to reducing GHG’s emission in the industrialised countries. The “NO Regrets”

groups are primarily the European countries (UK, Germany, France). The US leads the "Wait and See" group. In the run up to the Kyoto Convention, the European states stressed on a larger reduction of GHG's emission (by 15% till 2010) amongst industrialised states. Where as the US was most unwilling to abide by it.

Renewable Vs. Non-Renewable

Fossil fuels (oil and coal) contribute over 70% of GHG's emissions. Three-quarters of global primary energy are supplied by fossil fuels and two-thirds of the total supply is consumed by the 20% of today's population, which lives in the industrialised world. The real concern for climate change rests on the fact of reducing the burning of fossil fuels. From this stems the most important and problematic costs of energy supply — environmental and socio-political. Speaking environmentally, fossil fuel burning is immensely dangerous. It is eco-unfriendly and climatically hazardous. Speaking socio-politically and in a more prosperous context, limiting the use of fossil fuel can mean unwanted constraints on the rate of industrialisation and economic growth. This dilemma, these peculiar circumstances make clear that the material prosperity of the industrialised countries cannot be maintained and enlarged — by straightforward expansion of fossil fuel

48 Ibid., p. 31
energy-supply systems without taking into consideration the global warming. Continuation of the non-renewable, fossil fuel burning energy business as usual is the heart of the problem.

The energy/environment/economy debate that triggers from the renewable vs. non-renewable options, persistently asserts the 'either'-'or' option. The implication being those investments in environmental protection (to reduce fossil fuel consumption and induce renewable energy) diminishes economic upliftment and competitiveness. However, such pro-fossil fuel thinking is deeply ingrained in the business of oil. Apart from the commercial value of such fossil energy, the politics of oil also plays a dominant role. The business of oil and the politics of oil can be illustrated convincingly through the energy strategy of the US (which imports 75% of oil and consumes more fossil fuels per head than any other people) and the OPEC (Organisation of Petroleum Exporting Countries). OPEC as a cartel comprising 13 nations of which six are Arab states executed most dramatically an oil embargo in 1973 that altered the course of energy/strategy thinking. The pre-embargo era was marked by stable oil prices, assured supplies and a flourishing world economy, whereas the post-embargo era had unstable prices, uncertain supplies and a floundering world economy.

1973 was the first energy crisis. In 1979, oil production in Iran (an OPEC nation) was almost entirely shut down because of the strikes and political disturbances that led to the
overthrow of the Shah and the establishment of an Islamic republic. The subsequent year saw the Iran-Iraq war that led to both countries bombing each other’s oil facilities. With supplies reduced, the world again faced a major petroleum price hike.

Two principal perspectives have been advanced to explain cartel behaviour. The first, is an economic view in which the primary motivation of cartels is to maximise member’s wealth.\(^5\) OPEC members try to maximise the net present value of their revenues from an exhaustible resource until reserves from that resource (oil in this case) are depleted. The other perspective on cartel behaviour is a political one that assumes that cartel nations act to enhance their political power regardless of the economic consequences.\(^5\)

While political consideration is important, the economic aspect dictates the issue of non-renewable vs. renewable debate. For OPEC nations oil is ‘the’ resource to finance their economic growth and therefore a common consensus among the OPEC nations is to extend the life span of oil to the longest period possible. Because oil reserves are limited and their potential for future oil discoveries slim, the OPEC nations do not want prices rising to the point where alternatives to OPEC oil become feasible.

\(^5\) Ibid., p. 59
The ‘North’ industrialised countries in particular US and Japan have also ensured, owing to their fact of being the largest importers of OPEC oil, that prices remain healthy in order to stem any alternative renewable energy development by maintaining artificial low prices of oil in their respective countries. By playing to the market principles of OPEC, the US and other industrialised countries not only secure an easy access to oil but also through it maintain a certain political stability in the Middle-East region.

