

Recrudescence of Violence in North-East Indian States

Roots in Environmental Scarcity,
Induced Migration from Bangladesh



Narottam Gaan
Sudhansubala Das

The predominance of the realist paradigm of national security used to pontificate the post-Second World War view, dimension and design of international security declines with environmental catastrophe. Imperiously state centric and premised on enhanced state secrecy, nuclear and military power it was understood in terms of spatial strategies of distancing and boundary making as the key to the protection of geographically demarcated political community known as state. Delineated in realist idioms it has produced in the nuclear age the persistent possibility of nuclear winter not to mention environmental degradation on a global scale. The mounting environmental degradation coupled with its devastating consequences looms large occupying peremptorily the centre-stage of national security agenda making the realist analysis outworn and too inadequate to face these environmental posed non-military threats. Thus, the juxtaposition of security and environment comes at a time when the people feel it is no longer safe to remain impervious to these concerns with which the conventional outlook of national security has been grossly incongruent.

The present book is an unconventional attempt at unearthing that underneath the simmering cauldron of violence and insurgencies in Indian States lie imperatively the environmental causes or factors inducing migration from Bangladesh which the policy makers are enjoined upon to reformulate what they have so far considered as national security prioritized on realist paradigm.

Narottam Gaan, Ph.D. and D.Litt. has been teaching in political science in different colleges since 1978. Not being lured by the lucre of Allied Services {ICS} in 1983 he left the job to stay in the academic life. Publication of innumerable articles and papers in various journals in India and abroad, and five books including this stands as a testament to his scholarship and deep acquaintance with a wide ranging subjects. Privileged to visit Austria, Hungary, Slovakia and Croatia on an Austrian government scholarship, he attended many conferences and programmes abroad and awarded a Certificate of Achievement in International Studies from European University Centre for Peace Studies Stadtschlaining, Austria. His present post doctoral work on environment, security, development, peace and economic rethinking and various aspects of International Relation entities him to be one of the few celebrated scholars working in India. His next work, *Environmental Issues and Challenges: A Critique on International Relation Theories*, another feather in his cap of achievement, is demonstrative of his unceasing efforts and unflinching determination to scale the intellectual and academic heights. His new and unconventional ideas on a vast array of subjects ranging from national and international politics to humanity, environment, human rights, security, and development and getting coverage in the daily news papers and journals to the utmost appreciation of both the readers and the layman, show his deep sense of commitment to the subject and concerns with the critical problems plaguing the humanity at present and his being opened up to the inward traffic from other disciplines.

Sudhansubala Das, both M.Phil and Ph.D. is at present working as Senior Lecturer in Political Science in P.P. Dev. Mahavidyalaya, Tigiria, Cuttack. To her credit she has got published a number of articles in various journals like India Quarterly. She is a reputed Poetess in Oriya, and regular publication of many featured articles in Oriya magazines and newspapers on various burning issues and problems concerning women has earned her high encomium and appreciation from all sections of the society.

ISBN: 81-7835-285-0

RECRUDESCENCE OF VIOLENCE IN INDIAN NORTH-EAST STATES

**Roots in Environmental Scarcity
Induced Migration from Bangladesh**

**Narottam Gaan
Sudhansubala Das**



KALPAZ PUBLICATION

DELHI - 110052

NO. 1
785
DATE 06/06/05



004785

**Recrudescence of Violence in Indian North-East States : Roots in
Environmental Scarcity Induced Migration from Bangladesh**

Rs. 790

© Narottaam Gaan, Sudhansubala Das
ISBN : 81-7835-285-0

All rights reserved. No Part of this book may be reproduced
in any manner without written permission.

Published in 2004 in India by
Kalpaz Publication,
C-30, Satyawati Nagar,
Delhi-110052
Email : kalpaz@hotmail.com

Lasertype Setting by: Tact Computer Graphics, Delhi
Printed at: Mehra Offset Press, Delhi

Contents

<i>Preface</i>	11
1. Introduction	13
2. Environmental Scarcity and Degradation of Resources.	49
3. Social Effects	87
4. Environmental Conflict : Intra-Inter State.	123
5. Future Sea Level Rise : Exacerbating Migration and Conflict.	161
6. Floods and Cyclones in Bangladesh : Implications and Consequences, Intra and Interstate.	171
7. International Intervention : Questions of Equity, Ethics and Political Will	237
8. Conclusion	249
<i>Bibliography</i>	273
<i>Index</i>	293

1

Introduction

Environment, Scarcity and Conflict

The concept 'national security' has eluded many theorists to define it in precise terms. Security is tied closely to the categories of sovereignty and political community understood in territorial exclusiveness. Stephen Krasner defined the conventional meaning of national security as the defense to territorial and political integrity which was understood as the fundamental, the immutable objective of states in the international system".¹ The dominant paradigm in international relations realism has seen the role of states as the exercise of sovereignty and development of state power to protect states from external threats violating their territorial integrity. The concern with national security has presumed hostile, or potentially hostile, interstate relations and a more or less permanent danger to states of organised, intentional, state directed violence through military means.² Thus the realist model of understanding national security provides the rationale for putting exclusive reliance on military force as the sine qua non of statehood. The Cold War during its conflict ridden turbulent years seemed to validate and buttress many of the postulates and predictions that realists envisaged prior to and in the wake of World War I. With the winding down of Cold War swift changes took place in the international system casting doubts about human safety in future and marking an uncertainty about its unfolding and direction in which it is heading. The end of the Cold War encouraged new thinking about threats to international security. The dominant realist framework to understand the current realities seemed to be inadequate. According to Charles W. Kegley, Jr. "the questions realism asks and the answers it provides may become increasingly less relevant".³ In a similar vein, Holsti states that realism in short, is increasingly perceived to have "become an anachronism that has lost much of its explanatory and prescriptive power."⁴ In other words, realism may not be an adequate guide for the future of international politics".⁵

Even much before realism struck deep roots in the international system many scholars rejected realism as incomplete, misdirected, non-rigorous, inconsistent with scientific evidence and incapable of accounting for international behavior in all issue areas.⁶ Literatures like poverty of realism, poverty of neo-realism⁷ and the dangers of real politik based policies⁸ sprang up. Thus, in the existing and changing international situation, the clamour was that the real politik understood and explained on realist parlance should be reconstructed.⁹ Among the many emergent problems replacing the threat of East-West ideological divide military aggression and struggle for global preponderance¹⁰ is the global environmental crisis. It looms large in terms of global warming, acid rain, sea level rise, greenhouse effect, diminishing capacity of the agricultural system, depletion of earth's finite resources and punching holes in the ozone layer. Simply put, the global agenda has expanded since the demise of the Cold War as has the need for urgent attention to these problems for solution. It is thus seen that "welfare not warfare, will shape the rules and global threats like ozone holes and pollution will dictate the agenda".¹¹

In the words of Charles W. Kegley, given the current unpredictable changing international scenario, "a prevailing paradigm can function like a badly warped piano: the players tend to hit dead keys". Any adherence to realist precepts, according to him, meant, the policy makers" will have to navigate the uncharted seas of the post-Cold War disorder with a Cold War cartography". He further stated that "blind devotion to realism could compromise their ability to prescribe paths to a more orderly and just global system".¹²

While focusing on states as unit of analysis the realist approach does not take into account the environmental issues and downplays the internal factors and the indirect transboundary effects of environmental degradation. This has led Homer Dixon to state that "realism induces scholars to squeeze environmental issues into a structure of concepts including 'state', 'sovereignty', 'territory', 'national interest' and the balance of power". This, in his opinion may "lead theorists to ignore, distort, and misunderstand important aspects of global environmental problems".¹³

The realist understanding of 'national security' as a function of the successful pursuit of interstate power competition through military means continued right through the Cold War. This version of national security sheet anchored on military, ideological and technological dimensions to understand and define social problems.¹⁴ Security was tied closely with

state secrecy, nuclear and military power, diplomacy and intelligence.’ While summing up Dalby explains that “Cold War versions of security have usually been understood in spatial terms as moves of exclusion” and “protection is a spatial exercise in distancing and boundary making”.¹⁶

During the last half century, security has been primarily a matter of concern for states and their military alliances. The legitimacy of the governments is generally understood in terms of a provision of internal security for the inhabitants residing within its territorial jurisdictions. What is secured may not be always stable or a just political order. Where stability of the regime has been held synonymous with national security, serious inroads into the realm of human rights and internal repressions have been rationalised for maintenance of status quo and national security.¹⁷ Here, national security meant little more than securing power to those who already hold power. Where political instability has been identified as threat, national security is understood as containing and limiting political change and legitimising the status quo. The drastic changes wreaking havoc upon the world in terms of environmental degradation affecting human living and sustenance questions the very concept of national security being tied to the state which is to be maintained at any cost as a sphere of spatial exclusion and bounded places.¹⁸

