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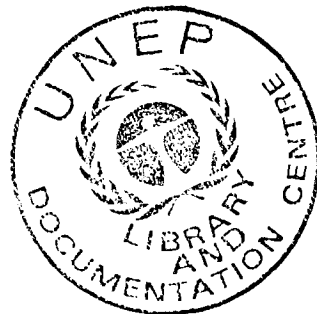# Proceedings
International Conference
On
"Environment, Peace and the Dialogue among Civilizations and Cultures"

Tehran - May 2005

DOE   **UNEP**

UNESCO   **UNU**

International Conference
"Environment, Peace and Dialogue"

"Whatever you do,
   do it with prudence
            and consider the outcome"

An old Roman Saying

Proceedings
International Conference
on
"Environment, Peace and the Dialogue among Civilizations and Cultures"

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9-10 May 2005

Tehran

**Compiled and edited
by
Bagher Asadi**

UNEP

UNESCO

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Foreword

It is a pleasure for both of us to write this joint piece by way of introducing the volume representing the work and outcome of a joint enterprise we undertook to organize. What we have achieved in an almost 7-month process of cooperation started with my partner's proposition of an idea and suggestion that looked quite general and remote – even vague – at the time back in October 2004 in my Office in Nairobi. The accomplishment has been, in our considered judgment, quite substantial and substantive.

The International Conference on "Environment, Peace and the Dialogue among Civilizations and Cultures", held in Tehran, Islamic Republic of Iran, from 9-10 May 2005, represents a successful example of partnership between the Department of the Environment of Iran and the United Nations Environment Programme (UNEP). What seemed to both us then as a follow-up to an earlier experience of partnership back in 2001 on religious dimensions of environment, soon developed into a project and process with a much larger scope and substance. What was clear, though, from the very beginning was that it was, in essence, a tribute to President Khatami's proposal on the Dialogue among Civilizations and in a more concrete sense, a recognition of and tribute to his legacy of proactive approach and policy towards the concept of "dialogue" and the protection and preservation of environment.

And this is how we arrived, over time and in the course of a few months of fruitful and constructive exchange of views, at the necessity of addressing two intricately interlinked nexuses. On the one hand, the nexus between environment and peace and security – which

has come in recent years to receive increasing attention at various levels – national, regional and international. And on the other, the nexus between peace and security and dialogue proper; or in other words, the particular contribution dialogue – in the broadest sense of the word – can and should make towards ensuring long-term, sustainable peace and security as the most fundamental prerequisite for the preservation and protection of environment.

While the problematique of the intended conference was being defined and developed, we also resolved to ensure that the gathering would go beyond the rather familiar framework of run-of-the-mill intergovernmental meeting and instead draw on the state-of-the-art expertise and intellectual/academic analysis in the areas of environment, peace and dialogue on a global scale. The structure of the Conference, the caliber of its participants, the quality of presentations, and no less important, the open and rich exchanges that ensued – laid out in detail in the pages to follow - all attest to the success of the joint enterprise, the process and finally, the event itself, of which we are extremely proud.

The process and the Conference, now we are in a position to state with a sense of certainty, produced a good and reassuring outcome – Tehran Communique. Even though rather brief, it is a very clear, practical and proactive document. It reflects the essence of the problematique of the meeting – the two interlinked nexuses - and it represents, in a very honest and straightforward manner, the depth of the analyses and discussions in the course of the Conference. The document, anchored on the central conviction of the common brotherhood of all peoples and a vision of global civilization, emphasizes the need for the reconstitution of vital ethical and spiritual messages and development of global ethics for environmental stewardship.

The Tehran Communique, reflecting also the spirit of the times, including the challenges confronting multilateralism, has come out, in very clear and unambiguous terms, on the side of the imperative of strengthening multilateralism, and hence the United Nations. Its clear and potent message in this regard – addressing specifically the on-going reform process at the United Nations - is unmistakable. We are happy and grateful that President Khatami has, as recommended by the

participants at the Tehran Conference, already transmitted the Communique to the United Nations Secretary-General as an input to the Millennium Review Summit (September 2005, New York).

We believe that the Tehran Conference – and its outcome – have already established a solid basis which deserve to be followed up in earnest. The Communique itself contains a number of specific suggestions to this effect, including the recommendation on devising some form of institutional follow-up to further deepen the initiative on environment, peace and dialogue. Another area of keen interest would be to develop better understanding on the issues of security and environment and to link such an understanding to broader discussions on security. Undertaking further efforts towards engagement of broader constituencies, inter alia, through a more effective programme of education for sustainable development at various levels, is very much called for.

In our considered view a better, more effective protection and preservation of environment, at all levels – national, regional and international – requires genuine and honest respect for the existing and emerging international legal instruments in the field of environment and natural resources. This, in turn, calls for the establishment and further development of binding international agreements with clear compliance, enforcement and compensation mechanisms.

And finally, we commend the invaluable efforts of all those who helped make the Tehran Conference a reality – and a real success story – and believe that the initiative and the partnership could – and should – be emulated in the future to take more steps in this direction.

Massoumeh Ebtekar   **Klaus Topfer**

Introduction

██████████The Foreword has already done justice to the substance and content of the Tehran Conference and its outcome, making the job much more difficult for me and the text of the Introduction. Perhaps a few words on how the original idea – inevitably general and even vague in its initial formulation as alluded previously – took shape and developed into the two-day meeting will be found helpful, more from an educational point of view than otherwise.

Once Dr. Topfer read Dr. Ebtekar's letter on the future prospects in the bigger picture, containing also in that regard the idea for the conference propose for Summer 2005 and welcomed the idea in the course of their meeting in Nairobi back in early October 2004 - and instantly pointed to May 2005 as the more appropriate timing for it - a proces of trial and error started. A process of exchange of views on the title, duration, major themes, composition of participants, and even the expected outcome, and needless to say, the contours of the partnership – including UNEP's financial contribution, which turned out to be quite generous and extremely helpful. The fundamental understanding between us from the very beginning, based of course on a number of close working relations and mutual trust that all aspects of the process and the meeting would be pursued, developed and executed on the basis of and through consultation and concurrenc was heart-warming and reassuring. Even though I have to make a little confession right at this very point that physical distance and bureaucracy do still matter

and loom large, even in this age of instant e.mail exchange. The co-signed letter of invitation (Annex III) and the Conference Briefing Paper (Annex IV) represent very concrete – and successful - examples of the sense and the commitment to that state of mutual understanding and comradery. The Briefing Paper itself, albeit a 4-page document only, did, in fact, take a good three months before it could be officially issued in late February, already containing, of course, a substantive part of the Conference structure and organization – which was further developed and expanded in the intervening period as I kept receiving more commitments and papers.

A rather unique aspect about the preparatory process for the Tehran Conference was that due to the brevity of time the rather famil-iar and established procedure of "call for papers" was not pursued. Instead, given the decision to concentrate on the participation of aca-demics, analysts and experts – both Iranian and international - a wide range of potential personalities – some with previous acquaintance and others without - were identified and contacted, thanks to the kindness and selfless help of a wide range of friends, colleagues and acquain-tances. A good number of the invitees found it feasible to participate and graciously accepted to make substantive contribution to the meet-ing, and for some others previous or conflicting engagements got in the way. The beauty of this rather long, time-consuming and quite often nerve-racking scouting process – if I may allow myself to be a bit lib-eral and divulging with words – was that the width and expanse of the contacts and the content of the countless exchanges did, in actuality, help shed further light on the problematique of the Conference itself and further elucidate and articulate various aspects of the themes and issues involved - first and foremost for myself and the other Iranian colleagues engaged in the process. The title and composition of the pre-sentations, as well as high-caliber presenters, of the nine working ses-sions of the Conference, as appears in the Table of Contents and laid out in detail in the body of the present volume, fully reflect the outcome of this long and yet highly educational and rewarding exercise. In def-erence to the caliber and standing of the presenters and also to ensure the quality of exchange and discussion all working sessions were chaired by prominent, senior and highly accomplished academics and,

in some cases, seasoned diplomats – assisted also by experienced and accomplished experts or academics, and in a few cases by civil society activists. I remain in great debt of all of them.

Another aspect of the work the Conference, equally time-consuming and yet fruitful and constructive, concerned the decision to invite a rather limited – selected – number of high-level governmental representatives in the area of environment and sustainable development. It was reckoned that a certain degree of governmental participation, both from developing and developed countries, would also help enrich the discussions and deepen our collective understanding of the issues at hand at the meeting. I should hasten to add that in order to ensure the quality of deliberations and maintain the non-governmental nature of the exercise ministers and deputy ministers of environment were invited to the Conference in their personal capacity and not as state representatives. The arrangement worked perfectly well as intended and the High-level Interactive Ministerial Roundtable, chaired by an experienced and internationally known state minister, turned out to be a very useful experience. The free-flowing exchange on the reason and rationale for the Tehran Conference produced a dearth of material, later to be used, along with those of other Working Sessions, in the formulation of the outcome – Tehran Communique.

While focusing primarily on academia and international expertise, and also to a lesser extent on public sector outlook and discretion – as just alluded to – the two partners were keen to work towards ensuring the participation of civil society and non-governmental organizations (NGOs) – both Iranian and otherwise – in the meeting. The outcome was the attendance and participation of a number of active and known actors and organizations. Provisions of the Communique do, among others, recognize and reflect the engagement and contribution of non-state actors. Personally, I would have preferred a higher profile and participation for civil society actors and activists, which, I have to admit, proved difficult mainly due to the familiar financial predicament they generally suffer, which is particularly the case in the South.

The partners' interest in expanding the network of support and cooperation also succeeded in receiving the co-sponsorship of the

Conference by the United Nations University (UNU) and the United Nations Educational, Scientific and Cultural Organization (UNESCO) – both particularly concerned with and active in the area of dialogue among civilizations and cultures. Expressed interest of a number of developed countries and other Programmes and Departments of the United Nations system and a number of governments for support and sponsorship, however, failed to materialize - as we came to know along the process - due to simple bureaucratic red-tape, which does not seem to be a peculiarly developing society handicap.

I am acutely aware that these few lines in the Introduction utterly fail to do justice to the details and nuances – and it is always nuance that counts more than the text – of a process, event and outcome that far surpassed all our most optimistic expectations. For that I remain forever in deep debt of so many individuals, whose names and designations I am afraid are simply too many and too much to enumerate, whether in Iran - in the Department of Environment and Foreign Ministry - and outside – United Nations Environment Programme (UNEP) – and countless individuals, academics, analysts, experts, civil society and NGO activists many of whom either I simply knew in the realm of cyberspace and e.mail exchange before the Conference and some of whom still remain faceless remote names and e.mail coordinates only. I dearly value and cherish the acquaintance and friendship – and working, professional relationship – with all of them. I have resisted the temptation of mentioning names, even if to the possible disappointment if not incense of those who would have expected – and reasonably - to be given credit for all their invaluable support of all kinds and helping hand all through the seven-month-long process before the meeting took place and during the past three months spent on the preparation of the Proceedings – certainly not consummated until the present volume sees the light of the day - or as I would rather have it, till the baby is born!

I should also say a word on the question of editing. Ideally, all papers in the volume - research papers and presentations - should have gone through some degree of editing. That has simply eluded me, if for no other reason than sheer lack of time. In the case of a number of presentations, the pen was put to the paper, and for some, quite substantially. Editing aside, I take full responsibility for all possible short-

comings and mistakes in the volume, except, of course, those hinging on machines and advanced techniques - which are just beyond me and have always proved intimidating and inhibiting.

The Tehran Conference has come and gone. But, the outcome – Tehran Communique – I believe is a living document capable of proactive, dynamic implementation and follow-up. Equally important, is the network and community of friendships - both personal and professional - that has taken shape along the preparatory process and around the two-day Conference and its outcome. I, for one, look forward to the fruitful continuation of the network of friendships and also the actual realization – to the extent possible and as good as it gets under these uncertain and even perilous times everywhere and at different levels - of the numerous worthy recommendations and proposals of the Tehran Conference.

Bagher Asadi
Ambassador
Secretary of the Conference

An Iranian career diplomat, currently serving as Senior Expert at the Department of International Affairs, Ministry of Foreign Affairs, Tehran.