The oil resource from OPEC and the massive oil market in the industrialised countries have been the root cause of massive GHG’s emission over the period of 80’s and 90’s. It is clear that both market and governments have useful roles to play in bringing about adjustments to altered energy conditions. Markets are the main factor motivating people to change their behaviour, but markets not properly corrected by governments to reflect the full social costs of energy use cannot possibly do their job. The following ‘Tables’ indicates that the top seven industrialised states have deliberately acted to keep prices artificially low and impose less tax on energy use. Of the seven countries, the US has been the prime culprit. In relation to fossil-fuel consumption, the US is an important case point. On an average, Americans use more gasoline than people do in other countries and on an average, Americans drive more miles and have more cars than anywhere in the world.53 The US indeed is an “oil guzzling” country. While the best needed energy policy is to reduce its dependence on foreign oil and encourage its own alternative energy development, yet each

53 Ibid., p. 37
US administration since the 1973 oil crisis has loathed the idea to raise oil prices and energy taxes.

Table 2

GASOLINE PRICES IN US DOLLARS/LITER (G-7)

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<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>United States</td>
<td>0.329</td>
<td>0.324</td>
<td>0.320</td>
<td>0.245</td>
<td>0.250</td>
<td>0.270</td>
<td>0.307</td>
<td>0.301</td>
</tr>
<tr>
<td>Canada</td>
<td>0.223</td>
<td>0.362</td>
<td>0.390</td>
<td>0.347</td>
<td>0.407</td>
<td>0.432</td>
<td>0.496</td>
<td>0.505</td>
</tr>
<tr>
<td>UK</td>
<td>0.658</td>
<td>0.640</td>
<td>0.541</td>
<td>0.550</td>
<td>0.668</td>
<td>0.662</td>
<td>0.785</td>
<td>0.851</td>
</tr>
<tr>
<td>Germany</td>
<td>0.640</td>
<td>0.573</td>
<td>0.492</td>
<td>0.496</td>
<td>0.581</td>
<td>0.656</td>
<td>0.791</td>
<td>0.866</td>
</tr>
<tr>
<td>Japan</td>
<td>0.648</td>
<td>0.658</td>
<td>0.610</td>
<td>0.730</td>
<td>0.905</td>
<td>0.863</td>
<td>0.858</td>
<td>0.944</td>
</tr>
<tr>
<td>France</td>
<td>0.799</td>
<td>0.674</td>
<td>0.590</td>
<td>0.680</td>
<td>0.808</td>
<td>0.812</td>
<td>0.981</td>
<td>0.950</td>
</tr>
<tr>
<td>Italy</td>
<td>0.817</td>
<td>0.761</td>
<td>0.734</td>
<td>0.858</td>
<td>1.045</td>
<td>1.003</td>
<td>1.233</td>
<td>1.238</td>
</tr>
</tbody>
</table>

Table 3

PERCENTAGE OF TAXES IN GASOLINE PRICES (G-7)

<table>
<thead>
<tr>
<th></th>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>United States</td>
<td>11.2</td>
<td>12.0</td>
<td>23.8</td>
<td>32.7</td>
<td>31.2</td>
<td>29.3</td>
<td>26.7</td>
<td>32.9</td>
</tr>
<tr>
<td>Canada</td>
<td>24.5</td>
<td>26.3</td>
<td>25.0</td>
<td>33.0</td>
<td>39.2</td>
<td>42.7</td>
<td>42.4</td>
<td>42.2</td>
</tr>
<tr>
<td>UK</td>
<td>46.3</td>
<td>54.2</td>
<td>54.9</td>
<td>63.9</td>
<td>67.1</td>
<td>63.6</td>
<td>62.2</td>
<td>66.0</td>
</tr>
<tr>
<td>Germany</td>
<td>48.7</td>
<td>48.1</td>
<td>48.7</td>
<td>61.5</td>
<td>64.3</td>
<td>65.0</td>
<td>63.1</td>
<td>67.6</td>
</tr>
<tr>
<td>Japan</td>
<td>36.7</td>
<td>32.9</td>
<td>37.2</td>
<td>43.9</td>
<td>46.6</td>
<td>47.1</td>
<td>45.6</td>
<td>45.7</td>
</tr>
<tr>
<td>France</td>
<td>58.0</td>
<td>52.7</td>
<td>57.3</td>
<td>73.9</td>
<td>77.0</td>
<td>74.6</td>
<td>74.2</td>
<td>75.0</td>
</tr>
<tr>
<td>Italy</td>
<td>61.4</td>
<td>59.5</td>
<td>65.6</td>
<td>78.2</td>
<td>78.7</td>
<td>75.9</td>
<td>75.0</td>
<td>76.0</td>
</tr>
</tbody>
</table>