Redefining Security

During the 1980s many moves were made to redefine national security. The Independent Commission on Disarmament and Security Issues 1987 (Palme Commission) developed ideas of finding an alternative security on the lines of common security.¹⁹ Some European thinkers were evolving ideas on non-provocative defense or non-offensive defense (NOD) alternative to military confrontation.²⁰ While the peace researchers worked out the technical details of NOD proposals, the politically active intellectuals stressed on the need to dismantle old ideological and military logic of blocs. Its proponents attempted to link matters of militarization of technological development with its environmental consequences and the difficulties of democratic politics in states pre-occupied with matters of military security. Out of this logic emerged the political programme of dealignment.²¹

The Japanese suggested comprehensive security which will include more than narrow conception of security in military terms.²² The issues of human rights were also linked to security in terms of individual security

within states. Many ethnic, tribal and aboriginal groups demanded to redefine security in terms of giving protection to their cultural identity and survival. The feminist movements criticised the theorists and political scientists of international politics for having rendered them insecure by ignoring them out of their scripts and literature which gave importance only to men.²³ A new concept, 'alternative security' was developed counter to the narrow military security suggesting a 'post deterrence era of global cooperation'.²⁴

In all these attempts to refashion national security is found the inadequacies of the spatially based autarkic security strategies to provide security to many communities within the boundaries of states.²⁵ Security couched in traditional parlance in terms of spatial strategies of distancing and boundary making is no longer the key to protection of a geographically, demarcated community. Bounded places in the words of Johnston are no longer quite as bounded as they once were.²⁶ For example, the threats from environmental degradation in terms of air pollution, global warming and greenhouse effects with all their disastrous consequences are transboundary and cannot be shielded against by military powers because ecological regions do not necessarily coincide with political boundaries. All of these modifications of security aim at a shift of focus from traditional concern with military by reiterating the necessity of understanding security in terms more than what the primacy of military operations convey. In the words of Barry Buzan, "the sources of threat are also diversifying away from the state. Many of the new threats seem to stem from complex systems both natural (the eco system) and the human made (the global economy)". According to him, "the operation of these systems is often poorly understood".²⁷

This has resulted in many critics recognising the necessity of democratization of security.²⁸ They are of the view that security is broader than as seen within the confines of military security and a political order and a particular political identity.²⁹ The state while maintaining national security on its military matrix has rendered many individuals, populations and societies insecure.³⁰ The concept national security while arrogating to itself the exclusive and uncontested right to mobilisation of a high level of human and material resources for what it considers as important³¹ renders not only population as insecure but also other sectors like environment and development of the people starved of proper attention and access to resources. In the traditional concerns of national security

many economic and environmental problems remain beyond its purview. The most daunting challenges to the existing definition of national security comes from the problems of global environmental degradation which has appeared as a security threat to many people. As pointed out by Peter Gleick, the conventional models of national security so far developed and centering round the state "have not considered access to resources and the degradation of global environmental services a central problem of international politics and security".³²

Environmental Security

In the light of this conceptual shift, there has been a multidisciplinary debate in recent years over whether changes to the natural environment should be considered national security concern. The term environment, just like the term security is imprecise, relatively elastic, and highly contested.

As Richard Matthew points out, both "can be given very narrow or very comprehensive definitions".³³ None the less, a persuasive definition is one that is limited to "biological or physical systems characterised either by significant ecological feedbacks or by their importance to the sustenance of human life."³⁴

The mounting environmental problems and the resultant associated issues needs an attention with which the conventional outlook of national security appears to be incongruent. Furthering this argument, Jeremy Rifkin points out :

The environmental threats facing the planet are not simply the result of scientific miscalculation. Nor are they merely the consequences of ill conceived management decisions. Ironically it is the notion of security upon which our entire modern worldview is based that has led us to the verge of ecocide..... In less than a century the practice of geopolitics has pushed the world to the brink of both nuclear Armageddon and environmental catastrophe, forcing us to reconsider the basic assumptions of security that animate the modern worldview.³⁵

The study of the link between environmental degradation and national security threats has become important with many civil strifes occurring in countries such as Somalia and Rwanda often beset by environmental scarcity or degradation. Policy makers seeking explanations for the subnational, ethnically motivated civil strifes which have preoccupied contemporary

foreign policy debates, have been led to unearth a link between environment and national security. The environmental scarcity or degradation of renewable natural resources has become issues of conflict between and among states. Fresh water resources and fish stocks are the overt examples of renewable resources that have been the direct objective of potentially violent international conflicts. The environmental security approach offers a clear alternative to traditional, security thinking about international conflicts over renewable natural resources. The effects of environmental degradation on the economy of the society in terms of poverty and food insecurity, diseases and health hazards are quite obvious. Impoverishment may not directly lead to interstate conflict. But in case, if people being attracted by a relatively better economic prospects of a neighbouring country, starts moving in great numbers to disrupt the economic, political and social life of the receiving state, interstate conflict or conflict between various ethnic groups are likely to occur. The effects of profuse CO₂ emission and other green house gases have been predicted in terms of sea level rise and changes in precipitation patterns which will have disastrous impacts on agriculture. The sea level rise will result in flight of millions of people of the coastal countries as environmental refugees into neighbouring countries causing international instability.³⁶ Migration of people may be also due to natural disasters such as floods, cyclones, droughts and earthquakes caused by anthropogenic or natural factors. If environmental disasters are caused by natural phenomena not by any specific identifiable group it is said, war is not likely to result from these causes. But if it results in massive transmigration into another state an interstate conflict is most likely to happen, as between India and Bangladesh on the issue of Bangladeshi migration into Assam, Arunachal Pradesh, Tripura, other North Eastern states and other Indian States. Thus the argument that interstate conflict may not be always precipitated by environmental disasters caused by natural phenomena cannot be made a case for denouncing the link between security and environment. From a broader understanding of security, if people are made the referent rather than the state, environmental degradation is an immediate threat to numerous people in terms of deepening poverty and uprooting their way of life.³⁷

A number of studies in recent years have cropped up showing a clear cut connection between environment and security.³⁸ Lodgaard feels that

“the concept of environmental security challenges established frames of mind and political conflict”. According to him, “It

conveys the message that environmental problems have a legitimate claim for status as military problems have".³⁹

Environmental security as a concept encompassing non-military aspects was officially mentioned for the first time in the International Conference on the Relationship between Disarmament and Development, convened by the United Nations General Assembly in New York from 24 August to 11 September 1987. In this final document adopted by consensus by the representatives from the 150 participating states, the Conference stated:

Recently nonmilitary threats to security have moved to the forefront of global concern. Underdevelopment and the declining prospects for development as well as mismanagement and waste of resources, constitutes challenges to security. The degradation of the environment presents a threat to sustainable development..... Mass poverty, illiteracy, disease, squalor and malnutrition affecting a large proportion of the world's population often become the cause of social strain, tension and strife.⁴⁰

Going further than this, the report by the World Commission on Environment and Development (Brundtland Report) entitled "Our Common Future" stressed the influence of environmental degradation on the relationship between states. It attempted to establish the conflictual relationship between states as :

Environmental stress is both a cause and effect of political tension and military conflict. It states that, "nations have often fought to assert or resist control over raw materials, energy supplies, land river basin, sea passages and other key environmental resources". According to the report "such conflicts are likely to increase as these resources become scarcer and competition for them will increase".⁴¹

Jessica Mathews justified the reasons for encompassing resource availability questions as well as environmental issues into the framework of security.⁴² American Senator Albert Gore suggested a case for strategic environmental initiative,⁴³ which went side by side with Springer's argument enhancing the scope of the Atlantic alliance structure to include environmental issues.⁴⁴

Peter Gleick was of the view that food issues, water conflicts and access to Arctic minerals were likely to generate security concerns in the future.⁴⁵ Norman Myers, similarly held that :

.... national security is not just about fighting forces and weaponry. It relates to watersheds, croplands, forests, genetic resources, climate and other factors that rarely figures in the minds of military experts and political leaders, but increasingly deserve, in their collectivity, to rank alongside military approaches as crucial to a nation's security.⁴⁶

Westing in a similar vein suggested to incorporate environmental issues into the themes of comprehensive security in the sense of security for all citizens in a state rather than into a narrow understanding of security in military denominations.⁴⁷

Lothar Brock defines environmental security as the avoidance of negative linkages between the environment and human activities. For him, this includes the avoidance of warfare, war over natural resources and also environmental degradation, which he defines as a form of war.⁴⁸

Environmental Security as National Security

All these show that threats are not only military but also economic and environmental. The clearcut connection between environment and security is established beyond the realist framework. Environmental security, thus becomes a national security issue. Two distinct features of environmental security are : First the environmental causes of conflict, i.e., environmental factors behind potentially violent conflicts, second, the impact of environmental degradation on overall economy, health and life of the people. Thus, environmental degradation or deficiencies create the conditions that render conflict all the more likely or determine the source of conflict, act as multipliers that aggravate core causes of conflict⁴⁹ or act as a catalytic factor in creating conflict then environmental degradation as a security issue is fully consistent with the traditional definition of national security.⁵⁰ But the proponents of environmental security viewing the environmental degradation as the result of impersonal socio-economic forces, suggest cooperative solutions.