Part One: Opening Plenary

Welcoming Statement

Dr. Massoumeh Ebtekar

In the Name of Allah

It is indeed with great pleasure, in my capacity as the host and Chair of this International Conference, to welcome our distinguished guests to the inaugural ceremony of the *International Conference on Environment, Peace, and the Dialogue among Civilizations and Cultures.*

I wish to welcome, in particular, the architect of the concept of Dialogue among Civilizations, Seyed Mohammad Khatami, President of the Islamic Republic of Iran, and also Dr. Klaus Topfer, the capable, and let me say, indefatigable, Executive Director of the United Nations Environment Programme (UNEP). I also extend my warmest welcome to the honourable ministers, dignitaries, members of the diplomatic corps, academics, scholars, and environment and peace activists.

The convening of this Conference in Tehran, in these utterly sensitive times, is of utmost importance. We are gathering here in the heart of a region that has witnessed serial major wars over the past two decades and will, hopefully with the exit of foreign forces, develop towards a region of peace, stability and democratic rule. Yet ours is an era in which unstable global equations in political, military and environmental terms interact and create an inevitable synergistic effect.

The concept of Dialogue among Civilizations, as proposed by President Khatami and pursued thus far through a network of still continuing activities, has served as an increasingly motivating factor and led to further encouraging processes. The initiative, as everybody here in the audience knows well, has created a conceptual and political dynamism; a dynamism in the never-ending quest for achieving sustainable, human development and a better future for the human community. It is heart-warming that so much hope seems to be vested, at

Vice-President
and
Head of the Department of Environment - Islamic Republic of Iran

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different levels – national, regional and international - in the continual spread and strengthening of this concept.

As we have moved forward along the continuum of time, at least since the Stockholm Conference of 1972, we have come to appreciate, more and more, the ever-increasing relevance, in fact, the critical impact, of environment on what we now call sustainable development. Moreover, developments on the ground during the past decade or so have lent further credence to the accuracy of the Principle 25 of the Rio Declaration, stipulating, in absolutely unambiguous terms, that "Peace, development and environment protection are interdependent and indivisible". That lesson, and the related increasing awareness of the emerging environmental perspective, indeed of historical significance, has been properly perceived, received and addressed by the relevant quarters, including, in particular, the United Nations Environment Programme. UNEP's activities in the Year 2001, especially its Seminar on the Dialogue among Civilizations with particular emphasis on environmental dimensions, helped to further highlight this emerging awareness and concern.

Civilization is rooted in nature and human interaction, which have, in their rather peculiar interplay, shaped human culture and influenced all human achievements – material and otherwise. Harmony with nature allows humankind the opportunity for the nurturing of innate creative faculties. It also provides the human specie optimal conditions for a healthy and creative life.

Dialogue among Civilizations has opened new vistas for a global interface. It underpins new horizons for proactive international decision-making and dialogue-based conflict resolution. These horizons, however, should not be merely conceived within the traditional realms of diplomatic, political or military and security frameworks, rather, instead, within such areas as culture, art and spiritual enlightenment; areas with tremendous, yet untapped – or under-tapped – potentialities, whose materialization will undoubtedly help us – all of us human beings, everywhere, on both sides of the development divide –

achieve more humane, ethical relationships and create more sustainable socio-political and economic environments.

This new dynamism – and its related sense of hope and optimism – especially if considered within the bigger gloomy global environment we have been living in and experiencing, owes much to the humanistic vision of the man who now nears the end of an eight-year crusade for the actual and meaningful promotion of dialogue, mutual understanding and tolerance – needless to say, at various levels. This Conference, in all frankness, is, in its most fundamental aspect, an attempt at appreciation, in concrete terms, of the critical significance of the concept and principle of dialogue in its broadest sense of the word for the actual promotion of peace, stability and security as the very determining factors for ensuring environmental sustainability.

A while earlier I alluded to the activities in the Year 2001 – International Year of the Dialogue among Civilizations – among which the joint initiative of Iran and UNEP on the nexus between Environment, Religion and Culture, was indeed a valuable first step in the right direction.   The final Declaration of that International Conference, attended by leaders of the world's major religions, stated: "lasting international peace and security call for an attitude of reverence for all kinds of life on earth and respect for the environment for the benefit of present and future generations."

UNEP, and the person of Dr. Klaus Topfer, deserve the well-earned credit for responding to the rather rampant prevalence of war and conflict in the recent years and produced Post Conflict Environmental Assessments for six regions afflicted with war and violence. These well-substantiated reports have, in fact, deepened our collective understanding of the devastating impact of war and armed conflict on nature and the environment.

Dr. Topfer's personal respect for and commitment to the promotion of the concepts of diversity and dialogue in general – and the Dialogue among Civilizations as a concrete process in particular – are truly worthy of commendation. So is the growing profile in the

Institution's work of respect and consideration for cultural and religious perspective.

While we look to the future with a sense of hope and optimism – albeit guarded and realistic – we cannot but admit, ruefully as it might, that depletion of precious, scarce natural resources and degradation and destruction of our environment - our collective common bed for mere sustenance and nurturing – continue unabated and at a rather frightening tempo. Faced with irrational and confounding reliance on military might and resort to sheer force – and its equally horrific and inhuman nemesis, terrorism, we cannot but put down our feet on the ground and insist on dialogue as the only viable conduit for collective search for viable solutions for our common problems – including in the area of environment. I stop right here and just extend my deep appreciation to all those whose hard work, assistance and support has made the event possible, and wish all of you the best of success in your worthy enterprise in Tehran. Let us join hands to go the last mile and send a powerful message to the international community.

Statement

Dr. Klaus Topfer

Mr. President,
Madame Vice President,
Distinguished Guests,

It is a great pleasure and honour for me to take part in this very important meeting at such a critical time for the International Community.

I would first of all like to pay tribute to the vision and commitment of President Khatami in launching the initiative on the Dialogue among Civilizations. Since the launch of the initiative a lot has been achieved in advancing understanding among nations and peoples and I would like to congratulate President Khatami on recently being honoured by UNESCO, which has also established the Global Forum on the Promotion of Dialogue among Civilizations. I would also like to thank Vice President Ebtekar for her dynamism and commitment in enabling this conference to take place.

It is clear that great economic and social issues of our time are intimately linked with the quest for political stability. But one can no longer deny the impact of the current ecological crises on the political stability of nations and regions, and even within societies.

Today, millions around the globe are working courageously to recover from generations of conflict, insecurity and lawlessness, to lay the basis for a prosperous and secure future for their children. Yet they must struggle to survive in the face of growing deserts, dwindling forests, declining fisheries, poisoned food, water and air. They must adapt to patterns of weather that become ever more extreme - floods, droughts and hurricanes. In the face of such desperate challenges, can war and violence be avoided?

These environmental threats, which put a grave burden on international relations and national development, and jeopardise the survival of the planet and its human and non-human inhabitants, should be treated as a security threat. International security has to rest on the

Under-Secretary-General
Executive Director
United Nations Environment Programme

elimination of the real scourge of humankind - hunger, disease, illite-
racy, poverty and the deterioration of the earth's life support systems.

- Thus, bad environmental management practices can lead to
  conflict. We know only too well that unresolved local conflicts
  can spill over national borders and create global threats,
  including terrorism.
- Conflicts may occur when political and economic institutions
  and processes strive to control over traditionally held resources
  without any form of consultation or compensation.
- Conflicts may occur when political and economic institutions
  and processes lead to the degradation of the environment, and
  place individuals and populations at risk.
- Conflicts may occur when people find themselves forcibly
  relocated while governments and industry expand export-
  oriented industries, develop international tourist facilities and
  set aside the bio-commons for development.

Likewise, actions that reduce environmental stress, guarantee
access to vital resources and remove economic incentives for conflict
present opportunities for enhancing cooperation and building a sustain-
able peace. Environmental cooperation can indeed strengthen mutual
trust and be a basis for confidence building.

More Sustainable and equitable management of the environ-
ment presents a cost-effective means for building social cohesion, rein-
forcing cross border collaboration and reducing vulnerability to natural
disasters.

In Johannesburg, the world's leaders affirmed that "peace,
security, stability and respect for human rights and fundamental free-
doms are essential for achieving sustainable development".

In his report A/58/323 to the General Assembly on the imple-
mentation of the United Nations Millennium Declaration, the Secretary
General affirmed that "the more immediate concern for most of our fel-
low human beings is with 'soft threats' to their security, such as those
posed by environmental problems ..... and simple poverty, which
makes people more vulnerable to threats of almost every kind" and that
"the implications of the security of a number of natural resources, the
mismanagement or depletion of such resources and unequal access to

them should also be recognised as potential causes of conflict and should be more systematically addressed as such by the international community".

Indeed, preserving the environment and protecting people need not be conflicting goals. Each is impossible without the other. For this reason, promoting human security - securing fundamental natural resources and ensuring sustainable livelihoods - is a vital contribution to peace.

The notion of Dialogue among Civilization is not just a philosophical concept. It is indeed a pragmatic, inclusive and instrumental model, in enhancing cooperation, security and peace even through environmental cooperation.

Environmental degradation, inequitable access and unsustainable use of natural resources, are important sources of human insecurity that could trigger conflict and war. These factors can in many instances trigger or fuel violence, and increase vulnerability to natural disasters.

Even though environmental factors are not considered as the direct cause of conflict, they are well recognized as part of a complex web of socio-economic problems such as overpopulation, poverty, forced mass migration, refugee movements, hunger and starvation, political instability and ethno-political tensions which could lead to conflict.

Conversely, environmental concerns can present opportunities for dialogue, cooperation and peace building. Cooperative actions around common environmental concerns can be a powerful tool for preventing conflict and promoting security and peace.

The shared environmental concerns could play a valuable role in catalysing cooperation, initiating dialogue and providing alternative dispute resolution mechanisms. It has been observed in many cases that cooperation and dialogue have been catalysed as a result of pressing common environmental concerns and their transboundary effects. Such shared environmental concerns have even paved the way for political reconciliation between or among the neighbouring countries.

In final instance, conserving nature is about ensuring a livelihood and a future for the billions of people who depend on their local environment directly for their food, water and shelter. Environment is

no luxury item. It is a matter of survival and development and, as such, an essential in conflict prevention and promoting peace.

I look forward to a very fruitful and constructive exchange on all these important and critical issues and a very successful joint enterprise, and of course, to the effective follow-up afterwards of the Conference outcome. On this as well, UNEP will continue to remain a reliable partner.

Message
from the
United Nations Secretary-General
9 May 2005

████████In September, world leaders will meet at the United Nations in New York to review implementation of the Millennium Declaration. In preparation for this Summit, I issued a report, *In Larger Freedom, Towards Development, Security and Human Rights For All*, in which I warned that all our efforts to promote security, development and human rights, and to pursue sustainable development, will be in vain if environmental degradation and natural resource depletion continue unabated.

I therefore welcome the initiative of the Government of the Islamic Republic of Iran in organizing this conference to highlight the link between environment and peace, and the importance of dialogue among civilizations and cultures. Although often divided by faith, culture or history, we are bound by our common humanity and, like all species on Earth, by our common dependence on the environment. We need clean water, fertile soils and pure air if we are to build a world of peace, freedom and dignity for all.

The recently published Millennium Ecosystem Assessment confirmed that almost all the planet's important ecosystem services are in decline, presenting a major obstacle to achieving the Millennium Development Goals. We also know that many of the world's indigenous cultures and languages, which are found overwhelmingly in the most biologically rich areas, are threatened. These cultures not only depend on biodiversity, they actively protect it. Arresting their decline must be a priority.

My report for the Summit stresses that the cause of larger freedom can be advanced only if states work together. The environment is an area where states are indeed cooperating more extensively and more progressively. Moreover, although environmental degradation and competition for scarce resources are potential flashpoints for conflict, history has repeatedly shown that they are more often catalysts for

cooperation. Problems of shared resources regularly produce shared solutions. In such solutions — in such dialogue — lie the seeds of reconciliation, mutual understanding and peace.

That is a message your conference can project to the September summit. I hope you will also deliver a message of urgency – that on the environment and other challenges before the international community, the time for bold decisions and actions is now. In that spirit, please accept my best wishes for a successful conference.

Inaugural Statement

Seyed Mohammad Khatami

In the name of God, the Compassionate, the Merciful

Honorable Guests,
Excellencies,
Ladies and Gentlemen,

The International Conference on Environment, Peace and the Dialogue among Civilizations and Cultures, a joint initiative of the Department of Environment of the Islamic Republic of Iran and United Nations Environmet Programme (UNEP), is an appropriate effort for addressing one of the major concerns of modern man across the globe. It is my earnest hope that such events will lead to an increased interest in environment by countries, nations and international organizations.