The only exception to it was the Carter administration, which did introduce certain conservation effort but in the process became unpopular. The Reagan and Bush administration resisted the idea of mounting a major conservation effort. There were a variety of reasons, including free market ideology, public opinion polls showing that other energy options were unpopular and domestic political interests.

Sensing the mood of the public which by and large favoured conservation measures (80% in 1990) but opposed taxes on gasoline (62% in 1990), the Bush administration opposed a bill introduced in Congress by Senator Richard Bryan, a Democrat from Nevada, that would have forced automobile manufacturers to improve fleet fuel efficiency standards to 40 mpg by the year 2001. The bill, initially designed as an environmental measure to prevent the escape of greenhouse gases into the atmosphere, would have saved 2.8 million barrels of oil per day by the year 2005. However, the auto-manufacturers opposed the bill on the grounds that the public was demanding larger that is “safer”, cars, which would be impossible to build if the bill took effect. The Bush administration supported the auto-industry claims with studies asserting that the proposal would result in additional highway accidents and deaths. On September 25, 1990, lawmakers who supported the bill lost a

54 Ibid., p. 42
57 Alfred Marcus, n.51, p. 14
58 Ibid., p. 14
procedural vote in the Senate, ending hope for the bill's passage in 1990. Public imperatives largely define US's energy policy and therefore a stable level of tax and gasoline prices have existed throughout the decade of the 80's irrespective of global warming or political instability in the Middle-East.

South's View Vs. North's Reluctance: Linking Issues

The developing countries views on global environmental issues in large and global warming in particular have been shaped to a considerable extent by their preoccupation with economic growth, their fears of high cost for environmental protection and alternative to fossil fuels, and their general distrust of the policies of industrialised states. Any negotiations on global warming just like other issues of ozone depletion, biodiversity loss and conservation of endangered species have been regarded by the developing world as a Northern agenda. Global warming as a priority features low, the primary concern being for most of the developing countries matters relating to economic growth, employment and overcoming poverty.

Although officially many developing countries regard global warming and climate change as serious, many also regard any environmental regimes for global warming convention as a means by which industrialised countries would maintain their control over resources and technology or even gain control over resources now located in the South.

[^59]: R. Gutfield, n.56, p. A3
In each climate conventions, the South’s reluctance has been marked. Exemplified by a strong voice of one South country and at times tacitly and at times openly endorsed by the remaining. In the second meeting of the parties to the Montreal Protocol in 1990, K.T. Yong, the leader of the Malaysian delegation declared that for “some countries”, the protocol was a “pretext to place new obstacles in the way of efforts by developing countries to develop their economies.”60 Earlier at the Conference of the Non Aligned Movement (NAM) held in 1989, a resolution expressed concern about “a growing tendency toward external impositions and increased conditionalities on the part of some developed countries in dealing with environmental issues.”61

Despite growing disparities between developing countries and debt-ridden countries, strong common view has emerged between them over the relationship between global environmental issues and North-South economic relations. They insist that the industrialised countries, because of their historical dominance in the production and consumption of CFC’s and combustion of fossil fuels, are responsible for the thinning of the ozone layer and greenhouse warming. More generally, they identify wasteful northern patterns of excessive consumption as a key cause of global environmental degradation.

60 Quoted in Gareth Porter and Janet brown, Global Environmental Politics (Boulder: Westview Press, 1996), pp. 111-112
61 Ibid., p. 112
This growth of South consensus over North has shifted any environmental negotiations from a ‘give and take’ platform to an issue of “environmental space” —— the use of the earth’s limited natural resources and environmental services. The South argues that the North should permit developing countries to use more of that environmental space in order to raise their living standards.