As stated above, environmental degradation in terms of greenhouse gases, CO₂ emission, thinning of ozone layer, land degradation, water scarcity, deforestation, desertification and other calamities like flood and cyclone etc. caused by Anthropogenic and natural reasons have been a threat to the well-being of people. Due to punching hole in the ozone layer

people will be exposed to the UV-B rays and their health affected seriously. Sea level rise will submerge many low lying countries in deep sea. Changes in weather pattern will affect agricultural system. Neither the actual increased exposure to UV-B from the punching of the hole in the ozone layer nor the degree of harm it will wreak on plants, animals and humans is calculable. Neither the eventual increase in global average temperatures from a given level of greenhouse gas emissions nor the impacts on weather patterns, disease, crops or sea level rise can be gauged. Similarly the rate of land degradation on a global scale cannot be measured with accuracy and its impact on future food productivity cannot be predicted with any scientific precision. Thus, each of these environmental threats to global well being has been subject to significant empirical and scientific uncertainty and inaccuracy. That does not any way denude environmental security of its meaning and significance. Such uncertainties associated with environmental security are also found in case of military planning based on worst case contingencies which are considered most unlikely to occur. Yet military preparations are justified for such contingencies as an insurance against these unlikely threats.⁵¹

The very military systems of various states are held as protected polluters. They have been excluded from the purview of environmental regulation as the rationale of national security. But its activities, preparation, training, nuclear facilities, fuel consumption and demands for exotic minerals and chemicals have been disastrous to the world's environment.⁵² As stated by Dalby, "Military security has been bought here at the cost of ecological devastation".⁵³ The number of people secured by such military establishments are numerically miniscule in comparison to the people who have been vulnerable to such ecological devastation on a vast scale. Environmental degradation, thus far outweighs the military security and stands as a greater national security issue. In the United States, for example, the potential harm that the global degradation poses to the health and livelihood of Americans is worse than those posed by its military security threats.

There are a few scholars who have declined to accept the link between environmental degradation and national security threats.⁵⁴ An early criticism led by Deudney was that "taking the term security and using it to encompass anything that threatens our well-being, might really take the term and dilute it of any significance".⁵⁵

Such arguments suggest that traditional definition of national security was intellectually coherent or useful. But protagonists of

environmental security argue that the traditional definition of national security distort, misunderstand and ignore important aspects of global environmental problems and realities.⁵⁶

Another criticism is that defining environmental issues in terms of security threats may contribute more to the military.⁵⁷ Similarly according to L. Brock, "defining environmental issues in terms of security risks is in itself a risky operation.... We may end up contributing more to the militarization of environmental politics than to the demilitarization of security politics".⁵⁸ The resource and development nexus juxtaposed into the analysis makes it the clearest. In the Cold War parlance security issues are understood in terms of the right of access of the developed world to the resources of the South. The major problem in the current environmental crisis is the inequities in the access to resources.⁵⁹ The world economic structure and financing arrangements have been arranged in such a way as to redound to the economic bonanza of the rich North reinforcing the yawning economic discrepancies and facilitating the continued despoliation of the environments of the resource producing areas, and increased pollution. With the perpetuation of this kind of inequitous economy coupled with the debt crisis, the environment will be totally destroyed rendering many of the poorest of the planet more insecure.⁶⁰

In the Cold War logic the concept of security is largely premised on maintaining the perpetuation of existing flows of resources from the South to the North. This is the kind of thinking found conspicuously in the American policy making, more particularly in the Gulf War, which was waged to have the American way. Conflicts or wars over access to resources are in the line of traditional understanding of security resting on state's military supremacy. But this kind of security needs refashioning in view of the fact that the ethnocentrism of western paradigms of development based on unrestricted industrialism, fossil fuel technology and extraction of non-renewable resources, has polluted and degraded the renewable resources like water, land, air, forest, and biodiversity in terms of green house gases, global warming, acid rain, desertification and deforestation. Thus, the environmental scarcity or degradation of resources, has emerged as a threat to the security of the poorest. The conflicts that may arise out of environmental causes of security threats to the poor are distinguishable from the traditional conflicts over access to resources. In the traditional realist paradigm security was understood in terms of state's military supremacy pontificating the South to allow resource flows unobstructed.

But the environmental crisis threatening the very existence and way of life of the poor people to be resolved needs reliance not on a military supremacy of a state but on an overhauling of the entire realist security metaphysics built around the state and its political-economy. Thus, the kind of threats stemming from global environmental crisis strengthen the case for linking the environment and security. Security matrixed on traditional realist framework to maintain the status quo runs counter to the changes needed to mitigate many environmental and economic problems.⁶¹ The contradiction is apparent and crucial to understanding the question of linking the environment and security. Barry Buzan was of the view that this could be a dangerous tool for the totalitarian left who could attempt a relaunch on the basis of environmental collectivism.⁶² Similarly Andre Gorz came to the conclusion that since the logic of ecology has religious potentials and holistic categories and the way the environmental issues were addressed, contained the danger of eco-fascism.⁶³ As has been said earlier though the focus is on environmental problems that are the causes of international conflicts the environmental security directs attention to policy priorities that are basically cooperative.

The spectre of environmental collectivism or eco-fascism could be too shortlived and counter productive to haunt the proponents of environmental security. These totalitarian regimes inclined to interpret security in terms of growing militancy of state. The parameters needed to alleviate ecological crisis in terms of economic and development rethinking, taking out the security label from the state to the local and regional, grassroot level, devolution of power and empowerment of people and the entire process of state building would run counter to their very rational of tacking security label to the state military power. When there is need for more democratization and diversification of state power and regionalisation, the appeals of eco-fascism or totalitarian left may appear demagogic to the environmentally vulnerable people. Such military regimes as the sole and ultimate arbiter of national security, may oppose and avoid many international and global environmental movements, rules and regulations, saying that these are threats to what these regimes held as national security.⁶⁴ But in the face of the deepening socio-economic crisis and poverty due to environmental scarcity or degradation of resources, these military regimes may not succeed in holding unto their positions, to counterveil the threats posed by environmental degradation which may be far greater than what these military regimes hold as security threats to their status quo.

Eco-fascism or totalitarian left in their jockeying for power in the name of environmentalism may find it futile to seek solution in state powerism. Since ecogeographical regions do not coincide with territorial units, on many issues, the priority is to be put not on state power, but on cooperation, even on a diminishment of sovereignty where there is the need for an environmental integration. This includes institutional integration, policy integration, attitudinal integration, and security integration. Institutional integration, occurs when states agree to engage in collective decision making and develop institutions to formulate and implement rules and regulations. Policy integration concerns the transfer of policy to a higher level of government or to a jointly managed or coordinated level of policy making and implementation. Attitudinal integration assesses public support for such intervention. The support of victims of environmental degradation may be a strong base for such an integration. Security integration is evident when there is a commitment and expectation among states of non-violent relation.⁶⁵

Another criticism is that the environmental security argument is mainly a means of leveraging changes in budgetary allocations. If budgetary allocations of states are studied, there has never been a reasonable balance among components of security in the allocation of budgetary resources. One of the functions of traditional concept of national security was to ensure that sufficient resources were allocated to the military as a matter of highest national priority. To alleviate the threats of environmental crisis there is very justification for allocation of resources. The proponents of environmental security argue that military establishments consume an enormous and inproportionate amount of human and material resources. The benefits of transferring these resources to the restoration of the environment can be linked to environmental security. The critics are of the view that from a conceptual standpoint this defective and the same point could be made about health and poverty or any of the human needs that are going to be unmet because of the resources being expended on environment. But what the critics fail to notice is that the environmental scarcity of resources or degradation of the environment has led to many social effects in terms of economic decline, decreased agricultural productivity, poverty, health hazards and other human problems. The removal of the causes of the environmental degradation according to the proponents of environmental security will result in the containment of social effects. Hence, there is every justification

for putting priority on environment in budgetary allocation to weed out the causes of environmental degradation.

Another objection is that in the concept of environmental security the absence of 'us vrs. them' syndrome which is a cardinal part of traditional concept of national security is "like, according to Deudney taking sex out of rock and roll". In his words, "rock and roll was originally coined as an euphemism for sex".⁶⁶

In international conflicts over environmental scarcity of renewable resources like water and fish among nations can be seen the 'us vrs them' syndrome. The cases of intra or interstate conflicts by transmigration of people due to environmental induced social and economic disruptions, point to the very 'us vrs. them' in environmental conflicts. For example, Indo-Bangladesh conflict over Bangladeshi migration into Indian North-Eastern states strongly rebutes the charges made by critics.

A final objection is that environmental degradation coupled with population pressures are not primary causes of such conflicts. Since these are always embedded in larger socio-economic and political causes of conflict, the exponents of environmental security cannot prove that such issues are resulting in conflict. But they are of the view that the costs of responding to growing state inability and human suffering due to environmental degradation will be higher than the modest cost they demand for conservation of resources and protection of the environment.