Environment has been one of the pivotal areas of concern to the Government of the Islamic Republic of Iran in the course of the past eight years – notwithstanding the need for rapid economic growth and wide-spread unemployment. The available data and statistics point to a record of good, reasonable progress in this area, along with quite an outstanding performance in other economic sectors – including oil and energy, industry, and water and sewage treatment.

In the 20-Year Perspective for comprehensive economic, social, cultural and political development of the Islamic Republic of Iran, we have envisioned the establishment of a society enjoying a sound environment as one of our major objectives, and we have also articulated practical plans and projects for reaching such objectives. They include projects for the preservation of the habitat of precious and endangered species of flora and fauna; quality protection of the country's major rivers; comprehensive plan for urban waste management; combatting air pollution in mega cities; provision of support for NGOs active in the field of environment (currently 650). The direction and content of the envisioned plans and projects are clear indications of the Government's commitment to protect the environment and help

President of the Islamic Republic of Iran

prevent its erosion and destabilization.

Drawing on the record of the country's hosting of the first international conference in 1971 leading to the development and adoption of the "Ramsar Convention", the Islamic Republic of Iran has endeavoured in a consistent manner over the past few years to play an increasingly active role in international and regional processes and projects for the protection of environment. Signing of the Framework Convention for the Protection of the Marine Environment of the Caspian Sea in Tehran last year is a clear indication of our pioneering role in regional environmental cooperation and arrangements. There is no doubt that environmental cooperation can contribute to the expansion of ties and further promotion of peace, stability and friendship among peoples, nations and States.

It is, however, a matter of grave concern that despite the progress made thus far in the field of environment at national and regional levels, we are currently witnessing a number of quite destabilizing phenomena and trends such as global warming, destruction of wild life diversity and ever-worsening pollution at various levels and fields.

Honorable Participants,

Pollution and the destruction of environment, on the one hand, lead to an inexorable rise in poverty, injustice and grievance in developing societies and, simultaneously and on the other hand, poverty and insecurity in the countries of the South will in turn further exacerbate environmental instability. Hence, a haunting vicious circle. The greed and avarice of opportunists do not stop here. Quite to the contrary and as substantiated by recent post-conflict reports produced by UNEP, war and military activity in such regions as Bosnia, Kosovo, Occupied Palestine, Afghanistan and Iraq have severely damaged the environment, fresh water sources, and the health of local people in each and every of these regions. The risky situation in these regions has attracted the serious attention of the United Nations – UNEP in particular – and encouraged assessment of the effects of war on the environment and human security; reiterating an important aspect of the Charter-based duties of the Organization pertaining to the preservation of world

peace.

Turning to the concept of peace, I am sure that we all agree that peace based on justice has always been an ideal value cherished by human societies. History, however, tells us that many bloody and destructive wars have been fought in the name and under the guise of this exalted value. That is exactly why the world today needs, more than ever before, to reach a common understanding on this concept, based on intellectual reflection and vision and revival of a culture of universal peace and solidarity, so much so that it will be able to attain a solid foundation for a pacific coexistence and create a human environment free from war, conflict and violence. Planet earth – our common home and refuge - will have to be saved from this seemingly irreversible trend of environmental pollution and destruction; a safe living environment is very much needed for our future generations. The journey towards finding a common solution to this global problem - a long and arduous journey in any event - is possible only through resort to and reliance on dialogue among civilizations and cultures. There is only one solution before us all – strive to arrive at a common intellectual understanding at the conceptual level, and equally important, a change in outlook and mentality which calls for substitution of violence and war with peaceful and just interaction. Hence, moving in the direction of creating an ambiance for a healthy, secure and creative life on the planet.

The International Conference on Environment, Peace and the Dialogue among Civilizations and Cultures is verily a propitious opportunity to explore the immediate as well as the long-term destructive impact of war, armed conflict and various forms of violence on environment of the societies and countries involved, especially considering the particularly destructive potentials of advanced armaments. The equally nefarious polluting impact of these armaments, whose real impact are felt much later more often than not, poses a bigger threat to our common environment.

Dear Friends,

As you all know fully well, the question of reform and restructuring of the United Nations is currently on the General Assembly agenda. In

this regard, let me make a number of points in passing. In this, I have in mind, on the one hand, the genuine concerns of developing societies, and on the other, what I have witnessed over the past years as a trend of interest and even enthusiasm in the international community towards the idea and proposal of "Dialogue among Civilizations" – which has come to be identified as a new paradigm for intellectual reflection as well as a practical strategy for reducing tension and resolving disputes.

The reform of the United Nations - whose expressed objectives are promoting peace, security, sustained development, freedom, democracy, and respect for human dignity, indeed a lofty claim and an encompassing enterprise - cannot but be achieved through genuine international consensus. The process has to be democratic, and it has to accommodate the views and interests of all nations – big and small - especially the developing and the least developed. Should the process fail to pass this litmus test, it will inevitably – albeit unfortunately – prove counter-productive and create new problems for humankind instead of resolving the current predicaments.

Let me emphasize, once again, that any reform and restructuring of the Organization should be strictly in accordance with the views and consent of all the Member States and only through genuine international consensus. The outcome of the process should prevent the misuse of military and economic power against humanity and nature. Equally important, it should be able to replace the use of military and economic force by the powers that be with dialogue and interaction among equals. It is only through such a process and outcome that the rights of all mankind could be respected and international relations could be based on principles of peace, justice and equality, resulting in a meaningful movement away from insecurity and instability toward security and stability.

It is indeed unfortunate that the unfulfilled promises of the powers that be for reducing poverty and protecting the environment and rights of future generations, coupled with arbitrary measures and policies of the same powers, have practically undermined the sense of confidence nations should have in the international management of global affairs, problems and issues.

There is little doubt, if at all, that the reform of the United Nations structure will not produce the expected results without taking

into consideration the policies and elements that have created and engrained the current sense of mistrust and insecurity, and lie at the very roots of instability, war, humiliation of mankindman, and the destruction of environment. Let us be clear that shores of salvation will not be in sight unless due account id taken of these policies and elements. In the world as we live today and the predicaments we face currently, I can say, again and with a sense of certitude, that "dialogue" in its broadest sense provides the only logical conduit for arriving at a common understanding of our common problems at the international level as well as of possible common solutions; the only way for addressing the current destructive trends whose serious consequences for mankind and environment are all but a fait accompli.

Distinguished Participants,

To conclude, let me underscore, once again, that efforts towards promoting empathy and harmony are absolutely indispensable for ensuring global stability and peace and security for humankind in the future. And, may I repeat, that achieving all this will, in turn, depend on engaging in "dialogue" - dialogue among civilizations and cultures – with the objective of instilling a sense of collective trust among us all and to portray a bright future for humankind, the common human habitat, and our commonn home and refuge - Planet Earth.

Thank you all very much for your patience.

Part Two: Working Sessions

I

General Session: The Problematique

Chairman: Wafiq Z. Kamil*
Assistant: Mojtaba Kazazi**

Environment and Peace: Steady Progress Since Stockholm 1972

Oliver Brown

Abstract 1

███████Environmental degradation and the exploitation of natural resources are recognized as important drivers of violence between and within states, contributing to poverty and state failure. This paper charts our evolving understanding of the complex relationship between environmental change and security, a debate that has developed considerably since the UN Conference on the Human Environment, held in Sweden in 1972. It attempts to outline the major theoretical approaches and to arrive at some conclusions as to what we do know about environment and security. Finally, the paper makes some suggestions for practical policies that can ensure environmental management is supportive of both peace and sustainable development.

"If we did a better job of managing our resources sustainably, conflicts over them would be reduced. So, protecting the global environment is directly related to securing peace."

Wangari Maathai

1
Environment and security in the Cold War

The "environment and security" movement, if it can be called that, was born from a deepening public concern in the 1960s and 1970s over

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environmental degradation. This growing environmental awareness resonated against a nerve-wracking backdrop of Cold War uncertainty. Subsequently, a series of events— international meetings on the one hand and man-made environmental disasters on the other—illustrated some of the important links between the environment and our security. In 1972, a United Nations conference on Human Security was convened in Stockholm under the leadership of Maurice Strong. Although the conference was rooted in the regional pollution and acid rain problems of northern Europe, it led to the creation of the United Nations Environment Programme (UNEP) and many other national environmental organizations. These organizations have been central to subsequent multilateral environmental cooperation and dialogue. The OPEC oil crisis in the 1970s fuelled the debate over the ecological carrying capacity of the earth as well as the political ramifications of dispute over scarce resources. Meanwhile, the Three Mile Island nuclear accident in 1979 and the toxic chemical gas leak in Bhopal in 1984, to pick just two examples, graphically demonstrated some of the environmental dangers of a modern, changing economy. In 1987, the report of the World Commission on Environment and Development, chaired by Norwegian Prime Minister Gro Harlem Brundtland, was released. Titled Our Common Future, it wove together environmental, economic and social issues and helped to popularize the term, "sustainable development."

A new world "disorder"

The initial relief at the end of the Cold War, the return to democracy in Eastern Europe, German reunification and multilateral cooperation against Iraq's invasion of Kuwait in the 1991 Gulf War led many to herald the dawn of a "new world order." This, it was believed, would be one that respected human rights and the rule of law, and in which the United Nations would finally begin to function as originally intended by its founders. Symbolic of a renewed interest in multilateralism, the Rio Earth Summit in 1992 saw the largest ever gathering of world leaders tackle questions of the environment and development. For perhaps the first time it seemed that the environment had become a matter

of considerable international attention.

However, optimism over this supposed new world order was soon dashed by the gruesome images of conflict across the world in Rwanda, Burundi, Somalia and Bosnia. The inability of the international community to reach consensus on the best, or indeed any, course of action, undermined confidence in a new form of assertive multilateralism.

2

This inaction gave free reign to some of the worst excesses of civil war—ethnic cleansing and genocide on a scale not seen since the Second World War. Ethnic conflict was often total war, involving intractable guerrilla battles and great loss of civilian life. As the experience of trying to mediate the conflict in the Balkans proved, this form of conflict was also highly resistant to resolution.

Environment and security research since the Cold War

The dramatic rise in intra-state conflict in the early to mid-1990s led many academics, commentators and policy-makers to search with some urgency for an explanation; often looking for answers outside traditional models of state security. This debate has taken two major, interrelated paths. [2] First, has been a redefinition of what we should understand by security in the post-Cold War world. Second, has been empirical research to try and discern whether and how environmental change might threaten peace. This redefinition has prominently featured environmental considerations. Speaking at the launch of the 1997 Human Development Report of the United Nations Development Programme (UNDP), Dr. Mahbub ul Haq succinctly expressed a new vision of security shared by many. He argued that, "[s]ecurity is increasingly interpreted as security of people, not just territory; security of individuals, not just of nations; security through development, not through arms; security of all people everywhere—in their homes, in their jobs, in their streets, in their communities, and in the environment."[3]

In 1994, journalist Robert Kaplan wrote a highly influential article, "The Coming Anarchy," that painted a bleak picture of a West

African descent into endemic conflict fuelled by spiralling population growth, environmental degradation and easy access to arms. Based on early environment and security research, the future he portrayed was one of "disease, overpopulation, unprovoked crime, scarcity of resources, refugee migrations, the increasing erosion of nation-state independence and international borders, and the empowerment of private armies and drug cartels."[4] Kaplan's analysis of West Africa attracted a great deal of attention. Even more alarmingly, Kaplan argued this volatile and destructive mix was gaining critical mass elsewhere in the world. By arguing that the result for Northern countries might be mass inward immigration from failed developing states, he played deftly to the unspoken fears of the developed countries. However, "The Coming Anarchy" failed to give due credit to societies' capacity to adapt to environmental change, nor to the potential for international action to rein in trade in those resources used to fuel conflicts.[5]

3
Four approaches to environment and security

Since the early 1990s, a great deal of research has tried to elaborate our understanding of the relationship between environment and security. This body of work can be simplified into four discernible but interconnected approaches.[6]

First is the Toronto school, which is the name given to the research groups led by the University of Toronto's Thomas Homer-Dixon. This approach focusses, like Kaplan's, on resource scarcity as a cause for insecurity and conflict. The Toronto school argues that simple scarcity as a result of environmental change and population growth is only part of a much more complex picture. They focus on situations where elites extend their control over productive resources (in a process called "resource capture") and displace poorer communities ("ecological marginalization"). Resource capture and ecological marginalization, they argue, may lead to conflict (as people resist marginalization) and environmental damage (as displaced people move into fragile, marginal environments). In some cases, this process may be

connected to state failure and political violence, especially in developing states where insurgencies are fuelled by grievances related to injustice and inequity.