The South countries are also of the firm view that the North should bear the financial burden of measures to reverse their ecological damage. In negotiations for each global warming conventions as well as ion the UNCED negotiations, the South countries have demanded for new and additional funding as an incentive for implementation of any agreement.

Another consistent theme in developing country views of global environmental issues is the inequality in governing structures of international organisations such as the World bank, which allows a minority of donor countries to out vote the rest of the world. Developing countries have demanded that institutions making decisions on how to spend funds on the global environment should have a “democratic” structure, i.e. one in which each country is equally represented.

While the North, in particular the European states support the South’s view on environmental space and its demand for more aids along with the acceptance that Northern
consumption patterns were responsible for much global environmental degradation, yet they emphasis (much through the US) the global responsibility and contribution to solving global warming, which implies a need for developing countries to avoid duplicating the unsustainable historical development patterns of the industrialised world.

The Jordan River Water Sharing

Legend has it that the headwaters of the Jordan river were originally three separate streams flowing in various directions, and quarrelling constantly over which was the largest and most important. Finally, the streams invited the Lord of the Universe to judge between them. The Lord descended and seated Himself on a small hill between them that, until today, is known as Tel Dan or Tel el-Kadi, Hill of the Judge in both Hebrew and Arabic. “Rivers. Ye are dear to Me, all three. Hearken to my counsel: Unite together and ye will indeed be the most important.” So the Jordan was formed.62

While the three headwaters united to form the Jordan River, there however, has been no united consensus between the riparians to share its water. Efforts, conventions and plans have cropped up from time to time only to be sacrificed at the altar of political considerations. Two distinct problems in the Jordan River watershed has hampered any agreeable water treaty. The first is the “water crisis”63 itself ---- too little water supply for

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63 Ibid., p. 139
too much demand. The second is the “water conflict”\textsuperscript{64} — the political tensions brought about by the water crisis, which is shared by riparians who have deep and long standing enmity towards each other.

**Water: Conflict or Cooperation**

From the origins of civilisation in the Middle East, the limits and fluctuations of water resources have played a role in shaping political forces and national boundaries. While the former has shaped the latter, the latter has consistently undermined the former as a catalyst for cooperation. As nationalist feelings and populations grew so did the intensity of water rivalry. Of all the myriad of geopolitical and strategic forces surrounding the region, the water of the Jordan River contributed greatly to the conflict development in the region.

Even in Biblical times, variations in water supply have their impact on the region history. It was drought, for example, that 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.\textsuperscript{65} Even then, the waters of the Jordan were occasionally associated with military strategy as, for instance, when Joshua directed his priests to stem the river’s flow with the power of the Ark of the Covenant while he and his army marched across the dry riverbed to attack Jericho.\textsuperscript{66} It has been suggested that favourable climatic conditions and abundant water in

\textsuperscript{64} Ibid., p. 139
\textsuperscript{65} Genesis 41
\textsuperscript{66} Joshua 4
the region led to the success of several national entities from about 200 BC to 400 BC. Before the 20th century, the previously greatest population between the Jordan and the Mediterranean was reached during this period ---- about one million during the Byzantine rule. While availability of water in the Middle east have contributed significantly to the formation of both the Jewish and Arab nations millennia ago, conflicting interpretations of how to overcome those limits have also been a factor in competition and conflict as their respective nationalism began to re-emerge on the same soil in the 20th century.

During W.W.I, as it became clear that the Ottoman Empire was crumbling, the heirs apparent began to jockey for positions of favour with the inhabitants of the region. The French focussed on the northern territories of Lebanon and Syria. The British, meanwhile, began to seek coalition with the Arabs from Palestine and Arabia ---- whose military assistance against the Turks they desired. As the course of the war became clear, French and British, Arabs and Jews, all began to refine their territorial interests; the location of the region's scarce water resource became a critical factor in the decision making process of each party.