Environmental security today stands as a national security concern. Barry Buzan, a critic who wants to see environmental security a part of the economic field, is of the view that the concept national security has been tacked on to environmental debates, because of the latter's mobilization potential. As he stated the concept of national security

"has an enormous power as an instrument of social and political mobilization" and therefore "the obvious reason for putting environmental issues into the security agenda is the possible magnitude of the threats posed and the need to mobilize urgent and unprecedented responses to them. The security label is a useful way both of signalling danger and setting priority and for this reason alone it is likely to persist in the environmental debates".⁶⁷

Going further than this, in a recent paper he points out that, if the predictions by scientists about climate changes in terms of global warming

and green house effects come true, "then current observations such as the break up of some Antarctic ice sheets could put environmental security at the top of the global agenda very soon".⁶⁸

Ideas of environmental security have also been incorporated into the national security framework. In 1987, the General Secretary of the Soviet Union, Mikhail Gorbachev stated:

The world is not secure in the direct meaning of the word when currents of poison flow along river channels, when poisonous rains pour down from the sky, when an atmosphere polluted with industrial and transport waste chokes cities and whole regions, when the development of atomic engineering is justified by unacceptable risks... The relationship between man and the environment has become menacing. Problems of ecological security affect all the rich and the poor. What is required is global strategy for environmental protection and the rational use of resources.⁶⁹

The former United States Secretary of State, James Baker has considered current environmental problems as "threats to the security of our citizens".⁷⁰ In 1994, United Nations Ambassador Madeleine K. Albright (later on US Secretary of State) stated:

We believe that environmental degradation is not simply an irritation, but a real threat to our national security... Left unaddressed, it could become a kind of creeping Armageddon ... it could, in time, threaten our very survival.⁷¹

The Clinton Administration also stepped in by adopting the concept of environmental security explicitly in its 1994 National security document. A National Security Strategy of Engagement and Enlargement, which was unequivocal in its emphasis that increasing competition for dwindling renewable resources "is already a very real risk to regional stability around the world."⁷² It is of the view that,

Transnational phenomena such as terrorism, narcotics trafficking, environmental degradation, rapid population growth and refugee flows also have security implications for present and long term American policy. In addition, an emerging class of transnational environmental issues are increasingly affecting international stability and consequently will present new challenges to U.S. strategy.⁷³

Environmental Causes of Conflict: Security Threats

While emphasising the obvious link between environmental degradation and conflict, Libiszewski questions the general tendency among scholars to hold this linkage as synonymous with the struggle for scarce non-renewable natural resources.⁷⁴ To him, Westing's compilation of important wars involving environmental factors from the 1st World War to the latest Falkland war should be distinguished from the environmental causes of conflict.⁷⁵ Conflicts over access to or over possession of natural resources cannot be regarded as environmental conflicts.

Environmental change or degradation does not simply mean the interaction between human beings and their environment. It implies a destabilising interference in the ecosystem's equilibrium which having negatively affected human society, expresses precisely what is meant by environmental change of conflict. Knowing the distinction between renewable and non-renewable resources helps one understand clearly the difference between conflict over natural resources and environmental conflict. The renewable resources such as fresh water, soil, air, forests, atmosphere, climate, oceans and biodiversity which are both goods and services, are renewable because they are ecologically integrated in a feedback circle system guaranteeing their replacement or preservation of their quality. Minerals and fossil fuels on the other hand constituting the traditional targets of resource conflicts are non-renewable in the sense that they are not integrated in such an eco-system. Their exhaustion to the hilt will be termed as depletion not degradation.

Besides this, the renewable resources are not only less substituted but also in several cases are not substitutable at all. Apart from the environment being considered as a material resource bank, it also provides a space of living bringing in an existential dimension to the environment.

The concept of environmental degradation leads to another important difference concerning the concept of resource scarcity. Four distinct types of resource scarcity are underlined.⁷⁶

1. Physical scarcity means that a resource is only available in a finite amount;
2. Geopolitical scarcity means that resources are often distributed unequally on the surface of the earth so that some countries depend on deliveries from others ;

3. Socio-economic scarcity concerns the unequal distribution of purchasing power and of property rights to provide natural resources between or within societies;
4. Environmental scarcity caused by environmental degradation means failure of human beings to sustainably manage these renewable resources which have been traditionally regarded as plentiful.

The above three scarcities are not environmental conflicts but traditional conflicts over access to resources. While defining environmental conflict in contrast to the traditional resource conflicts, Libiszewski stated :

An environmental conflict is a conflict caused by the environmental scarcity of a resource, that means; caused by a human made disturbance of its normal regeneration rate. Environmental scarcity can result from the overuse of a renewable resource or from the overstrain of the ecosystem's sink capacity, that is pollution. Both can reach the stage of a destruction of the space of living.⁷⁷

In a similar vein, Homer Dixon stated that environmental change referred to a human induced decline in the quantity or quality of a renewable resource which occur faster than its renewal by natural processes.⁷⁸

According to him,

“Environmental scarcity often encourages powerful groups to capture valuable environmental resources and encourages marginal groups to migrate to ecologically sensitive areas”. In his words, “these two processes” of resource capture and resource marginalisation ‘in turn reinforce environmental scarcity and raise the potential for social instability”.

Further he is of the view that, “Environmental scarcity can contribute to population movements, economic decline and weakened states, which in turn can cause ethnic conflicts, insurgencies, and coups d’etat”.⁷⁹

From the above, emerges the exclusion of non-renewable resources from the environmental conflict analysis. According to Libiszewski, even the total exhaustion of non-renewable resources like fuels and minerals could not cause any destabilization of the ecosystem. The ethnocentrism of western paradigms of development based on industrialization and non-renewable fossil fuel technology, has already despoliated the planet earth

and deteriorated the environment in terms of carbon dioxide emission, greenhouse effect, depletion of ozone layer, global warming, sea level rise and desertification. As a consequence, many people in the South have been vulnerable due to the mimetic western pattern of development and inordinate life styles of the North. So depletion of the non-renewable resources has been a primary factor in degrading the renewable resources of the South. The imperatives and compulsions of world economic structure dominated by the industrialised North has already been a strain on the renewable resources of the South to the latter's utter deprivation and pauperization. The Southern countries are consigned to the periphery and mercy of the world metropolis powers, which remain in the centre of their market economic structure. With structural adjustment conditionalities imposed on without taking into consideration the South's socio-economic imperatives and compulsions, these countries may experience structural, violence⁸⁰ and unending onslaughts on their already degraded and fragile environment. Population growth in the South interacting with this process of resource degradation as a requirement of the western model of development would further result in the degradation of the renewable resources causing a decline in economy and exacerbation in the already existing social and domestic differences and problems. In the face of the state's incapability to meet the growing aspirations of the people in South, the legitimacy of the government would be eroded, providing opportunities to the disgruntled in the South to disintegrate the political and social systems. If the depletion of non-renewable resources as a part of the western pattern of development being ubiquitously followed leads to the degradation of the renewable resources in terms of pollution of water, atmosphere, degradation of land, desertification, deforestation and extinction of species and biodiversity, then there will be no conceptual blundering in having a more comprehensive and broader definition than what is suggested by Libiszewski and others. Westing further buttresses this line of thinking when he concedes that

“Environmental security has two basic sub-components. The first of these environmental protection”, he says “ has three parts; protection from wartime and similar vandalism; protection from medically unacceptable environmental pollution; and protection, for special areas, from all permanent human intrusions.

The second subcomponent of environmental security according to Westing, “sane resource utilization, whether non-

extractive or extractive depends upon exploitation, use or harvesting at all levels and employing procedures that either maintain or restore optimal resources services or stocks". He further stated that "exploitation of renewable resources must be carried out strictly on the principle of, sustained use or sustained discard, with, exploitation of non-renewable resources strictly on the principles of frugality".⁸¹

Westing's concept linking environment and security is in a wider context comprising both renewable and non-renewable resources and taking into consideration the direct contribution of exploitation of non-renewable resources to the environmental degradation of the renewable resources, viz. atmosphere, climate, water, land and biodiversity etc. It always involves exploring the environmental causes of conflict which means to find out the main problems and causes of environmental degradation and map out their social effects leading to conflicts. In a complex web of social, political and economic causes and effects of conflict to explore exclusively the environmental causes of conflict is undoubtedly a very Herculean task. The Earthscan document while conceding this states:

"Ecological pressures" have not caused any particular outbreak of hostilities given in cases where the links are obvious. It claims instead that environmental degradation is often a key cause in a complex cycle of causes and effects. It concludes that "if historians and politicians ignore the environmental component they cannot possibly understand this complex web of causality".⁸²

Sources of Environmental Scarcity

According to Dixon, resource scarcity has become an omnipresent feature of human existence. Scarcity of renewable resources has become so severe that it has the potential to seriously threaten the very survival of human beings. It can arise in three ways which can be called supply induced, demand induced and structural induced.⁸³ Supply induced scarcity occurs and becomes worse when the resource shrinks because it has been degraded in quality and depleted in quantity.