A second approach is proposed by the Swiss Environment and Conflicts Project (ENCOP) led by Günther Baechler. ENCOP research links environmental conflict more directly to a society's transition from a subsistence to a market economy. They argue that violence is most likely to occur in more remote areas, mountainous locations and grass-lands—places where environmental stresses coincide with political tensions and inequitable access to resources. In many cases, conflict occurs where communities resist the expropriation of resources and the environmental damage caused by large-scale development projects.

A third approach, linked to the International Peace Research Institute in Oslo (PRIO) amongst others, takes an entirely different starting point. PRIO suggests that violence in many developing countries occurs when different groups attempt to gain control of abundant resources. World Bank studies indicate that countries heavily dependent for their income on the export of primary commodities are at a dramatically higher risk of conflict than other poor countries, particularly during periods of economic decline.[7] Other studies suggest that many wars concern control over revenues from valuable resources—especially so if they are easy to transport and hard to trace. Examples include: illegal timber in Burma, diamonds in Sierra Leone or coltan in the Democratic Republic of Congo.

A fourth approach argues that environmental degradation is one of the many "network threats" that face the world. Climate change, like epidemic disease or international terrorism, is an example of a network threat. People make decisions about their energy use based on their immediate social, economic and ecological surroundings. These decisions constitute an informal, transnational web of individual behaviours that ultimately present a truly global security problem. Like epidemic disease, the threat is dispersed, and so is difficult to neutralize through negotiations or force. And although climate change could be extremely dangerous and costly, it is hard to identify an effective mitigation policy, since no single incentive structure can modify the behaviour of all the actors. In a 2004 article, Richard Matthew and

Bryan MacDonald argue this idea holds important lessons for future environment and security research.[8]

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However, absent from much of the academic literature on environment and security are practical recommendations for how environmental protection and natural resource management could help prevent and resolve conflict. According to Simon Dalby, the assumption that the environment is separate from humanity and economic systems lies at the heart of the policy difficulties facing sustainable development and security thinking.[9] Whatever the reason, the result is that much of the academic research has yet to articulate concrete tools for policy-makers.

Some observations on the links between environment and security

Experience shows us that conflict can be driven by natural resource degradation and scarcity, and by competition for control where resources are abundant. Ask an ecologist and a political security analyst to name countries of gravest concern to them, and though their points of departure are different, their final lists would look remarkably similar: Afghanistan, Bangladesh, Haiti, Indonesia, Iraq, the Great Lakes region, the Solomon Islands and Somalia, among others.[10] Indeed, the award of the Nobel Peace Prize to a Kenyan environmentalist in 2004 underlines the relevance of environmental issues to global security.[11] The connections between environmental change and human security are many and complex. On the one hand, our environment affects our security by undermining livelihoods, or by leading to conflict over scarce or abundant resources. On the other hand, insecurity can have a negative impact on our environment through, for example, the ecological impacts of large refugee movements or warfare itself. However, environmental concerns can also present opportunities for dialogue; non-military mechanisms for communication; and greater mutual understanding. All too often the environment and security literature seems to focus on the developing world as the both the victim and the villain of environmental insecurity. However, the developed

countries' habit of unsustainable consumption is at the heart of many conflicts over both scarce and abundant resources in the developing world. Throughout much of the 1990s, for example, war over diamonds in Sierra Leone continued, at least in part, because diamond markets in the North were blind to the provenance of those diamonds. It should be mentioned that there is, as yet, no robust empirical link between environmental stress and the start of violent conflict. Environmental factors are rarely, if ever, the sole cause of conflict; ideology, ethnicity and power politics are all important factors. However, it is clear that environmental stress increases the severity and duration of conflict. That said, efforts to develop robust empirical forecasts of violent conflict on the basis of environmental information have had a poor record of success, due to the complex interaction of social, political and economic factors involved.

5
Tackling the problems of environmental change and insecurity

Environmental programming can make a significant contribution to peace. There are many examples of small-scale and site-specific environmental activities that have contributed to conflict resolution. Due to its low political visibility, environment may be one of the only sectors of development cooperation open for programming in situations of weak, repressive or divisive governance. Earlier this year, the International Institute for Sustainable Development (IISD) completed a wide-ranging study of the various program options that domestic government, donor agencies and international organizations may attempt to mitigate the negative impacts of environmental change on peace and security.[12]

Summary Findings

Preventing Resource Scarcity Conflicts

Rising resource scarcity is most likely to generate violence at the local level by intensifying inter-group competition. Scarcity of natural resources is a product of limited or declining supply, of rising demand

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and of unequal distribution. The poor are most dependent on several key resources for their livelihoods: forests, land, freshwater and fisheries, and the least able to adapt to a rapid decline in their availability.

Programming options include: restoring these critical resources and "commons" spaces (e.g., undeveloped forests, pastures);enhancing livelihoods productivity and diversity; and reinforcing traditional and modern mechanisms for dispute resolution.

Preventing Resource Abundance Conflicts

Some conflicts are enabled by access to valuable natural resources, or fuelled by competition between groups for control over them. World Bank studies indicate that countries heavily dependent for their income on the export of primary commodities are at significantly greater risk of conflict than other poor countries, particularly during periods of economic decline.[13] These commodities can affect the nature, geographical focus, duration and intensity of violent conflict, depending on certain physical and market characteristics. Minerals, oil and timber are resources of particular concern.

Programming options include: shifting incentives in support of sustainable resource use; enhancing natural resource governance and revenue transparency; strengthening international environmental legal frameworks and enforcement activities; strengthening community resource rights and participation in decision-making; and enhancing livelihoods productivity and diversity.

Conflict-Sensitizing Protected Areas Management

Protected areas (PAs) can be both a victim of conflict, and a source of tensions. Protected areas, by their nature, limit local communities' access to resources and this can lead to tensions and grievances.

More can be done to help conservationists integrate conflict sensitivity and contingency planning into their operations, and to ensure that their activities "do no harm."

6
Mitigating Environmental Tensions from Humanitarian Assistance

Environmental degradation linked to large refugee movements and long-term encampments can exacerbate tensions over resource access which may spill over into violence. Efforts to prevent this include impact assessment and mitigation activities; community-level resource conservation training/education; and ecological restoration/ agro-forestry. In these contexts, donor technical assistance and funds can have an enhanced impact in alleviating environmental obstacles to development that pre-date or result from violence. A strong rationale exists to include environment-related factors in assessing post-conflict needs and in elaborating poverty-reduction strategies. Finally, environmental decision-making that involves both the refugee community and the local host community is key to reducing tension.

Integrating Environmental Priorities into Post-Conflict Reconstruction

There is a unique "policy space" in countries emerging from conflict where donors can work to strengthen environmental management and to promote sustainable development. In these contexts, donor technical assistance and funds can have an enhanced impact in alleviating environmental obstacles to development that pre-date or result from violence. A strong rationale exists to include environment-related factors in assessing post-conflict needs and in elaborating poverty-reduction strategies.

Environment and Confidence-Building

Environmental peacemaking, as it is termed in academic literature, seeks to bring together parties in conflict—across borders or within them—to collaborate on environmental issues to reduce tensions. There is the potential for a new generation of international relations based around cooperation of shared resources and based on principles of mutual trust and cooperation rather than legacies of distrust and dispute. For example, the Indus Water Treaty between Pakistan and India remained one of the few areas of sustained cooperation between the two countries throughout decades of fractious relations and saber rattling.

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Initiatives can focus on: building confidence through dialogue on a non-contentious environmental issue (e.g., renewable energy); co-management of mutually-critical shared resources such as water in arid regions; or establishing "Peace Parks" to resolve border disputes.

7
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* See page 127.
** Dr. Mojtaba Kazazi, Deputy, United Nations Compensation Commission (UNCC), Geneva.

The Nexus Between Environment, Peace and the Dialogue among Civilisations, Cultures and Peoples: Strategic Challenges and Practical Approaches

Hans d'Orville

At the outset, let me convey the greetings and best wishes from UNESCO Director-General Koichiro Matsuura. I am personally very honoured by the invitation to address this distinguished gathering and I thank Her Excellency, Vice-President Ebtekar, for giving me this opportunity.

Dialogue lies at the very core of the mandate given to the United Nations and to UNESCO, which is dedicated to "building the defences for peace in the minds of men" and to contribute to peace and security by promoting collaboration among nations through education, science, and culture and communication. The mission of the United Nations Environment Programme (UNEP), our fellow UN sister organization and co-organiser of this important conference, to safeguard our environment through international cooperation is entirely complimentary to UNESCO's mandate. Very often our both organizations collaborate very closely, such as in the vital areas of freshwater management, the oceans and biodiversity. UNESCO has equally close and productive relations with the United Nations University (UNU) and I welcome the presence of its Rector Hans van Ginkel. In about a month's time. UNESCO and UNU will co-organise in Nagoya and related to the World Expo in Aichi a meeting on "Globalisation and education for sustainable development", which is a theme of high relevance for this conference as well.

Peace in the twenty-first century is inextricably linked with sustainable and inclusive development, human security and a dialogue based on shared human values. The quest for a dialogue among civilizations and peoples is deeply associated with interaction among countries, cultures and civilisations. No civilization can assume sole responsibility for all humanity; neither can a single civilization claim

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exclusive rights to provide an ultimate and universally valid vision of how to be a human being in the complex and multifaceted world of today and tomorrow. No civilization is "pure". We are all rooted in cultures and civilizations that have fed and enriched themselves through cross-fertilization. Hence, all civilizations celebrate the unity in diversity of humankind.

More recently, and inspired by President Mohamed Khatami's vision of dialogue as a new paradigm for international relations, the Global Agenda on the Dialogue among Civilisations adopted by the UN General Assembly in its resolution 56/6 at the end of the United Nations Year for a Dialogue among Civilisations, 2001 has provided inspiration and a common framework for future action. The Global Agenda states, *inter alia*, that dialogue among cultures and civilizations is a process aimed at attaining justice, equality and tolerance in people-to-people relationships. The objective of the dialogue among civilizations is to bridge the gap in knowledge worldwide about other civilizations, cultures and societies; to lay the foundations for dialogue based on universally shared values and to undertake concrete activities, inspired and driven by dialogue, especially in the areas of education, cultural diversity and heritage, science and communication.

One of the prime accomplishments and results of multilateral engagement over several decades is that the international community has reached a common understanding of a set of universal values – prime among them tolerance, but also mutual understanding, respect for the Other, non-violence and peaceful practices, observance of human rights and women's rights, democratic practices, respect for cultural diversity. These values have become accepted and relevant for all cultures and civilizations.

The way ahead is clear: at the global level and as a result of dialogue, we have broad agreement on a body of values, concepts and methods. We must now strengthen and deepen this shared understanding and commitment by striving for a better reciprocal knowledge and appreciation of cultural, ethnic, linguistic and religious diversity and traditions. This will facilitate the tackling of old and new ignorances, prejudices, and intolerance. Ultimately, this approach will also help to counter extremism in various forms, reduce divisiveness and promote

peace and understanding among peoples.

We are meeting at a moment, when the value of and the need for dialogue has not diminished or weakened – as some had dismissively predicted - but where its absolute necessity and relevance has become ever more evident and palpable in all walks of life and in all societal domains. Notions of a clash of civilizations or the fostering of confrontations have proved to be ill-founded as they do not reflect the diversity of cultures and nations in the contemporary world.

Dialogue is by no means an esoteric issue. Rather, it has serious political and practical implications and ramifications. The political perspectives need to be based on universally shared values while safeguarding the diversity of individuals and cultures. They must be targeted, more than ever before, to the urgent needs of the poor, of disadvantaged and excluded groups and geographical regions – as defined in the Millennium Declaration and the Joint Plan of Implementation adopted at the World Summit for Sustainable Development, held in August 2002 in Johannesburg, South Africa.

Globalization is inextricably linked with and indeed impossible without a dialogue among cultures and civilizations. We have an unusual opportunity at this conference as the nexus between environment, peace and the dialogue among civilizations is not frequently addressed in such an explicit and direct fashion.

Over the past five years, UNESCO organized a multitude of conferences, meetings, colloquia in various parts of the world. Dialogue among civilizations – along with the hopes associated with it – was thus re-visited and actualized.

In the autumn of 2001, and against the looming spectre of international terrorism, UNESCO's General Conference Resolution 31 C/39 entitled "Call for international cooperation to prevent and eradicate acts of terrorism" emphasized that a commitment to dialogue among cultures and civilizations is also a commitment to fight terrorism. It noted that terror rests always and everywhere upon prejudices, intolerance, exclusion and, above all, on the rejection of any dialogue. No religion preaches terror, nor are there national interests or reasons that would justify terror.