However, the most important of the period——the Sykes-Picot Agreement did not take the
factor of water into consideration.69 Other factors, such as the location of rail and oil lines
(economic factors), holy places (religious factors), and political alliances (political factors),
took precedence. Water resource was not an issue to this point in the border demarcation
process. The result was that the Agreement left the watersheds in the region divided in a
particular convoluted manner: the Litani and the Jordan headwaters to just south of the
Huleh region became part of France; the Sea of Galilee was divided between international
and French zones; the Yarmuk Valley was split between British and French; and the lower
stem of the Jordan became international on the west bank and British on the east.70 After
the Agreement and more particularly after the end of W.W.I, each entity with national
claim in the region increasingly included water resource in its geographic reasoning. Water,
as a factor became predominantly a unilateral position. The result sowed friction in time to
come. It can therefore, be assumed strongly that the roots of water conflict in the region lie
in the delineation of modern borders as negotiated through the Sykes-Picot Agreement.

1948-1964: Unilateral Development and The Johnston Negotiations

The war of 1948 once again created new states in the Middle East. Each new entity began
to develop its own water resource. The legacy of the Mandates, and of the war itself, was a

69 David Fromkin, A Peace to End All Peace: The fall of Ottoman Empire and the Creation of the Modern
70 Uri Ra’anan, The Frontiers of a Nation: A Re-Examination of the Forces Which Created the Palestine
Mandate and Determined its Territorial Shape (Connecticut: Hyperion Press, 1955), pp. 102-104
Jordan River divided in a manner in which conflict over water resource development was inevitable.

The 1948 war itself left the Jordan River more divided as never before. The Hasbani rose in Lebanon with the Wazzani, a major spring of the Hasbani, situated only a few kilometers north of the Israeli border. The Banias flowed for five kilometers in Syrian territory before crossing into Israel. The Dan rose and remained within Israeli territory. The confluence of the three, the Jordan River, flowed along the Israeli-Syrian border, often through the demilitarised zone, until it reached the Sea of Galilee. The sea lay wholly in Israel, with the Syrian border 10 miles from the eastern coast. The Yarmuk rose in Syria, then became the Syrian-Jordanian border until its confluence with the Jordan River. South of the Sea of Galilee, the Jordan River formed first the Israeli-Syrian border, then the Israeli-Jordanian border below the confluence with the Yarmuk, finally flowing wholly into Jordanian territory and the Dead Sea, which was about $\frac{1}{4}$th Israeli and $\frac{3}{4}$th Jordanian.

Apart this perplexing and convoluted course of the river that emerged after the 1948 war, the other immediate repercussions was the dramatic shifts of population throughout the region. The concept of economic absorptive capacity quietly disappeared as Israel and Jordan each absorbed hundreds of thousands of refugees and immigrants. In Israel after its declaration of independence, the Jewish population increased from 650,000 in 1948 to 1.6
million in 1952.\textsuperscript{71} Jordan was also greatly affected by refugee immigration. Of the 700,000-900,000 Palestinian refugees of the war, 450,000 went to Jordan and the West Bank, which Jordan annexed in 1950. This influx and annexation increased Jordan’s population by 80\% to 1.85 million.\textsuperscript{72} Israel laid tremendous belief in immigration in order to expand its cherished vision of a “Greater Israel”, while Arab affinity dictated Jordan’s calculation of territory and power. Each of them, however, failed to take in the “water crisis” factor — the demand and supply equation.

The first approach to linking three topics — peace, refugee resettlement and water came from Syria, when it approached Israel in a bilateral secret talk in April 1949. Colonel Hosni Zaim took control of Syria in an US-sponsored military coup that time, with a promise that he would do “something constructive” about the Arab-Israeli problem at large and the water problem in particular. Following upon his promise Colonel Zaim sent a message to Israeli Prime Minister David Ben-Gurion, offering to sign a bilateral peace agreement in exchange for some “minor border changes” along the cease fire line and half of the Sea of Galilee.\textsuperscript{73} Ben-Gurion’s stance to this Syrian offer was one of reluctance. Stemming as it was from the Zionist position which in turn was influenced by the Walter Clay Lowdermilk\textsuperscript{74} proposal that Israel could unilaterally generate water resource for 4 million