Any human caused increase in supply induced scarcity is the product of three factors: the total human population in the region, the use

per capita of each technology available to that population and the amount of resource consumption or degradation produced by each unit of use of these technologies. Use per capita of each technology in turn is influenced by available natural resources including non-renewables and renewables and by ideational factors including institutions, social relations, preferences and beliefs. Resource depletion or degradation can also influence ideational factors for example by prompting or impeding institutional reforms. Finally, the amount of consumption or degradation of a renewable resource arising from a technology's use is influenced by the sensitivity of the region's ecosystem to the use of that technology. The depletion of fisheries can be a best illustration showing how it is a function of the size of the human population consuming fish from the fishery, the type of fishing technologies used by this population, the use of per capita of these technologies and their impact on the fishery per unit use.

Apart from this, renewable resources will be depleted or degraded not by direct consumption but by technological activities that indirectly harm the resources. The western pattern of development based on industrialisation and extraction of non-renewable resources can have immense indirect effects on renewable resources in terms of degradation and pollution.

Demand induced scarcity arises, when a burgeoning population divides the static resources into smaller slices for each individual. It is a function of population size multiplied by per capita demand for a given resource. An increase in either population or per capita demand increases total resource demand. For example, the number of people living in an arid region might go up which all other things being equal, will increase total demand for water or a constant number of inhabitants might instead demand on average more water for new agricultural technologies. In both these cases, if only a constant or limited flow of water is available, water scarcity will increase. If water is further degraded or polluted by industrial activity, the problem of water scarcity is compounded. Thus, increased population size and increased per capita demand for a given resource can both decrease supply by contributing to the resources' depletion and degradation.

Structural scarcity is caused by unequal distribution that concentrates resources in the hands of some groups and subjects the rest to greater than average scarcity.

Interactions and Social Effects

These three kinds of environmental scarcity often interact and two patterns of interaction such as resource capture and resource marginalisation are found.⁸⁴ Resource capture occurs when a deterioration in the quality and quantity of a renewable resource interacts with population growth to prompt powerful groups within a society to shift resource distribution in their favour subjecting poorer and weaker groups to dire environmental scarcity and its social effects. This happens in Bangladesh where environmental scarcity of land resources has prompted the landowners to distribute the land distribution in its favour propelling the poorer and weaker groups to migrate to urban areas or neighbouring states like India.

Ecological marginalisation occurs when unequal resource access combining with population growth causes migration to regions such as steep upland slopes, tropical rain forests, urban areas and other areas at the risk of desertification which are ecologically fragile.⁸⁵

Environmental scarcity and its various patterns of interaction including the above terms may cause innumerable changes in the developing societies. Research has identified five main social effects that either singly or in combination may increase the probability of violence in developing societies.⁸⁶

- Constrained agricultural productivity
- Decline in economic productivity
- Migration of affected people in search of better lives.
- Greater segmentation of society usually along existing ethnic cleavages
- Disruption of institutions especially the state.

These effects are often causally correlated, sometimes with feedback relationship. For example, the migration caused by a decline in food production can reduce the amount of labour available for work in fields further causing a fall in food production. Economic decline can lead to flight of people with education and wealth to within or outside of state which in turn eviscerates universities, courts and institution of economic management—crucial to a healthy economy.

It is very significant to note that environmental scarcity is always a sufficient cause of any of these social effects. Scarcity always interacts with other factors to produce these effects. Therefore contextual factors are important to influence the linkage between scarcity and social effects.

These contextual factors include the physical characteristics of a given environment, and ideational factors unique to the society in question including its institutions, social relations and culture. Some critics suggest that contextual factors especially failed institutions and policies explain poor harvests, large migrations and intergroup cleavages. To them, environmental scarcity is an aggravator of the already existing problems or a trigger releasing accumulated non-environmental pressures. According to Homer Dixon, "It suggests a naive, almost dichotomous view: if environmental scarcity in itself cannot be shown to be a sufficient cause of certain social hardships, then something else must be the cause. Yet a more accurate view of environmental scarcity's role is that it often acts as a deep, underlying stressor of social systems and it produces its effects by interacting with contextual factors unique to the society."⁸⁷

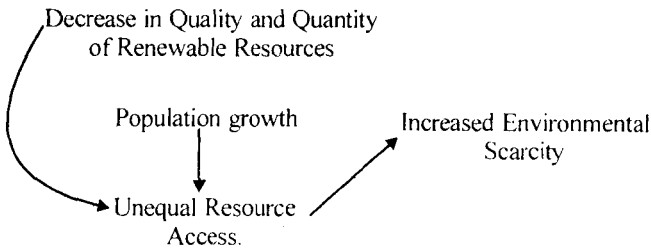


Fig. 1.1. Resource Capture.

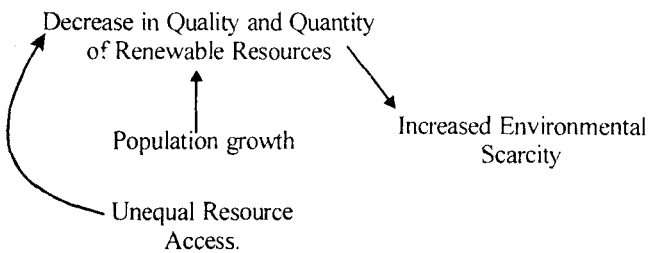


Fig. 1.1. Ecological Marginalisation.

Source. Homer Dixon, n. 83.

Violent Conflict

Environmental scarcity's main negative social effect is violent conflicts. Conflicts over natural resources among states are understood within traditional realist (or balance of power) paradigm of international relations theory.⁸⁸

According to Nazli Choucri and Robert North, countries facing high resource demands and limited resource availability within their territories would seek the needed resources through trade or conquest beyond their boundaries.⁸⁹ Four environmental resources in particular would appear likely to ignite simple-scarcity conflicts over agriculturally productive land, forests, river water and fish. Simple—scarcity conflict over emanates directly from the overuse and/or pollution/destruction of a renewable natural resource.

Group identity conflicts are explained and predicted by group-identity theories. These conflicts are the result of large scale migration of people from one state to another state or within a state due to environmental scarcity of resources at home fronts. For example: "If groups of people migrate from one country to a neighbouring one, meet an indigenous population of a different ethnic origin and of different religion there, and if violent clashes between those groups occur—this would seem to be an ethno-religious conflicts at first sight ... But if it turns out that the group of people mentioned first started to move because its homeland, its hereditary grounds had been severely damaged and depleted by deforestation, soil erosion, salinization etc - then this is also an environmental conflict in a broader sense."⁹⁰ The ethnic conflict and insurgency in North-Eastern states of India due to migration from Bangladesh can be included in this category.

Violent challenges to the state - challenges that range from rebellion to guerrilla war are explained and predicted by a combination of relative-deprivation theories and structural theories of civil strife. These two theoretical perspectives suggest that insurgency is a function of both the level of grievance motivating challenger groups and the opportunities available to these groups to act violently on their grievances.⁹¹ The likelihood of insurgency is greatest when multiple pressures at different levels in society interact to increase grievance and opportunity simultaneously. Environmental scarcity can change both variables by contributing to economic hardship and dislocation, by increasing segmentation, and by weakening institutions such as state. As environmental scarcities hinder economic progress, relative deprivation theory says that some groups will become increasingly frustrated and aggrieved by the widening gap between their actual level of economic achievement and the level they feel they deserve. At some point the disadvantaged groups may cross a critical threshold and will act violently against those groups perceived to be the agents of their economic misery.

To cause civil conflict economic crisis by the environmental scarcity of resources must be severe, persistent and pervasive enough to erode the legitimacy of the political system. If people come to this belief that the state is responsible for their plight and deprivation, the legitimacy of the state will be challenged and the possibility that they will ignite violence against the state will increase.

According to Dixon, “the extent and degree of grievance caused by environmental scarcity of resources is a function of relative deprivation but this relative deprivation must be measured at the level of specific sub-groups within a society and, it is powerfully influenced by local contextual factors such as the groups blame systems and conceptions of economic justice”.⁹²

The environmental degradation in Bangladesh has resulted in migration of people both intra and inter state. The Government of Bangladesh has also settled the Bengalis uprooted from cyclone, storm and flood affected coastal areas in CHT. As a result, the Chakamas, the original inhabitants of CHT were dominated by the migrant Bengalis and forced to flee to India.’ This migration to Indian neighbouring states has often resulted in violent ethnic conflict and insurgency in these states.

Coupled with this is the migration of other Bangladeshis from coastal plains of Bangladesh to north-eastern states of India such as Assam, Tripura, West Bengal and other states which is due to increasing poverty, economic decline and growing incapability of Bangladesh state to meet the needs of the people—the social effects of environmental scarcity and degradation of resources in Bangladesh.