The General Conference resolution furthermore provided new

orientations with the stated desire to make a concrete and tangible impact through dialogue-based efforts and initiatives moving beyond general principles and agreements towards concrete approaches and practical programmatic action. This can be achieved through three refinements. The first is a regional and sub-regional focus complementing and drawing on the global efforts and tackling shared problems, such as in South East Europe, where UNESCO was able to facilitate a string of summit-level events that have yielded many practical agreements and fortified peace on the Balkans through the very modality of dialogue at the highest levels.

The second refinement, includes the involvement of a broad range of actors and different stakeholders thus adding legitimacy and pertinence to dialogue efforts. Full use must be made of the important role which not only policy-makers and governmental representatives can play, but in particular of the contribution by parliamentarians, actors of civil society and non-governmental organisations, the academic and scientific communities, the private sector and professional associations, the media, religious and faith-based communities can play in initiating and conducting effective and results-oriented dialogue both within each country and at the regional and international levels. This underlines the relevance of moving towards a dialogue among peoples and communities.

Let me in that connection also refer to the important dimension of inter-religious dialogue. All faiths convey a message of peace, justice and human solidarity. All religious leaders, like other civil society and community leaders, have the potential to exercise a moral and positive influence on how people in society understand each other and interact. Reconciliation of religious views is an increasingly significant challenge of our age. This also entails the need to create more awareness among peoples and government authorities about the need to respect the traditions of the use of religious symbols, images and expressions. Furthermore, religious beliefs and practices as well as ethnic values and traditions have a fundamental influence and impact on education systems and their quality as well as on the way how people behave in their natural environment. Dialogue must therefore also be at the core of continued inter-religious cooperation.

And thirdly, dialogue must concentrate on select and concrete thematic issues, where dialogue could yield practical results, such as in education, cultural heritage, scientific cooperation and networking, and the media, involving especially the youth. Specifically, the following areas can be addressed:

- Education, especially through the pursuit of the six Education for All (EFA) goals and concretely through efforts to promote quality education;
- The sciences and technology, including the role of traditional and local knowledge systems;
- Cultural diversity in all its dimensions, including world heritage;
- the media and information and communication technologies.

The linkage to the environment can be established with respect to each and every one of these themes.

As a consequence, we witness a move from a focus on the dialogue among nations and governments to a dialogue among peoples and communities. This indeed is in my view the new and promising direction: dialogue – its notion and practice - must become firmly rooted in the mindsets of people everywhere, especially the young and fully involving women.

The concept and reality of diversity is crucial. Human diversity in terms of cultures, tangible and intangible cultural heritage, artistic expression and creativity, religions and languages is complemented by the Earth's diverse natural resources, eco-systems and biodiversity. A focus on the globe's diverse and abundant natural resources and eco-systems make bio-diversity and cultural diversity go hand-in-hand, demonstrating the enormous potential for sustainable development.

The UNESCO Universal Declaration on Cultural Diversity, adopted in 2001 by the UNESCO General Conference. aims to preserve cultural diversity as a living treasure. Cultural diversity presupposes the existence of a process of exchanges, open to renewal and innovation. It is also committed to tradition, but does not aim at the preservation of a static set of behaviours, values and expressions. The Declaration invites us to consider cultural diversity as important a factor for development as is biological diversity.

A prime, if not overarching goal is to enhance human security

by tackling with a sense of urgency – and in pursuit of the Millennium Development Goals (MDGs) by 2015 - the challenges of poverty, trade and economic development, hunger, education and gender equality, child health and diseases, agricultural development, water and sanitation, urban development and environmental degradation. Education must be accorded a pivotal role in general, with particular emphasis on gender and the pursuit of quality education – which includes education for sustainable development - will necessitate renewal of school curricula, improvement and revision of textbooks and educational materials as well as re-orientation of the training of teachers.

International awareness, visibility and advocacy will be promoted in the context of the United Nations Decade of Education for Sustainable Development (2005-2014) - DESD, for which UNESCO has been designated as UN lead agency. DESD is fundamentally about values, with respect for others - present and future generations - for difference and diversity, for the environment, for the resources of the planet. Education will help enhance the understanding of these linkages and with the wider natural and social environment. Along with a sense of justice, responsibility, exploration and dialogue, education for sustainable development shall lead people to adopt different behaviour and practices fostering a sustainable future. The orientation of DESD is thus closely linked to UNESCO's promotion of quality education, its principal aim being the furthering peace and tolerance and the promotion of values and attitudes.

The role of cultural diversity and heritage – in both tangible and intangible forms – as vectors of identities and as tools for reconciliation and peace, and the need to protect heritage and its preservation, presentation and transmission to future generations must be given pride of place. Intangible heritage in various forms must be accorded special attention to prevent its destruction or loss – related as they are to biodiversity. For both cultural and biological diversity, museums and other cultural institutions play a significant role, contributing to intercultural dialogue and mutual understanding and to scientific penetration. This needs to be accompanied by efforts to develop a culture of conservation and preservation, through dialogue.

Cultural tourism and the protection of cultural heritage go

hand-in-hand with the sustainable development of local economies in a sustainable fashion based on respect for cultural diversity. Many of the cultural and natural heritage sites of outstanding universal value are inscribed on the World Heritage (WH) List. The management of WH sites provides important lessons about how best to balance the pressures for economic development with the protection of heritage and of the specific natural and cultural ways of life of populations.

Dialogue can help to promote scientific and technological exchange, collaboration and networking in the quest for sustainable development, in particular through sharing and networking among knowledge holders from all knowledge systems. Local and indigenous knowledge are, for example a valuable data source to anticipate, evaluate and mitigate environmental and social impacts from climate change, natural disasters and unsustainable development.

Policies to address contemporary challenges demand scientific advice based on analysis, understanding, sharing and anticipation. Policy-makers at all levels must be fully informed as to the scientific basis and consequences of decisions, drawing on input from both the natural sciences and the social and human sciences irrespective of national borders. The sciences delineate new frontiers of global unity and connectivity. A key modality for dialogue-related action in the sciences centres around the establishment of (sub-) regional cooperation mechanisms (e.g. joint water management arrangements) with a view to increasing and systematizing knowledge of the history and traditions of water management in diverse cultures.

A particular area for practical action underpinning the dialogue-science nexus is the study and documentation of ethical principles and practices in dealing with freshwater. Respect for the cultural diversity of water users and the need to conduct a democratic dialogue among all water stakeholders represents an important aspect of integrated water resources management. The preparation of a reference book series on the *History of Water and Civilization by UNESCO* serves to increase and systemize the knowledge of the history and traditions of water management in diverse cultures, thus facilitating a mutual understanding of cultural contexts, assets and constraints in dealing with and managing water. — UNESCO furthermore organizes

courses on co-operation around water resources with participants from different states sharing a common water body, but who have different cultural and religious backgrounds and often have competing needs. The courses are designed to help participants develop harmonious communication respecting differing interests and needs. Participants learn how to develop genuine solidarity for the sharing of water resources ("hydro-solidarity") through mutual understanding and support.

With increasing globalization and changing patterns of work organization, international dialogue is also particularly important in the engineering sciences in such areas as standards, quality assurance, accreditation and mobility. Activities can include the study and documentation of ethical principles and practices in dealing with fresh water, including respect for the cultural diversity of water users, the need to conduct a democratic dialogue among all water stakeholders, and the mobilization of interdisciplinary global networks of specialists and partner institutions, including public and private sector partnerships, and new groupings such as the World Academy of Young Scientists (WAYS).

The building of dialogue between traditional and local knowledge holders and scientists and resource managers is also being pursued by UNESCO under a project called LINKS - Local and Indigenous Knowledge Systems. LINKS has promoted equitable biodiversity governance by building dialogue and mutual understanding among local and indigenous resource users, resource managers and decision-makers.

The concerns and the objectives of the dialogue should also be linked to activities promoting and strengthening the freedom of expression as it is vital for securing other fundamental human rights and social peace. Freedom of expression also serves as a driving force of intercultural dialogue among and between individuals and communities as well as a mechanism for exchange of experiences and knowledge between professionals, civil society and academics. A free press is a prerequisite for active participation by local populations in debate and decision-making on political, cultural, socio-economic and environmental issues. Support to independent, pluralistic and profes-

sional media can thus be a concrete modality to promote dialogue and transparency.

Let me conclude by asserting that we witness today, in many respects, not a clash of civilizations but a clash of ignorances – meaning the ignorance of each other's way of life, values and heritage, the ignorance of the equal dignity of the human person in all cultures and civilizations, and the ignorance of the unity of humanity and of commonly shared values. This paradoxical situation represents one of the world's greatest challenges in the decades ahead, one which will require action and commitment on many fronts, in particular in and through education, culture, communication and science.

On 5 April 2005, Seyed Mohammad Khatami, President of the Islamic Republic of Iran, paid an official visit to UNESCO during which he shared with a vast audience of Heads of States, ministers, representatives of UNESCO member states, religious leaders, intellectuals and experts, his plans and visions for establishing an institution to be called "International Forum for Dialogue among Civilizations". In the conceptual framework for the Forum, it is stated that: "The challenge now facing international institutions engaged in the discourse on dialogue, including UNESCO, concerns how to find proper mechanisms for playing "inter-civilizational" roles....This overarching approach allows the tremendous theoretical and practical potentialities of the principle of Dialogue among Civilizations to be harnessed and brought into fruition towards serving the actual and concrete problems of mankind today in various societies and countries. New horizons help us discover and understand the unknown, which, in itself, calls for new structures, mechanisms, ways and means...".-This then is our mission, challenge and task.

The Quest for Quality Education

Quality education is a prerequisite for dialogue among cultures, civilizations and peoples because it encompasses not only quantifiable measures of educational attainment, but also the qualitative aspects of curricula and their contents, including shared values, human rights, tolerance and mutual understanding. Educational institutions and

learning materials can uniquely serve as a vehicle for dialogue and intercultural understanding.

The task of revisiting and revising educational content is one element of a larger vision of education, one focusing on quality education encompassing all aspects of human development: values, knowledge, attitudes and skills – as well as the capacities for the non-violent resolution of conflicts. A quality education understands the past, is relevant to the present and has a view to the future. Quality education relates to knowledge-building and the skilful application of all forms of knowledge. A quality education reflects the dynamic nature of culture and languages, the value of the individual in relation to the larger context and the importance of living in a way that promotes equality, including in a gender framework, in the present and fosters a sustainable future. A common concern is the increasing stigmatization of 'the Other' as the source of all problems. And 'the Other' is nearby as well as distant, thanks to the mass media and to past and ongoing patterns of migration, urbanization, and travel that have helped to create the multicultural, multiethnic and multifaith world in which we all live.

Learning to live together addresses the critical skills that are essential for a better life in a context where there is no discrimination and all have equal opportunity to develop themselves and to contribute to their families and communities. Key among these skills are non-violence and peaceful negotiation, respect for and acceptance of diversity, problem-solving, understanding of human rights, universal values and democratic practice and the promotion of peace and intercultural understanding.

Public-private partnerships for the Dialogue involving Youth: Mondialogo

New public-private partnerships have been formed, especially "Mondialogo" with DaimlerChrysler, which offer another entry point for concrete action with and by young people engaging in intercultural dialogue and exchange, funded largely through extrabudgetary resources. The initiative consists of three practically oriented pillars of action: a) a worldwide "School Contest" calling for team learning by teams of students between 15 and 18 years of age, managed by the ASP

Schoolnet. The first round of the juried School Contest concluded in Barcelona, Spain. in September 2004. having involved more than 27,000 students from all over the world. The second round is currently under preparation and will be called for the autumn of 2005 to run until end-2006. b) a global "Engineering Award" requiring the design of sustainable development-relevant projects by multicultural teams of engineering students. In May 2005, the first Engineering Award will complete its first round, involving some 150 student teams. It is hoped that this activity can also be carried into 2006 and beyond. c) an interactive "Internet Portal" serving as platform for communications, sharing and mutual learning connected to the other two tracks. closely linked to the UNESCO knowledge portal – **www.mondialogo.org**. It is noteworthy that only one Iranian school participated in the first round of the Mondialogo School Contest. Hopefully, many more school teams will inscribe themselves for the second round soon to be launched, with details to be announced on the website.