\textsuperscript{71} Thomas Naff and Ruth Matson, eds., \textit{Water in the Middle East: Conflict or Cooperation?} (Boulder: Westview Press, 1984), p. 34
\textsuperscript{72} Ibid., p. 35
\textsuperscript{73} Aaron Wolf, n.62, p. 44
\textsuperscript{74} Director of the US Soil Conservation Service; published in 1994, \textit{Palestine, Land of Promise} at the commission of the Jewish Agency
Jewish refugees in addition to the 1.8 million Arabs and Jews living in Palestine at the time. Lowdernilk advocated regional water management, based on the Tennessee valley Authority (TVA), to develop irrigation on both banks of the Jordan River and in the Negev Desert, and building a canal from the Mediterranean to the dead sea to generate hydropower and replenish the diverted fresh water.\footnote{Thomas Naff and Ruth Matson, n.71, p. 32} Referring to Lowdernilk's work, an aide-memoir on Palestine described Zionist reservations on any border changes: "With the sea in the west, the Jordan and the power and potash concessions in the east, the chief water resource in the north, and the main land reserves in the south, any position scheme seems bound to disrupt the country's economic frame, and wreck the chances of large-scale development."\footnote{Quoted in Aaron Wolf, n.62, p. 41}

The net result of the Syrian proposal was that a limited armistice on behalf of Israel was signed. Israel was influenced by its unilateral position and technological optimism to develop its water resource. Following Israel's unilateral plans for the Jordan watershed, many Arab states by 1951 announced their own respective proposals. Very soon the management of Jordan watershed became an Arab-Israeli issue. Arab states began to discuss organised exploitation of two northern sources of the Jordan ---- the Hasbani and the Banias. The Israeli made public their All-Israel Plan, based on James Hays's idea of a "TVA on the Jordan", which in turn was based on the earlier Lowdernilk proposal. The
plan included the draining of Huleh Lake and swamps, diversion of the northern Jordan River, and construction of a carrier to the coastal plain and Negev Desert — the first out-of-basin transfer for the watershed.77

Responding to it Jordan announced a plan to irrigate the east Ghor of the Jordan Valley by tapping the Yarmuk.78 At Jordan’s announcement, Israel closed the gates of an existing dam south of the Sea of Galilee and began draining the Huleh swamps, which lay within the demilitarised zone with Syria. Israel’s action activated a series of border skirmishes with Syria, which escalated to high tension during the summer of 1951. Prompted by these incidents Israel’s Foreign Minister Moshe Sharrett declared that, “Our soldiers in the north are defending the Jordan water sources so that water may be brought to the farmers of the Negev.”79

In March 1953, Jordan and the UN Relief and Works Agency for Palestine Refugees (UNRWA) signed an agreement which called for a dam at Maqarin on the Yarmuk River and a diversion dam at Addassiyah that would direct gravity flow along the East Ghor of the Jordan Valley. As a resource that would open land for irrigation, generate electricity and help resettle Palestinian refugees, Jordan and Syria hence agreed to share the Yarmuk. As an exclusive Arab plan it blinded itself to the Israeli interest. Israel’s answer to it was to

77 Thomas Naff and Ruth Matson, n.71, p. 35
79 Ibid., p. 39
begin construction on the intake of its National Water Carrier at Gesher B’not Ya’akov, north of the Sea of Galilee and in the demilitarised zone. Syria’s response to Israel’s plan was to deploy its armed forces along the border with artillery units opening fire on Israeli’s construction and engineering sites. As each state developed unilaterally, their plans began to overlap. The resulting tensions (border demarcation and territorial claims) helped lead to a cycle of conflict.

Against this tense background, the US under Dwight Eisenhower sent special envoy Eric Johnston to the Middle East in October 1953 to try to mediate a comprehensive settlement of the Jordan River system allocations. Johnston’s proposal was based on regional approach, the kind the TVA Report and Lowdermilk had proposed. As Gordon Clapp, Chairman of the TVA wrote, “the report describes the elements of an efficient arrangement of water supply within the watershed of the Jordan River system. It does not consider political factors or attempt to set this system into the national boundaries now prevailing.”