There is no dearth of literature to show that environmental scarcity and degradation of resources will produce vast numbers of environmental refugees.⁹³ Sea level rise, cyclone, storms and floods will drive people back from coastal and delta areas in Bangladesh to other safer regions within the state or neighbouring states. These studies imply that environmental disruption is the clear and dominant cause of refugees flow out of their homelands in vast and sudden waves. During floods, cyclones and storms, in Bangladesh environmental disruption appears to be the clear and dominant cause of refugees flow and in future sea level rise, the environmental causes of refugees flow are unmistakably clear and dominant. During normal times in Bangladesh, it is seen that people migrate to Indian territories. This implies that environmental factors in interaction with other social, economic and physical variables produce their effects to prompt displacement of people.

Push and pull theories essentially treat migration as the outcome of the low socio-economic status or insecurity in the sending country, relative to the more affluent and politically stable systems of receiving societies. While distinguishing between refugees and migrants, Astri Suhrke argues that environmental problems are more likely to produce migrants than refugees, because such problems usually develop gradually, which means that the push effect is not sharp and sudden and that pull factors can therefore clearly enter into potential migrants' calculations.⁹⁴ According to Homer Dixon, "this push/pull distinction is not helpful, for it encourages analysts to try to determine the relative causal weights of factors in sending and receiving areas. But the real motivator of migration is the gap between the potential migrants' current level of satisfaction and the level they expect to attain in a new land. The larger the gap, the greater the incentive to migrate. This gap is not determined by an additive function of push and pull factors but by the relationship between the perceived quality of life in the home region and that in the receiving region."⁹⁵

Anthony H. Richmond argues that there is a continuum between the rational choice behaviour of proactive migrants seeking to maximize net advantage and the reactive migration whose degrees of freedom are severely constrained :

Under certain conditions the decision to move may be made after due consideration of all relevant information, rationally calculated to maximize net advantage, including both material and symbolic rewards. At the other extreme the decision to move may be made in a state of panic facing a crisis situation which leaves few alternatives but escape from intolerable threats.⁹⁶

The Bangladesh-Northeast India region in South Asia is a good illustration. Over the last four decades, land scarcity and its degradation has caused millions of people to flee from Bangladesh to the Indian states of Assam, Tripura, West Bengal and other states. As studies show, migrants from Bangladesh have increased the population of neighbouring areas of India by 12 to 17 million. Scarcity of crop land—mainly demand induced scarcity brought about by burgeoning population growth appears to be the main cause of this reactive migration. Flooding, cyclone and storms sometimes act as the precipitating events causing migration, because population growth has already critically limited per capita access to land. Thus, supply induced scarcity becomes the secondary cause.

Land distribution is highly unequal and since independence in 1971 little has been done in this area to correct the structural scarcity which is another factor of migration.

Primacy to environmental determinants of migration from Bangladesh to India reflects a growing recognition that climatic change, floods, cyclone, storms and future sea level rise are not independent of predisposing or contextual factors in interaction with which the environmental factors cause migration. Contextual factors include national and community water control institutions that have sharply limited agricultural output and kept peasants from gaining full benefit from some of the most fertile land in the world.

In receiving areas of India, the politicians provide the enabling circumstances by encouraging migration to garner votes. Although such predisposing or contextual and enabling circumstances are important, they cannot obscure the fact that land scarcity coupled with population growth, and natural disasters due to climatic change and environmental degradation have been powerful forces behind large scale migration from Bangladesh to India.

These migrants coming in contact with the inhabitants of North-eastern states of India have led to group-identity conflict, insurgency and other acts of violence involving state machineries of both India and Bangladesh. The enormous flux of migrants from Bangladesh into Assam and Tripura over these years has wrought pervasive social changes in the receiving regions. It has altered land distribution, economic relations, and the balance of political power between religious and ethnic groups, and it has triggered serious intergroup violence.

In the context of future sea level rise, many more millions will be added to the already continuing migration. This would aggravate the already volatile situation in Northeast regions of India and make the inter-group conflict more frequent and violent.

Lack of Supply of Ingenuity, and Adaptive Failure in Bangladesh to Meet the Challenges of Environmental Scarcity

The debate over the relationship between population growth, scarcity of resources and development, though has become sterile, contains some underpinnings to understand the implications of environmental scarcity of resources on development and prosperity of people. The Neo-Malthusians who are often biologists and ecologists adduce that finite

natural resources put strict limits on the growth of human population and consumption. If these limits are breached, poverty and social breakdown result. A larger population increases environmental degradation, such as soil erosion, and in turn poverty. Some economists argue that a rapidly growing population causes poverty by diverting capital from savings and investment to consumption which lowers the long term productivity of the economy. According to Homer Dixon, empirical studies hold these Neo-Malthusian arguments untenable. Technological change and greater inputs of capital have dramatically increased labour productivity in agriculture. The link between population growth and low savings is unclear. Changes in agrarian structure induced by such growth can sometimes increase food output and larger populations can lower environmental degradation.⁹⁷

Secondly, the economic optimists say that properly functioning economic institutions, especially markets provide incentives to encourage conservation, resource substitution, development of new sources of scarce resources, and technological innovation.⁹⁸ Their arguments have three important implications. The first is that natural resources are more homogenous than commonly thought, since the right institutions and technologies allow substitution among resources. Harold Barnett and Chandler Morse argue that the "reservation of particular resources for later use may contribute little to the welfare of future generations".⁹⁹ Continuing the argument they further note that "Advances in fundamental science have made it possible to take advantage of the uniformity of energy/ matter uniformity that makes it feasible, without preassignable limit, to escape the quantitative constraints imposed by the character of the earth's crust".¹⁰⁰

Second, the optimists put extreme reliance in the exceptional ingenuity, creativity and adaptability of human beings which make them different from other species of life. According to them the limiting factors are knowledge and institutions not the resources.¹⁰¹

Third, resource degradation and scarcity are not problems of excessive growth of either population or consumption, but of the failure of government policy and markets.

Like economic optimists, distributionists emphasise how institutions and social arrangements within society, not the availability of natural resources are the key determinants of prosperity. James Boyce's study¹⁰² of the factors influencing food production and prosperity in Bangladesh

represents distributionists' view. Though Boyce's analysis remains valuable explanation of why Bangladeshi underdevelopment persists, it has not explained how environmental scarcity, and degradation of land and water have been determinant factors in large scale migration from Bangladesh to India.

In recent decades, the scientists have been able to focus on the thresholds, interdependence, and interactivity of complex systems of environmental resources such as climate, oceans, forests, and agricultural lands. The influence of these systems on human society is at least in part a function of the system's intrinsic character and is not, therefore, fully determined by human institutions, policies and technologies. Even if the basic features of an environmental system change only slowly and linearly, the frequency of events within the system can increase sharply. For example, although a slow two or three degree warming of mean global temperature might not seem too significant in itself, for agricultural production it could produce a large increase in frequency of crop devastating droughts.

Environmental systems—from Earth's climate to regional fisheries, soils and forests are dynamic and interdependent. Overextraction or degradation of one resource in such a system can produce ramifying effects and scarcities throughout the surrounding ecological system. For example, the loss of forests can generate much more than just a scarcity of wood for a local community, it can also create scarcities of soil, of rainfalls, of sustainable river flow and of reservoir and irrigation capacity. It can also *diminish biodiversity essential for medicines and industries* and boost climate change.

The dynamic and interdependent character of environmental systems also means that multiple human impacts on these systems can interact to produce synergistic outcomes. An agricultural region may, for instance, be simultaneously stressed by degraded soil and changes in precipitation caused by regional deforestation or climate change. The rich industrialised nation's emission of CO_2 to the atmosphere has been more than 3/4th of total emissions, the result of which has been the global warming and sea level rise. Bangladesh which contributes very little emission to the atmosphere is likely to be the victim of such sea level rise as predicted by scientists.

None of the above three camps—Neo-Malthusians, economic optimists and distributionists have taken full account of the recent studies

and findings about the thresholds, interdependence, and interactivity of environmental systems. As said, societies must be able to supply more social and technical ingenuity to adapt to rising resource scarcity and degradation.

Can all societies meet this rising need for ingenuity? "Rather than inspiring the wave of ingenuity predicted by economic optimists and distributionists, environmental scarcity instead, sometimes reduces the supply of ingenuity available in a society".¹⁰³

This possibility is largely overlooked by most analysts to date. Although James Boyce does not make the point directly, it is clear from his research that worsening scarcities of land and water in Bangladesh sharply exacerbated the struggle between landlords and peasants that hamstringing the innovation in water institutions. According to Homer Dixon, distributionists like Boyce are right to emphasise social imbalances in wealth and power. But they do not, in general, recognise the central reason why these imbalances matter. Highly, unequal social arrangements make it much more likely that environmental scarcity will cause severe social friction. Such arrangements in other words often interact with severe scarcity to generate destructive social competition that impedes technological and institutional adaptation"¹⁰⁴

Against this backdrop, this study focuses on the following dimensions:

1. Environmental scarcity, and degradation of resources in Bangladesh.
2. Social effects of such scarcities in Bangladesh.
3. Migration of Bangladeshis to Indian states.
4. Environmental conflict due to such migration involving both Bangladesh and India.
5. Future sea level rise, migration and conflict.
6. Approaches to resolution of the conflict.