Environment, Conflicts and Human Security: Analytical Linkages, Evidence and Policy Options

Selim Jahan

Abstract

Environment, human security and peace are closely inter-linked. Resource scarcity, environmental degradation and change can result in conflicts, leading to human insecurity. Similarly, human conflicts and human security can also adversely affect environmental sustainability. The environment-poverty nexus is a critical block in the puzzle as poor people have little access to natural resources, but they bear the major burden of environmental damages. Whatever be the linkages, in the ultimate analysis, it is peace and human well-being which are at stake. In our pre-occupation with economic growth and material opulence, we often forget this fundamental truth, which has become even more relevant in the context of the Millennium Development Goals (MDGs).

The present paper revisits the issues of environment, conflicts and human security and their linkages. The revisit starts with an exploration of the analytical linkages among them with a particular emphasis on the environment-poverty nexus. . It then presents the necessary quantitative evidence on the linkages. It looks at the future scenarios as well. Finally, it raises some policy issues – in terms of strategies and institutions – which can be looked at so that resource scarcity, environmental degradation and change can be minimized. Under such circumstances, the potentials for conflicts and human insecurity are also significantly reduced.

People are the real wealth of a nation. The basic objective of development is to create an enabling environment for people to enjoy a long, healthy and creative life in a secure and peaceful atmosphere. This may appear to be a simple truth. But it is often forgotten in the

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immediate concern with the accumulation of commodities and finan-
cial wealth.

For too long, we have been preoccupied with creation of
wealth and material opulence. And in that pursuit, we often degraded
physical environment and engaged into conflicts. We forgot that
development is all about people – their well-being, security and peace.

In recent times, there is a growing realization that the develop-
ment path pursued so far is not the right one. A sound physical environ-
ment is a key to security and peace and a priori existence of security
and peace is a pre-condition for a sustainable physical environment. All
three are mutually reinforcing.

The critical importance of inter-linkages between environment,
security and peace has grown enormously with the adoption of the
Millennium Declaration and the Millennium Development Goals
(MDGs) in 2000. Environmental sustainability is not only a goal in a
set of time-bound quantitative targets to overcome human poverty, but
the a priori existence of security and peace is a crucial pre-condition for
the achievements of the MDGs.

The fundamental objective of the present paper is to link -
analytically, empirically and policy-wise - issues of environment, con-
flicts, human security and peace. In order to do so, the paper first iden-
tifies the analytical linkages between environment, conflicts and
human security; then quantitatively assesses the current situation in
these areas with some pointers to future scenarios; and finally presents
the policy options – both in terms of strategies and institutions – for
enhancing the mutual reinforcement of the three.

Environment, security and peace – concepts and analytical linkages

Physical environment deals with natural resources – exhaustible and
renewable – and ecosystem services and the reproducibility of global
ecosystems services and ecological resources. The physical environ-
ment is key ingredient to enhancing capabilities and opportunities of
people and thus to enlarging their choices. But environment always has

an inter-generational dimension. The historical depletion of natural resources and the environmental degradation at present shrink the opportunities of future generations. The issue of environmental sustainability is therefore critical. Environmental sustainability emphasizes the proper uses of natural resources and regeneration of the eco system.

Even though the term `security' has a literal meaning, it has different connotations in different contexts. So far, both in the literature as well as in practice, the term `security' has been largely treated as synonymous with `territorial security' or `national security'. But the recent events in the world have clearly demonstrated that it is not territorial security, rather `human security' – security of jobs and income, food security, health security, personal security and so on – which has more important and relevant. The conflicts in today's world are no much between states as they among people.

Given these three building blocks, the next issue is how they are analytically linked (Figure. 1). Three fundamental points are made in the above figure :

First, the analytical linkages between environment human security as well as environment and conflictss in each case represent a two-way mechanism. For example, if there is environmental degradation, that will make people, particularly poor people, more vulnerable and insecure in terms of jobs, income, health etc. Similarly as human insecurity increases, people will have no other choice but to degrade environment more in order just to survive. Similarly, with environmental degradation as natural resources, particularly common resources, become scarce, people will fight over them leading to conflicts. On the other hand, conflicts situations would force people to degrade environment more in terms of resource use as well as waste disposal.

Second, there is also a two-way relationship between conflicts and human security. It is obvious that any kind of conflicts – political, social, and economic – lead to human insecurity in different dimensions. Similarly, deteriorating human security forces people engage into conflicts, if not, just for survival.

Third, the end result of conflicts and human insecurity is the

loss of peace. The mutually reinforcing character of conflicts and human insecurity makes the existence of peace impossible.

Figure 1*: Linkages between environment, conflicts, human security and peace

Environment and conflicts
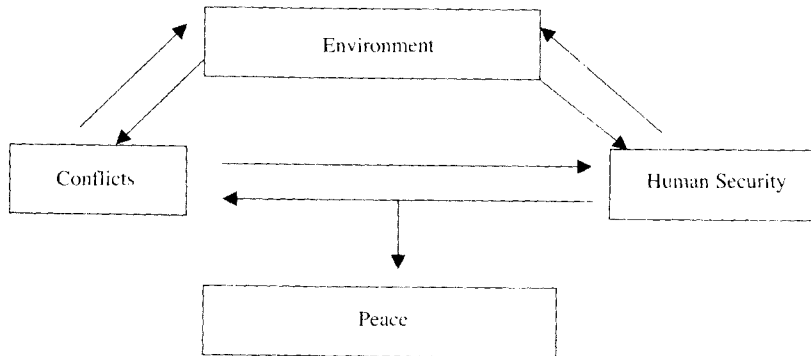
Environment reflects itself in many dimensions – scarcity of some resources as well as the sink, environmental damages in terms of pollution and degradation and the problem of waste disposal. Over and above, the issues of environmental commons – common water sources, community forests, village pasture lands – are also important dimensions of environment. Any shortfall, any deprivation and any destabilization in one or more of these areas may lead to instability and conflict.

The causality from environment to conflicts can be understood in the following linkages:

●Resource scarcity : Physical scarcity of resources; geopolitical scarcity in terms of uneven distribution of resources among various regions; socio-economic scarcity in terms of unequal distribution of purchasing power and property rights. Any type of scarcity can lead to conflicts.

●Environmental degradation : It causes both scarcity of resources as well as deterioration of the quality of resources. In both cases, available resources fail to meet the needs and demands of peo-

ple and the end results may be conflicts.

●Environmental change: Human made environment change with destabilizing interference in the ecosystem's equilibrium can also lead to conflicts. Climate change and global warming and the resultant consequences are significant potentials for conflicts.

People, for their survival, livelihood and well-being, need natural resources, e.g. land, water, energy sources such as coal and oil, wood etc. An absolute scarcity in any of these resources and an unequal distribution of them among various groups of people and regions often result in shortfall in benefits or their unequal distribution. As a result, deprivations occur among groups and regions, disparities widen and discontentment and conflicts begin to appear on the horizon. For example, a large number of people around the world depend on land and agriculture for their livelihoods and well-being. An unequal distribution of it among farmers not only result in deprivations among small farmers and landless agricultural workers, but with more concentration of better lands in the hands of fewer large farmers push marginal; farmers to ecologically fragile lands, making them poorer and more vulnerable. Similarly, the chronic water shortage worldwide and the unequal distribution of available water among countries, regions and groups of people are well-known. And water scarcity has become the major source of conflicts in various parts of the world – e.g. the sharing of the Ganges water between Bangladesh and India and the sharing of the Nile water among seven countries in the Nile Basin area.

Environmental degradation and damages are also potential sources of conflicts. When agricultural lands become salinized, because of nearby shrimp farming (as has been the case in Thailand and Vietnam), conflicts erupt. Similarly, air pollution by industrial plants in has resulted in conflicts with nearby communities in different parts of the world (e.g. Chile and Ukraine). At a global level, global warming because of the emissions in the developed world and the environmental damages in some developing countries, e.g. sinking of lands in Bangladesh and Egypt, has resulted in serious inter-country tensions.

Waste management in many societies, particularly in urban

areas, result in conflicts. The day-to-day waste disposal by some groups in urban cities in an unsystematic manner and in an ad hoc basis often adversely affect the environment in terms of air quality, health hazards, contamination and raise concerns vis-a- vis other groups. The scope of conflicts often escalates in such situations. The disposal of hazardous materials always leads to conflicts within communities and countries.

Seven major environmental problems might plausibly contribute to conflict within and among developing countries: greenhouse warming, stratospheric ozone depletion, acid deposition, deforestation, degradation of agricultural land, overuse and pollution of water supplies, and depletion of fish stocks. These problems can all be crudely characterized as large-scale human-induced problems, with long-term and often irreversible consequences, which is why they are often grouped together under the rubric "global change." However, they vary greatly in spatial scale: the first two involve genuinely global physical processes, while the last five involve regional physical processes, although they may appear in locales all over the planet. These seven problems also vary in time scale: for example, while a region can be deforested in only a few years, and severe ecological and social effects may be noticeable almost immediately, human-induced greenhouse warming will probably develop over many decades and may not have truly serious implications for humankind for half a century or more after the signal is first detected. In addition, some of these problems (for instance, deforestation and degradation of water supplies) are much more advanced than others (such as greenhouse warming and ozone depletion) and are already producing serious social disruption. This variance in tangible evidence for these problems contributes to great differences in our certainty about their ultimate severity. The uncertainties surrounding greenhouse warming, for example, are thus far greater than those concerning deforestation.

One of the major sources of environmental conflicts is the quick disappearance of environmental commons and the unclear notions of ownership of environmental resources. Traditionally, in

developing countries, every member of a community used to benefit from community resources and assets. Thus people used to get their drinking water from community ponds, their fire and fuel wood from community forests, their cattle used to graze in common pasture lands. And whatever was used, the community, through cash or kind, used to replenish it. With the monetization of economy, the idea of community assets soon evaporated and most of the resources were put into private ownership. As a result, poor people lost their traditional ownership of environmental commons and their access to them. In many cases, the ownership issue was loosely defined in legal terms. All these immediately hard hit the poorer people who used to depend heavily on the environmental commons for their survival, livelihood and well-being. The end result, therefore, was conflicts among groups of people.

Environmental effects often produce economic and social effects, which in turn lead to conflicts. Such social effects include: decrease agricultural production, general economic decline, population displacements and disruptions in institutions and social relations. There can be three types of conflicts from these socio-economic impacts:

● Simple scarcity conflicts: Conflicts over scarce renewable resources

● Group-identity conflicts: Hostilities between ethnic, socio-economic and cultural groups provoked by circumstances of deprivation

● Relative-deprivation conflicts : The deepening of class cleavages or of general social discontent within a society resulting from the economic impacts of environmental degradation.

The dynamics of the causality from conflicts to environmental degradation is also quite evident. Conflict situations either necessitate the actions of any kinds just for survival or encourage counter actions. In the context of environment, it means further degradation of environment – e.g. depleting forest resources in an increasing manner, polluting the environment more and more unsystematic waste management. Conflict situations also lead to actions of depletion and destructions and actions of revenge, all of which result in environmental degradation. In conflicts, the respect for environmental commons and the prin-

ciple of equal access for all also disappear.

Environment and human security

Human security may be termed as the freedom from certain deprivation as well as freedom from specific perceived fears. For example, freedom from income poverty and hunger refers to security in terms of actual deprivation, where as the desire to be secure from violence or personal assault may imply security against perceived threats. But both are aspects of human security. The relative importance of these two phenomena is a subjective issue. In fact, they are inter-linked. The actual food shortage may result in a perception of fear for food security. On the other hand, the perception of food shortage may lead to a large-scale hoarding and result in an actual famine.

In both actual deprivation and perceived fear, the degree of hurtfulness and the rate of suddenness may be of importance. People feel insecure and threatened when something hurts severely and suddenly. Otherwise, people try to adapt to changed situations. But at the same time, it should not mean that a prolonged suffering in the form of, e.g. slow famine is not a problem of human security. Often the degree of hurtfulness and the rate of suddenness of many phenomena like war may draw the quick attention of the national and the international community to it as a crisis. But it must be recognized that even before the spill-over, the seeds of human security were there. Thus the issue of human insecurity should be seen from the perspectives of loud emergencies and the silent ones.

A consideration of the basic concept of human security must focus on five of its essential characteristics :

Human security is people-centred. It is concerned with how people live in a society, how they exercise their choices and whether they live in peace or conflicts.

Human security is a universal concern. It is relevant to people

everywhere, in rich nations and poor. There are many threats that are common to all people – such as unemployment, drugs, crime, pollution and human rights violation. Their intensity may differ from one part of the world to another, but all these threats to human security are real and growing.