Johnston plan of a apolitical, basin wide approach produced a thorough technical report on the issue of sharing, got the actors to enter into dialogue and negotiations and produced maps that delineated only one border ---- that of the Jordan River watershed. The negotiations that followed worked on a three tier system of proposals: first, the ‘Main Plan’

80 John Cooley, “The war over waters”, Foreign Policy, no. 54, 1984, p. 17
81 Quoted in Chas T. Main, The Unified Development of the Water Resources in the Jordan Valley Region (Knoxville: TVA, 1953), p. 59
or the Johnston proposal; second, the ‘Cotton Plan’ or the Israeli proposal and the third, the ‘Arab Plan’ or the Arab states proposal.\(^{82}\)

From 1953-55 Johnston efforts was to reconcile the actor’s proposals into a unified plan amenable to all the states involved. In the end, Israel’s Cotton Plan (which included the inclusion of Litani, out-of-basin transfers to the coastal plain and the Negev, and the use of the Sea of Galilee as the main storage facility) and the Arab Plan (of in-basin-use, rejection of storage in the Sea of Galilee and exclusion of the Litani) was reconciled through negotiations and regional approach. Israel no longer insisted on integration of the Litani and the Arabs agreed to allow out-of-basin transfer. The Arabs agreed to storage at both the Maqarin dam and the Sea of Galilee and Israel agreed to international supervision of withdrawals and construction. Allocations under the Unified Plan, known as the Johnston Plan included 400 MCM/yr. to Israel, 720 MCM/yr. to Jordan, 132 MCM/yr. to Syria and 35 MCM/yr. to Lebanon.\(^{83}\)

\(^{82}\) Aaron Wolf, n.62, pp.46-47

\(^{83}\) Ibid., p. 47
Table 4

JOHNSTON NEGOTIATIONS: 1953-55

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<td></td>
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<tr>
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*Unified Plan*

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**Total**

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<td>35</td>
<td>132</td>
<td>720</td>
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MCM (Million Cubic Meters)

**Source:** Thomas Naff and Ruth Matson, eds., *Water in the Middle East: Conflict or Cooperation?* (Boulder: Westview Press, 1984), p. 47
Nothing it is said is over and above politics in the Middle East not even the importance of the sharing of water. Despite the forward momentum of the Johnston Plan, in October 1955 the Arab League Council decided not to accept it. It declared, “the scheme is another step made by imperialists and Zionists to attain their ends, territorial expansion in the heart of the Arab homeland, under the attractive guise of economic interests.”\(^{84}\) The agreement was never ratified and unilateral development of the Jordan River system followed. As individual projects progressed so did the hydrologic limits. The pressures quickly went from possible cooperation to impending conflict.

From 1964-1982, the conflict in the region has been rightly put as the "water wars" and "territorial adjustment" period.\(^{85}\) Water very clearly emerged as a key possible strategic issue. Arab diversion plans were responded with Israeli diversion plan and vice versa. With the establishment of a Palestinian entity to "carry the banner of Arab Palestine",\(^{86}\) the Arab states moved into the realm of complete confrontation with the Israeli state. Arab Leagues full support was crucial for Yasir Arafat to combine the Palestinian Liberation Army with his own Fatah to form the Palestine Liberation Organisation. Given the background of the PLO formation, it was hardly surprising that it's first action, though an unsuccessful one was to sabotage the Israeli national Water Carrier in December 1964. As the PLO put it,

\(^{84}\) Quoted in Meron Medzini, ed., Israel Foreign Relations (Jerusalem: Ministry of Foreign Affairs, 1976), p. 487

\(^{85}\) Aaron Wolf, n.62, p. 49

\(^{86}\) Ibid., p. 50
"The water issue was the crucial one. We considered our impact on this to be the crucial test of our war with Israel." 87