References

1. Stephen D.Krasner, "International Relations Theory and Global Environmental Issues" paper presented at the workshop, "Global Resources and Environment : Arenas for Conflict, Opportunities for Cooperation", University of California. Berkeley/Pacific Institute for Studies in Development, Environment, and Security 15-17 March, 1990.
2. Miriam R.Lowi, "Water and Conflict in the Middle East and South Asia :

- Are Environmental Issues and Security Issues linked?", *The Journal of Environment and Development* Vol.8, No.4, December 1999, p. 376.
3. Charles W. Kegley, "The Neoidealist Moment in International Studies? Realist Myths and the New International Realities". ISA Presidential Address 27 March 1993, Acapulco, see also Mexico, *International Studies Quarterly* 37, 1993, p. 134.
 4. O.R.Holsti, Intenational Systems, System change and Foreign Policy", *Diplomatic History* 15, 1991, p. 84.
 5. R.Jervis, "A Usable Past for the Future", in M.J. Hogan, ed., *The End of the Cold War: Its Meaning and Implications* (New York: Cambridge University Press, 1992), p. 266.
 6. J. A. Vasquez, *The Power of Politics* (New Brunswick, NJ. Rutgers University Press, 1983), pp. 216 ff, R.L. Rothstein, "On the Costs of Realism", *Political Science Quarterly* 83, 1972, pp. 347-62 and R.O.Keohane and J.S.Nye, *Transnational Relations and World Politics* (Cambridge, M.A.Harvard University Press, 1971).
 7. C. Krauthammer, "The Poverty of Realism.", *The New Republic* 194, 1986 pp. 14-22 and R.K.Ashley. The Poverty of Neo Realism", *International Organisation* 38, 1984, pp. 255-86.
 8. C.Hitchens, "Why We are Stuck in the Sand: Real Politik in the Gulf: A Game Gone Tilt", *Harper's* 282, 1991, pp. 70-74, 78.
 9. P. Diehl and F. Wayman ed., *Reconstructing Realpolitik* (AnnArbor: University of Michigan Press, 1993), T.C. Cusack and R.J. Stoll, "The Security Predicament: Assessing the Effectiveness of Realist and Idealist Principles in Interstate Politics", Berlin: International Relations Research Group, Wissenschaftszentrum Berlin fur Sozialforschung 1992), M. Griffiths, "Order and International Society: The Real Realism?" *Review of International Studies* 18, 1992, pp. 217-40.
 10. Z.Brzezinski, "The Cold War and its Aftermath", *Foreign Affairs* 71, 1992, pp. 311-49.
 11. J.Joffe, "Entangled Forever", in C.W. Kegley Jr. and E.R. Wittkoff, ed., *The Future of American Foreign Policy* (New York: St. Martin's Press, 1992), p. 35.
 12. Charles W.Kegley, Jr. *Op. cit.*, p. 141.
 13. Homer Dixon, "On the threshold: environmental changes as causes of acute conflict", *International Security* Vol.16, No. 2, Fall 1991, p. 85.

14. M. Kaldor, *The Imaginary War* (Oxford: Basil Blackwell, 1990).
18. M.P. Leffler, "The American Conception of National security and the Beginning of the Cold War 1945-48". *American Historical Review* Vol. 89, 1984, pp.246-81.
16. S. Dalby, "American security discourse: the persistence of geopolitics" *Political Geography Quarterly* Vol. 9, 1990, pp. 171-88.
17. B.Job ed., *The Security dilemma: national security of third world states* (Boulder, Co: Lynne Rienner 1992).
18. R.J. Johnston, *A question of place: exploring the practice of human geography* (Oxford: Basil Blackwell, 1991).
19. Stockholm International Peace Research Institute, *Policies for common Security* (London: Taylor and Francis 1985).
20. B.Moller, *Common Security and Non-Offensive Defense: a neorealist perspective* (Boulder, Co: Lynne Rienner, 1992), see also A. Boserup and R.Neild eds., *The Foundation of Defensive Defense* (London: Macmillan, 1990).
21. M. Kaldor and R. Falk eds. *Dealignment: A New Foreign Policy Perspective* (Oxford: Basil Blackwell, 1987), see also D. Smith and E.P. Thompson eds., *Prospectus for a habitable planet* (Harmondsworth: Penguin, 1987).
22. R.W.Barnett, *Beyond War: Japan's concept of comprehensive national security* (Washington: Pergamon Brassey's 1986).
23. C.Enloe, *Bananas, Beaches and Bases: Making Feminist Sense of International Politics* (London: Pandora, 1989), see also V.S. Peterson ed., *Gendered States: feminist (re) visions of international relations theory* (Boulder, Co : Lynne Rienner, 1992).
24. B.Weston, ed., *Alternative Security: Living without nuclear deterrence* (Boulder Co: Westview Press, 1990) H.B. Hollis, A.L. Powers and M.Sommers eds., *The Conquest of War: Alternative Strategies for Global Security* (Boulder, Co: Lynne Rienner, 1990).
25. R.B.J.Walker and S.Mendlowitz ed., *Contending Sovereignities: Redefining Political Community* (Boulder, Co: Lynne Rienner, 1990).
26. R.J. Johnston, *op. cit.*
27. Barry Buzan, "Rethinking Security after the cold war", *Nordic Journal of International Studies* Vol. 32, No. 1, March 1997, p. 12.
28. R.C. Johansen, "Real Security is Democratic Security", *Alternatives* Vol. 16, 1991, pp. 209-42.

29. See S.Dalby, *Creating the second cold war: the discourse of politics* (London: Pinter, 1990).
30. S.Dalby. "Ecopolitical discourse: environmental security and political geography", *Progress in Human Geography* Vol.16, No.4, 1992, p. 507.
31. Gareth Porter, "Environmental Security as a National Security Issue", *Current History*, May 1995, p. 218.
32. Peter H.Gleick, "Environment and Security: The clear connections". *The Bulletin of the Atomic Scientists*, April 1991, p. 18.
33. M.Levy, "Is the environment a national security issue? *International Security* Vol. 20, No. 2, 1995, p. 35.
34. R. Matthew "Mapping contested grounds" in D. Deudney and R. Matthew ed., *Contested Grounds: Security and Conflict in the new environmental politics*, (Albany: State University of New York Press, 1999), pp. 1-22.
35. J. Rifkin, *Biospheric Politics: A new Consciousness for a New Century* (New York: Crown, 1991), p. 2.
36. J. Widgrin, "International Migration and Regional Stability", *International Affairs* Vol. 66, 1990, pp. 749-66.
37. R.H.Ullman, "Redefining Security", *International Security* Vol.8, 1983, pp. 129-53. A.H. Westing, "The Environmental Components of Comprehensive Security", *Bulletin of Peace Proposal* Vol. 20, 1989, pp. 129-34.
38. Arthur H. Westing ed., *Global Resources and International Conflict: Environmental Factors in Strategic Policy and Action* (Oxford: New York 1986), Neville Brown "Climate, Ecology and International security", *Survival* Vol.31 No.6, Nov. Dec, 1989, pp. 519-512. Jessica Tuchman Mathews, "Redefining Security", *Foreign Affairs* Vol. 68, No. 2, June 1990, pp.121-33. Norman Myers, "Environment and Security", *Foreign Policy*, No.74, Spring 1989, pp. 23-41. Michael Renner, Pianto Mario, Franchi, Cinzia. "International Conflict and Environmental Degradation", in Vayrinen Raimo ed., *New Directions in Conflict, Resolution and Conflict Transformation* (London: Sage, 1991), pp. 108-128. Thomas F. Homer Dixon, "On the Threshold: Environmental Change and Acute Conflict", *International Security* Vol.16, No.2, 1991, pp.76-116, "Environmental Scarcities and Violent Conflict: Evidence from Cases", *International Security* Vol. 19, No. 1, Summer 1994, pp. 5-41: Elise Boulding, "States, Boundaries and Environmental security", in Dennis J.D.Sandole and Hugo Van der Merwe eds., *Conflict Resolution Theory and Practice: Integration and Application* (Manchester/New York: Manchester University Press, 1993).