Human security can be national or local and some security concerns are global. Economic security in terms of jobs and income may encompass more national and local contexts. But there are also global challenges to human security – challenges that arise because threats within countries rapidly spill beyond national frontiers. Environmental threats are one of the clearest examples : land degradation, deforestation and emissions of greenhouse gases affect climatic conditions around the world.

The components of human security are interdependent. When the security of people are endangered anywhere in the world, all nations are likely to get involved and this has become increasingly true in a more interdependent globalized world. Disease, pollution, drug and human trafficking, ethnic conflicts, and terrorism are no longer isolated events, confined within national borders. Their consequences travel across the globe. In today's world, human deprivation anywhere is a threat to human security everywhere.

Human security is easier to ensure through early prevention than later intervention. It is less costly, in every aspect, to meet these threats upstream than downstream. This is true economic security, political security, communal security and so on. Often things explode down the stream, as earlier and timely preventive measures were not taken upstream. In most cases, preventative development is the best guarantee for human security.

In defining human security, it is important that the notion of human security is not equated with human development. Human development is a broader concept – defined as the process of widening the ranges of people's choices. Human security means that people can exercise these choices safely and freely. There is of course, a link between human security and human development : they are mutually

reinforcing. Progress in one area enhances the chances of progress in other, but failure in one area also heightens the risk of failure in the other.

The linkages between environment and different dimensions of human security are direct and clear. The issue of income and livelihood security for people can easily be linked with land degradation and deforestation. They are also critically related to job security. The linkages between income and livelihood security of people, particularly poorer people, can be seen more clearly in terms of the phenomenon of biodiversity. Biodiversity as the diverse species of life forms is not just a conservation issue. It is the means of livelihood and the means of production for poor people who have no access to other means of production and assets. For food and medicine, for energy and fibre, for ceremony and craft, poor people depend on the wealth of biological resources and their knowledge and skills related to biodiversity.

Biodiversity erosion therefore does not merely have ecological consequences. It also translates into destruction of livelihoods and lack of fulfilment of basic needs for poorer two-thirds of humanity who live in a biodiversity-based economy. It has been estimated that 3 billion people - three-fifths of the world's population depend upon traditional medicine for their principal sources of cure of illness. About 100 million of world's poorest people depend on fishing for all or part of their livelihoods.

Agricultural biodiversity, in the form of plants and animals, is the basis of livelihoods and consumption of poorer people who live in rural areas of the developing world. Rice-varieties have been evolved to produce in flooded regions and in the rain-fed mountain slopes. Cattle breeds have been evolved to match the climate in deserts and in wet rainforest regions. .Meat from wild animals is a major source of protein in many remote villages. Insects, honey, leaves and seeds also provide important food for poor people, particularly in times of scarcity

Water pollution and contamination affects people all over the world, but by far its greatest impact on human wellbeing is in

developing countries, and especially among their poorest peoples. While there are serious and wellfounded concerns about the effects of toxic chemicals and minerals, such as pesticides and lead, in drinking water in industrialized countries, they pale beside the annual carnage in developing ones from simple contamination by sewage. Largely as a result, waterborne diseases like diarrhoea, dysentery, intestinal worms, and hepatitis are rife in developing countries, particularly among the poor.

Unsafe drinking water and poor sanitation also contribute to food contamination, which in turn adds to the appalling carnage from diarrhoea and dysentery, though estimates of the extent of its contribution vary widely. Poor storage and handling of food also result in contamination. Fisheries, one of the main sources of livelihoods for many poor people and of protein for many more - are increasingly being damaged by the volume of sewage discharged.

The overuse of fertilizers causes great water pollution problems in industrialized countries. Industrial effluents, more commonly associated with richer countries, are adding to the problems of developing ones, as consumption and production patterns change. In those achieving rapid industrialization, in particular, more and more toxic chemicals are being discharged into watercourses.

Air pollution mainly from industrial emissions, car exhausts and the burning of fuels at home kills people mainly from respiratory damage, heart and lung diseases, and cancer. The toll is the heaviest where it is most overlooked. The explanation of these paradoxes lies in an issue, which has devastating consequences on human security, but has been largely ignored by most environmentalists, industries, scientists and inter-governmental conferences. While attention is concentrated on the pollutants and sources that affect people in industrialized countries, and the relatively rich in developing ones, the vast majority of deaths are from a problem that directly affects the poor, particularly in the rural developing world. The carnage from this indoor air pollution correlates directly with poverty. Poor people in developing countries have to burn crop residues, dung and wood indoors for cooking

and heating. Both indoor air pollution and poor nutrition increase susceptibility to respiratory infections, the second biggest cause of child deaths after waterborne diseases in the developing world.

Women and children, particularly girls who spend most time indoors are known to be disproportionately affected. Indoor pollution contributes to acute respiratory infections that cause thousands of deaths among infants and children in developing countries.

Outdoor air pollution once concentrated in the industrialized countries is now also growing rapidly in developing ones. The rapid growth of industrialization in many countries has greatly increased pollution, and the growth of car ownership is increasing emissions all over the world. Lead, often added to gasoline and thus emitted from car exhausts, has a serious impact on human health; it maims children intellectually and permanently impairs the development of their brains.

Poorly managed waste - specifically excreta and other liquid and solid wastes from households and community - represent a serious health threat. In areas lacking sanitation, waste heaps become mixed with excreta and contribute to the spread of infectious diseases. Equally, in areas that do not have sewerage systems, sewage may be discharged untreated into the environment, resulting in water contamination. In both cases, the net results mat be diseases like diarrhoea, dysentery, cholera, other intestinal diseases. And the process, it is poor people who suffer the most. This is because poor people live near waste disposal sites, poor households lack access to safe water and basic sanitation and poor children are the waste-pickers.

Uncontrolled disposal of solid waste into water bodies, open dumps and poorly designed landfills is a principal cause of surface water and groundwater contamination. Uncollected domestic waste is the most common cause of blocked urban drainage channels in Asian cities, increasing the risk of flooding and vector-borne diseases. In some cities, refuse is often mixed with human excrement, which facilitates the spread of disease, especially among children and waste-pickers. Again, it is poor people who also work as waste workers making them more vulnerable to waste-induced health risks.

In terms of industrial toxic wastes, effluents from chemical production, pulp and paper factories, mining industries, and leather and tanning processes are playing an increasing role in environmental pollution. Typical contaminants include organo-chlorines, dioxins, pesticides, grease and oil, acid and caustic and heavy metals like cadmium and lead etc. There are regional variations in the emission of the contaminants.

In case of industrial toxic and hazardous wastes, workers in facilities that produce infectious and toxic materials, people living close to waste disposal sites are major victims of such wastes. Illegal dumping and improper disposal of industrial toxic and hazardous wastes are common in many developing countries. Without proper disposal, industrial toxic wastes can leach into water supplies, which contaminate water. It not only has health-related risks, but it also threatens shipping and fishing industries. Many cities dispose of industrial wastes along with household wastes, exacerbating pollution problems.

Pesticides are most widely used in industrialized countries but again it is the world's poor, who suffer the most acute effects from them. They pose a major occupational health hazard for poor farmers and farm workers who using them without training or protective clothing and often unable to read even inadequate instructions are easily exposed to dangerous levels. Meanwhile the illegal dumping and improper disposal of toxic and hazardous wastes are common in many developing countries.

The acute effects of water contamination, air pollution and indiscriminate waste disposal on health have the most immediate impact on human security, and are relatively easy to quantify. But, in the medium to long term, the effects of degrading the world's natural systems are just as serious, for they further impoverish hundreds of millions of people and undermine the very basis of development.

The dynamics of the causality from human insecurity to environmental degradation is also quite evident. Human insecurity leaves very little options for people but to further degrade the environment – e.g. depleting land, water and forest resources – just for the mere neces-

sity of survival. In situations of human insecurity, equitable access to environmental commons is also not ensured.

Conflicts and human insecurity – threats to peace

Conflicts and human insecurity are the two sides of the same coin. Conflicts give rise to human insecurity on all fronts and the existence of human insecurity in many cases results in conflicts. And in both cases, environmental issues may be the cause as well as the effects of the mutually reinforcing phenomena of conflicts and human security.

But in the ultimate analysis, it is peace, which is adversely affected by the existence of conflicts, human insecurity and their interactions, initiated and strengthened by environmental degradation. It is individual peace, community peace, and peace at the national and global level which is threatened by environmental degradation-induced conflicts and insecurities.

In the inter-linkage chain of environment, conflicts, inhuman insecurity and peace, the environment-poverty nexus assumes a critical role. Resource scarcity, environmental degradation and change affect poor people the most. They suffer the most during environmental conflicts and they become the vulnerable groups. It is, therefore, of crucial importance to have a better understanding of the environment-poverty nexus.

Environmental degradation-poverty nexus[1]

Environment matters a lot to poor people. Their well-being are strongly related to the environment in terms of, among other things, health, earning capacity, security, physical surroundings, energy services, and decent housing. In rural areas, poor people may be particularly concerned with their access and control over natural resources, especially in relation food security. For poor people in urban areas, access to a clean environment may be a priority. Prioritization of environmental issues may vary across different social groups. For example, poor

women, reflecting their primary role in managing the household, may regard safe water, sanitation facilities, and abundant energy services as crucial aspects of well being for poor people.

Some of the environmental degradations reflect truly global concerns, such as global warming and the depletion of the ozone layer. Others are international, like acid rain, the state of the oceans, or the condition of rivers that run through several countries. Others yet are more localized, though they may often occur worldwide, like urban air pollution, water pollution, or soil degradation. Even though poor people also feel the impacts of global environmental degradation, it is local environmental damages that affect them more.

The impacts of environmental degradation were unequal between the poor and the rich. Environmental damages almost always hit poor people the hardest. The overwhelming majority of those who die each year from air and water pollution are poor people. So are those most affected by desertification, and those who are expected to be the worst affected by the floods, storms and harvest failures brought about by global warming. All over the world it is poor people who generally live nearest to dirty factories, busy roads and dangerous waste dumps. The loss of biodiversity is most severe for poor rural communities. Environmental degradation, by depleting the health and natural support systems of poor people, may make them even more vulnerable.

In the environment-poverty nexus, there are some specific myths, which need to be deconstructed:

Poor people are the principal creators of environmental damages : Even though poor people bear the brunt of environmental damages, the irony is that they are not the principal creators of them. It is the rich who pollute and contribute more to global warming. They are the ones who degrade the global commons, making resources scarce for poor people. In many areas, the non-poor, commercial companies, and state agencies actually cause the majority of environmental damages through land-cleaning, agro-chemical use, and water appropriation. The rich also

generate more wastes and create a stress on the nature's sink. Thus poor people become victims of consumption levels and patterns of the rich.

The per capita emission of CO2 in the developed world is 11 metric ton per year, compared to 2 metric ton in the developing world. The continent with the greatest share (74%) of dry land suffering from moderate to severe desertification is North America. In the Philippines, during the Marcos regime, 50% of the forest was lost to commercial logging – a few hundred families shared $42 billion in revenue, leaving 18 million forest dwellers impoverished.

In fact, one of the environmental challenges that stem from the growing poverty and environmental damage is that growing poverty pushes more and more people to the periphery – to the most ecologically fragile land where they become even more vulnerable. Yet there are many examples in which poor people take care of the environment and invest in improving it.

Population growth leads to environmental degradation : While initially degradation may occur as population increases, what happens next is context-specific. Rapid population growth is not incompatible with sustainable management of the environment and in some cases, as has been demonstrated in the Machakos experience in Kenya; increasing population density is required for environmental sustainability.

Until the late 1930s, significant soil degradation and erosion – a large-scale population-induced degradation - have been observed in the district. Between 1932 and 1990, the population of Machakos increased from 240,000 to 1.4 million. The population growth affected the situation positively in two ways. First, the concern about soil degradation led to such measures as bench terracing to conserve soil. In the 1950s more than 40,000 hectares of land were terraced and in the 1980s more than 8,500 kilometres of terraces were constructed annually. Second, increasing population density leading to land scarcity promoted investment, both in conservation and in high-yielding improvements. Integrating crop and livelihood production improved the sustainability of the farming system. Many social and institutional factors – a good policy framework, better physical infrastructure, a

secure land tenure system, indigenous technology, an improved health
and education system – facilitated the agricultural change in the
Machakos district. The results have been impressive. Between 1930
and 1987 the productivity of food and cash crops increased more than
six-fold. Horticulture productivity grew fourfold.