PLO's hostile posture along with post-Johnston Arab diversion plan of 125 MCM/yr. that would virtually cut 35% of water flow to Israeli Carrier led Prime minister Levi Eshkol of Israel to declare that, "Israel was not trigger-happy, but if it came to it, we would have to fight for our waters." 88 For Israel any water diversion was an infringement of its sovereign rights. Fearing its national interest over waters endangered Israel in March, May and August of 1965 attacked the diversion works in Syria. Israel was careful to avoid a full-scale war, using long-range sniping with tanks rather than artillery or air power. These events set-off what has been called "a prolonged chain reaction of border violence that linked directly to the events that led to the (June 1967) war." 89

With open hostilities and mutual distrust, the US Departments of Interior and state convened an "International Conference on Water for Peace" in Washington, D.C., during 23-31 May 1967. The efforts were to bring water as an issue of cooperation rather than as a matter of continuing dispute. It was also an effort to bring back the political mechanism into a cooperative set up that was so badly missing from the region. While the Conference did attract 6,400 participants from 94 countries, including Israel, Egypt, Jordan, Yemen

87 Quoted in John Cooley, n.80, p. 15
88 Quoted in Thomas Naff and Ruth Matson, eds., n.71, p. 43
89 Cited in John Cooley, n.80, p. 16
and Saudi Arabia it, however, failed to reach a definite solution. The reason was yet again political. In the same month as the Conference, Egypt under President Nasser formed the ‘United Arab Republic’ with Syria. With a grand Arab union in sight, Nasser demanded the withdrawal of UN forces from the Sinai, announced a blockade of the Gulf of Aqaba, cutting off the Israeli port of Eliat and declared that “the armies of Egypt, Jordan, Syria and Lebanon are poised on the borders of Israel.”

What the Washington Conference had hoped for --- waters as a mechanism for peace ---- was transformed into power rivalry. Arab vs. Israel; Islam vs. Judaism; territorial dispute vs. territorial claim. Sensing danger on June 5, Israel attacked the airfields of Egypt, Jordan, Iraq and Syria. Six days later, the war was over and Israel gained possession of the Golan Heights from Syria, the West Bank from Jordan and the Gaza and the Sinai from Egypt. Aside territorial gains and improvements in geo-strategic positioning, Israel also greatly improved its “hydrostrategic” position. With the Golan, Israel held all of the headwaters of the Jordan. The West Bank not only provided riparian access to the entire length of the Jordan River but also overlay three major aquifers.

From there on any water negotiation in the region rested on how much Israel was willing to concede. This concession further rested upon Israel’s strategic imperatives, its Jewish immigration policies and as a bargaining chip for thwarting any Palestinian aspiration for

90 Quoted in Aaron Wolf, n.62, p. 51
autonomy and independence. As Thomas Naff says, "Although water may not have been the prime impetus behind the Israel acquisition of territory, as the 'hydraulic imperative' alleges, it seems perhaps the main factor determining its retention of that territory." \[^{91}\]

Since 1967 ownership and management conflicts between Israel/West bank; Israel/Gaza; Israel/Jordan and Jordan/Syria have dwarfed cooperation on water. Since 1990s impetus towards water cooperation is growing as regional peace talk developed. The point that clearly emerges is that political factors shape environmental issues and resource sharing rather than the latter serving the former.

The linking between water resource and political factors is inextricable but while scarcity of water leads directly to growing political tension and offers elements for cooperation, it however, is 'low politics' as compared to strategic imperative and territorial claims. The remedial approach to a broad political context can pave way to water cooperation.

The better a state's "hydrostrategic" position, the less interest it has in reaching a water sharing agreement. Which means that in any riparian agreement one actor/parties has to concede to the other? In the Middle East this is an extremely difficult proposition especially where ill will accumulates more rapidly than the water itself.

\[^{91}\text{Quoted in Fred Frey and Thomas Naff, "Water: an emerging issue in the Middle East?", Annals of the Academy of Political and Social Sciences, no. 482, 1985, p. 76}\]
Factors like population distribution and border demarcation are closely linked to water issues. Any water arrangement has first to look into Jewish immigration as against Palestinian increase in population as well as their demand for a homeland.

Any water sharing proposal fails eventually owing to two particular aspects ---- one, the equity factor, who gets how much and the other, the control issue of who controls how much (i.e. where the water sources come from). These two factors are the seeds of conflict in any water sharing arrangements.