39. Sverre Lodgaard, "Environmental Conflict Resolution", a paper presented at the UNEP meeting on Environmental Conflict Resolution, Nairobi, 30 March 1990, p. 18.
40. Quoted in Dietrich Fischer, *Non-military Aspects of Security: A System's Approach*, United Nations Institute for Disarmaments and Research (UNIDIR) (Aldershot: Dartmouth Publishing Company Ltd., 1993), p. 10.
41. *World Commission on Environment and Development, Our Common Future* (The Brundtland Report), (New York) London: Oxford University Press, 1987), p. 290.
42. Jessica Mathews, n. 38.
43. Albert Gore, Strategic Environmental Initiative (SEI), SAIS Review Vol. 10, 1990, pp. 59-71.
44. A.L. Springer, "Protecting the environment: a new focus for the Atlantic alliance", *Proceedings of the Academy of Political Science* Vol.38, 1991, pp. 129-39.
45. P H.Gleick, "The Implications of global climatic changes for international security", *Climatic Change* Vol.15, 1989, pp. 309-25.
46. Norman Myers, "The Environmental Dimension to Security Issues", *The Environmentalist* Vol. 6, No. 4, Winter 1986, p. 251.
47. Arthur H.Westing, "Environmental Security and its relation to Ethiopia and Sudan", *Ambio* vol. 20, 1991, pp. 168-71 See also —, "The Environmental Component of Comprehensive Security", *Bulletin of Peace Proposal*, *op. cit.*
48. Lothar Brock, "Peace through Parks: The Environment on the Peace Research Agenda", *Journal of Peace Research* Vol.28, (40), 1991, p. 407.
49. Norman Myer, n.46, p. 253.
50. Gareth Porter, *op. cit.*, p. 218.
51. Gareth Porter, *op. cit.*, p. 220.
52. M.Renner, "Assessing the military's war on the environment", in L.Brown, et al. *State of the World 1991*, (New York: Norton, 1991), pp. 132-52.
53. Simon Dalby, n. 30, p. 512.
54. See Daniel Deudney, "The case Against Linking Environmental Degradation and National Security" *Millenium* Vol. 19, No. 3, Winter 1990, pp. 461-476: Mathias Finger, *The Military, the National State and the Environment*, *The Ecologist*, Vol. 21, No. 5, 1991. Richard H.Moss, "Environmental Security? The Illogic of Centralised State Responses to Environmental

- Threats", in Paul Painchaud ed., *Geopolitical Perspectives on Environmental Security*, Cahier du GERPE, No. 92-05 Université Laval, Québec, 1990.
55. Daniel Deudney, "Rethinking the Link Between Environmental and National Security Issues", *Perspectives on War and Peace*, Centre for International Cooperation and Security Studies University of Wisconsin, Madison Vol. 7, No. 2, Spring 1990, p. 12.
 56. J.T. Mathews, *op. cit.*
 57. Hans Bruyninax, "Environmental Security: An Analysis of the Conceptual Problems Defining the Relationship between the Environment and Security" Paper presented at Budapest on the Workshop on Environment and Security organized by the European Peace Research Association, 11-16, November 1993, pp. 1-16.
 58. L. Brock, "Security through defending the environment: an illusion?" in E. Boulding ed., *New Agendas for Peace Research: Conflict and Security Reexamined* (Boulder, Co: Lynne Rienner 1992), p. 98.
 59. R.D. Lipschutz and J.P. Holdren, "Crossing Borders: Resource Flows, the Global Environment and International Security", *Bulletin of Peace Proposals* 21, 1990, pp. 121-33.
 60. S. George, *A Fate Worse than Debt* (Harmondsworth: Penguin, 1988).
 61. J. Sanders, "Global ecology and world economy: collision course or sustainable future", *Bulletin of Peace Proposals* 21, 1991, pp. 395-401. See also R.D.Lipschutz, "One World or Many? Global Sustainable Economic Development in the 21st Century", *Bulletin of Peace Proposals* 22, 1991, pp. 189-98.
 62. Barry Buzan, "Environment as a Security Issue" in Paul Painchaud(ed) *Geopolitical Perspectives on Environmental Security*, p. 24. quoted in Ole Waever, *Securitization and Desecuritization*, working paper 5, 1993, Center for Peace and Conflict Research, Copenhagen, 1993, p. 14.
 63. Andre Gorz, *Ecology and Freedom*, 197x, quoted in Ole Waever, *Securitization and Desecuritization*, *Ibid.*
 64. See Dalby, n. 30, p. 512.
 65. Deudney, n. 55., p. 467
 66. *Ibid.*
 67. Barry Buzan, "Environment as a Security Issue, *op. cit.*, p. 1 and 24f. quoted in Ole Waever. *op. cit.* p. 13.
 68. Barry Buzan, "Rethinking Security after the cold war", *Nordic Journal of International Studies* Vol. 32, No. 1 March 1997, p. 12.

69. M.Gorbachev, "Reality and guarantee for a secure world", *Moscow News*, No. 39, 1987, p. 3287.
70. James Baker, "Diplomacy for the Environment", address before the National Governors' Association, 26 February, 1990. Washington D.C. reprinted in Current Policy no. 1254 February 1990.
71. Quoted in Peter H.Gleick, *World's Water : The Biennial Report on Fresh Water Resources* (Washington D. C. Covels, California: Island Press, 1998), p. 106.
72. Quoted in Gareth Porter op. cit., p. 222.
73. Quoted in Thomas Homer-Dixon and Valerie Percival, *Environmental Scarcity and Violent Conflict: Briefing Book* (American Association for the Advancement of Science, University College, University of Toronto, 1996), p. 2.
74. See Stephan Libiszewski, *What is an Environmental Conflict?* Environment and Conflict Project, Centre for Security Studies and Conflict Research, Switzerland, Bern/Zurich, Occasional Paper No. 1, July 1992, pp. 1-16.
75. See Arthur H.Westing, "Environmental Factors in Strategic Policy and Action: An Overview", *Ibid.* ed., op. cit, pp. 3-20 and his Appendix-2 *Ibid*: Wars and Skirmishes involving Natural Resources, pp. 204-10
76. The distinction is made by Judith Rees, "Resources and the Environment, Scarcity and Sustainability" in Robert Bennett and Robert Estall (eds): *Global Change and Challenge: Geography for the 1990's* (London, New York, 1991), quoted in Stephan Libiszewski, op. cit. p. 5.
77. Stephan Libiszewski, op. cit., p. 6.
78. Thomas F.Homer Dixon, "Environmental Scarcities and Violent Conflict: Evidence from Cases", *International Security* Vol.19, No.1, 1994, p. 8.
79. Homer Dixon and Valerie Percival, op. cit, pp. 6-7.
80. Johan Galtung has introduced the concept of structural violence to denote causes of human suffering that are not the result of evil individuals but of unjust social structures. See Johan Galtung, "Violence, Peace and Peace Research", *Journal of Peace Research* Vol. 8, No. 3, 1969, pp. 167-191.
81. Arthur H. Westing, "Comprehensive Human Security and Ecological Realities", Guest Comment, *Environmental Conservation* Vol. 16, No.4, Winter 1989, p. 295.
82. Earthscan Briefing Document, 40, *Environment and Conflict* 1984, p.9.
83. Thomas F. Homer Dixon, *Environment, Scarcity and Violence* (Princeton, New Jersey Princeton University Press, 1999), p. 48.

84. *Ibid.*
85. Paul Ehrlich and Anne Ehrlich, *The Population Explosion* (New York: Touchstone, 1991).
86. Thomas F. Homer Dixon, n. 83, p. 80.
87. *Ibid.*, p. 81.
88. R.B. J. Walker, "Realism, Change, and International Political Theory," *International Studies Quarterly* 31, No. 1, 1987, pp. 65-86. Robert Gilpin, *War and Change in World Politics* (Cambridge: Cambridge University Press, 1981).
89. Nazli Choucri and Robert North, *Nations in Conflict* (San Francisco: Freeman, 1975).
90. Volker Boge, "Proposal for an Analytical Framework to Grasp Environmental Conflict", ENCOF, Centre for Security Studies and Conflict Research, Swiss Federal Institute of Technology, Swiss Peace Foundation, Bern/Zurich Occasional Paper No. I, July 1992, p. 5.
91. See also Kurt Schock, "A Conjunctural Model of Political Conflict", *Journal of Conflict Research* 40, No. 1 (1996), pp. 98-133.
92. Homer Dixon, n. 83, p. 144.
93. Astri Suhrke, "Environmental Degradation and Population Flows", *Journal of International Affairs* Vol. 47, No. 2, 1994, pp. 473-524.
95. Homer Dixon, *Environment, Scarcity and Violence*, *op. cit.*, p. 93.
96. Anthony H. Richmond, "Reactive Migration: Sociological Perspective on Refugee Movements", *Journal of Refugee Studies* Vol. 6, No. 1, 1993, p. 10.
97. Homer Dixon, *Environment, Scarcity and Violence*, *op. cit.*, p. 30.
98. Jesse H. Ausubel et al., "The Liberation of the Environment", *Daedalus*, Vol. 125, No. 3, 1996; V. Kerry Smith, ed., *Scarcity and Growth Reconsidered* (Baltimore: John Hopkins Press for Resources for the Future, 1979).
99. Harold Barnett and Chandler Morse, *Scarcity and Growth: The Economics of Natural Resource Availability* (Baltimore: Johns Hopkins Press for Resources for the Future, 1963), p. 10.
100. *Ibid.*, p. 11.
101. Daniel Hillel, *Out of the Earth: Civilization and the Life of the Soil* (New York: Free Press, 1991).
102. James Boyce, *Agrarian Impasse in Bengal: Institutional Constraints to Technological Change* (Oxford: Oxford University Press, 1987).

103. Homer Dixon, *Environment, Scarcity and Violence*, *op. cit.*, p. 42.
104. *Ibid*, pp. 42-43.