The Machakos experience clearly demonstrates that even in an
area vulnerable to soil degradation, a large population can be sustained
through a combination of endogenous and exogenous technological
change supported by a conducive policy framework and much local ini-
tiative.

The poverty-environment nexus basically stems from low
incomes : Often in the discussions of the relationship between poverty
and environmental damage, for the environmental behaviour of poor
people, their impoverishment is identified as the sole reason.

Arguments that maintain that poor people degrade environ-
ment basically explain the poverty-environment nexus in terms of
income levels only. But the issue of poverty-environment nexus is
more complex. Questions of the ownership of natural resources, of
access to common resources, of the strength or weakness of commu-
nities and local institutions, of the way information about poor people's
entitlements and rights to resources is shared with them, of the way
people cope with risk and uncertainty, of the way people use scarce
time - all these are important in explaining people's environmental
behaviour.

Many of the natural resources that are degraded are communal
property. But rights are ill defined, often because they were originally
defined in a local social and political framework, which is no longer
there. Institutions for managing common property that reflect the con-
sensus of owners and can control use are lacking. In ecologically frag-
ile ecosystems, people tend to minimize risks, not maximize output,
whether they are poor or rich. Over exploitation of sources of fuel-
wood is linked more to the time available to women than to their
poverty status. There is gender dimension, but not necessarily an
income dimension. Many factors shape the human behaviour toward

environment, some of course related to poverty or affluence, others independent of either income or poverty.

Because of these myths, it is equally important to revisit some conventional wisdom in the environment-poverty nexus:

● Downward spiral hypothesis: The hypothesis maintains that poor people and environmental damage are often caught in a downward spiral. Past resource degradation deepens today's poverty, while today's poverty makes it very difficult to care for or restore the agricultural base, to find alternatives to deforestation to prevent desertification, to control erosion and to replenish soil nutrients. People in poverty are forced to deplete resources to survive, and this degradation of environment further impoverishes people.

While this can and does happen, as an overarching model, it is a rather simplistic view of a much more complex reality. Environmental degradation can sometimes be associated with poverty, but there is not necessarily a direct causal relationship. Other factors also shape human behaviour to environment. The danger of the Downward Spiral Hypothesis is that it may often lead to policies that either reduce poverty (often in the short - run) at the expense of the environment or protect the environment at the expense of poor people.

● Environmental Kuznets Curve: The Environmental Kuznets Curve shows a relationship between air pollution and economic growth. It maintains that pollution will increase initially with economic growth but if growth continues and as society becomes more affluent, pollution will be reduced. Thus measuring economic growth in terms of per capita income in an economy, it establishes an inverted U-shaped curve implying increases in pollution initially, but a decline in it as per capita income continues to grow.

The Environmental Kuznets Curve has been severely criticized on conceptual, statistical as well as policy grounds. Conceptually, an inverted U-shaped relation may exist between a few selected pollutants and income, but not necessarily at an aggregative level. In the area of

statistics, there are the problems with aggregation, with identification of appropriate variables, and from weakness of the data. Evidence indicates that there is nothing inevitable about the link between economic growth and environmental degradation. In fact, policies and institutions can significantly influence the Environmental Kuznets Curve. The removal of perverse subsidies, internalization of externalities and identification of property rights can change the relationship between income levels and levels of environmental degradation.

● Beckerman Hypothesis: The hypothesis maintains that as growth provides accumulated assets that can be used to ameliorate environmental degradation, it makes sense to degrade now and pay later to put things right.

There are three major problems with this hypothesis. The first one is that economic growth can generate accumulated assets, but there is no guarantee that a part of such resources would be used to ameliorate environmental degradation. Such resources, as experiences have shown, might have been used for other purposes, sometimes for unproductive ones. Second, like the Environmental Kuznets Curve, it also seems to undermine the need for conscious policy interventions. It indirectly implies that growth would provide accumulated assets that would take care of environmental degradation. Third, it takes a simplistic approach towards inter-generational equity issue. It basically says that there will be physical degradation at present, but that monetary compensations will be made in future, without answering how they would provide the same sort of opportunities as enjoyed by the present generation or how they would be translated into physical natural resources or how the amount and the nature of future compensations are agreed upon.

● Porter Hypothesis: Porter argues that high levels of environmental protection are compatible with high levels of economic growth and may encourage innovation that supports growth. The hypothesis makes two fundamental points. First, environmental protection justified not only for pure environmental reasons, but because such protection makes economic sense as well. Environmental protection by

ensuring minimizing waste of resources, by enhancing efficiency in resource use and by minimizing adverse environmental externalities of the production process, may contribute positively to economic growth. Second, seeing the economic value of environmental protection, initiatives may be undertaken for innovations in technology, input-mix, and management again to increase resource-use efficiency and also to minimize the resource waste and the adverse environmental impacts of production. All these enhance economic growth further.

But the hypothesis can lead to an extreme situation whereby environmental standards are imposed on trade. Using trade restrictions in the name of environmental standards is protectionism. For domestic environmental problems, such restrictions are inefficient and for transboundary problems, they are both inefficient and inequitable.

Environmental degradation, human insecurity and conflicts – evidence[2]

With the analytical inter-linkages between environmental degradation, human insecurity and conflicts well-established in the preceding section, it may be worthwhile to take assess the present situation more in quantitative terms.

Water pollution and human impacts

Nearly 22% of the people of developing countries do not have access to safe water and nearly 49% to improved sanitation. Their faeces end up in ponds, streams, and ditches or on open ground. More than 90% of the wastewater of the developing world are estimated to be discharged directly into streams, open drains, rivers, lakes and coastal waters without any treatment whatsoever. On average, Asian rivers carry has 50 times more bacteria from human faeces than those in industrial countries. The regional variations in pollution as measured by the level of organic pollutants (BOD5) and suspended solids clearly demonstrate that water pollution is a more serious problem particularly in Asia and Africa.

As a result, waterborne diseases like diarrhoea and dysentery account for an estimated 10% of the total burden of disease in developing countries and polluted water contributes to nearly 2 billion cases of diarrhoea in developing countries each year. Some five million people, three million of which are children, die from diarrhoeal disease annually in developing countries. If everyone had access to safe water and basic sanitation, two million of these young lives would be saved every year.

The human impact of water pollution is borne disproportionately by the poor. Only 18 % of the poorer people in developing countries have water supplies connected to their houses, compared to 80% of richer ones. Households without indoor piping usually have to get their water from overcrowded and distant communal pipes, faroff wells, ponds, streams and rivers or private vendors; all these supplies are often heavily polluted. So they are more at risk from waterborne disease, often have to spend many hours that could be devoted to more productive activities in fetching water, and where they buy it have to pay more than richer people with piped water. In many African countries, women, on average, spend five to six hours in fetching water from far-away water sources. In Lima, for example, a poor family pays 20 times more than a middleclass family. Similarly only 8% of poorer urban dwellings in developing countries have a house sewer connection, compared to 62% of richer ones.

Food gets contaminated because of unsafe drinking water and poor sanitation. In poor households in Liberian towns and cities nearly two thirds of stored cooked foods and more than fourfifths of stored baby foods are heavily contaminated.

Over the years, nitrates from overloaded fields work their way down through the ground to water supplies, contaminating them. Nearly a quarter of the groundwater in Europe, west and east, is contaminated above the European Union's maximum admissible concentration. Since the pollution can take decades to reach groundwater, the worst is yet to come. Meanwhile nutrients from fertilizers wash off the land to pollute inland waters and the sea, causing blooms of toxic algae.

Fertilizers present less of a problem in developing countries, though nitrates have been found in the water supplies of both Sao Paolo and Buenos Aires. High levels of arsenic, linked to a high use of the phosphate-based fertilizers, have also been found in groundwater in six districts in West Bengal, India and one in Bangladesh, killing some of those who drank it.

In those developing countries achieving rapid industrialization, in particular, more and more toxic chemicals are being discharged into watercourses. On average, Asia's rivers contain 20 times as much lead as those in industrial countries. There is a high accumulation of toxic heavy metals in Jakarta Bay, where some 30,000 small industries discharge untreated waste. In 1997, some 20,000 tons of mining waste laden with cyanide washed out of a containing pond and into Peru's Parcoy river. More than 40 of Malaysia's major rivers are so contaminated with industrial and agricultural pollution and sewage, that they are said to be biologically dead. Over a sixth of the flow of the River Huangpujian, a major source of drinking water for Shanghai, is untreated waste and over 10 per cent of China's river water has been classified as too dirty even to be used in irrigation.

Even in industrialized counties a third of the wastewater is discharged untreated. Rivers are generally becoming cleaner in OECD countries, but there are still major problems in Western Europe and the former Soviet Union: the water of the river Vistula is too dirty for industrial use over much of its length and four fifths of water samples taken from 200 rivers in the former Soviet Union were found to be dangerously contaminated.

Major declines in fish catches – fish being a major source of protein for poorer people - have een documented in rivers near cities in China, India, Senegal and Venezuela. In Manila Bay, heavily polluted by vast quantities of sewage carried by two major rivers, fishery yields have declined by nearly 40% during the last decade.

Air pollution and human health

Air pollution mainly from industrial emissions, car exhausts and the burning of fuels at home kills more than 2.7 million people every year, mainly from respiratory damage, heart and lung diseases, and cancer.

Though air pollution is normally envisaged as predominantly a problem of industrialised countries, over 90 per cent of the deaths occur in the developing world. Though it is normally regarded as affecting outside air, over 80 per cent of the casualties are from indoor pollution. And though it is normally seen as concentrating in towns and cities, over two thirds of the mortality is in the world's rural areas.

Poor people in developing countries have to burn crop residues, dung and wood indoors for cooking and heating. The dependence on traditional energy in developing regions except for Sub-Saharan Africa has declined quite substantially during the last two decades. Traditional energy sources are much more polluting than the commercial and much less available alternatives such as kerosene, propane and electricity. The smoke swirling with hundreds of toxic substances collects in the houses, killing 2.2 million people every year. More than four fifths of the indoor air pollution deaths occur in rural areas in developing countries, where most of the poor live and where cleaner energy sources are least available; 600,000 of the urban poor also perish each year. Both indoor air pollution and poor nutrition increase susceptibility to respiratory infections, the second biggest cause of child deaths after waterborne diseases in the developing world.

Nearly two thirds of the deaths from indoor air pollution are in Asia: in India alone, nearly half a million people in rural areas and 93,000 in urban ones die annually. In Latin America, where a far higher proportion of the poorest people live in city slums, nearly four fifths of the deaths are in urban areas. Women and children, particularly girls who spend most time indoors are known to be disproportionately affected. Indoor pollution contributes to acute respiratory infections that cause thousands of deaths among infants and children in developing countries.

Outdoor air pollution once concentrated in the industrialized

countries is now also growing rapidly in developing ones. The rapid growth of industrialization in many countries has greatly increased pollution, and the growth of car ownership is increasing emissions all over the world. The world's motor vehicle fleet grew fivefold between 1960 and 1995, from 130 million to 650, while the world population has doubled during this time period.

More than four fifths of all cars are in the industrial countries, but they are also rapidly increasing in Eastern Europe, Latin America and East, South and Southeast Asia. Between 1986 and 1993, per capita car ownership has increased by 34% in Hungary and 64% in Poland. In Asia (excluding Japan), the car fleet size has increased by 15% during the last two decades and the region now has 20 million cars. High vehicle densities also lead to congestion, noise, rising traffic accident rates and lost time all of which have a significant cost.

Lead, often added to gasoline and thus emitted from car exhausts, has a serious impact on human health; it maims children intellectually and permanently impairs the development of their brains. It has been eliminated in some OECD countries and is being phased out in others, so developing countries and economies in transition emit a far greater proportion of it than their share of the world vehicle fleet would suggest. In Bangkok, 30,000 to 70,000 children were reported in 1990 to have risked a loss of 4 or more IQ points because of high lead emissions in the city. In Latin America, where nearly threefourths of the population live in urban areas, nearly 15 million children below 2 years of age are particularly at risk. The children of the poorest urban dwellers will often be particularly severely affected because their brains may also be damaged by malnutrition and they may be especially likely to live near busy roads. Even in the United States, where lead has been virtually eliminated from gasoline, AfricanAmerican children are exposed to three times as much lead poisoning as white ones, because they tend to live nearer to lead emitting industries, and in poorer quality housing which is more likely to have old paint and water pipes containing the toxic metal.

Studies suggest that outdoor air pollution causes two to three

per cent of all city deaths in the United States, the Czech Republic and Poland. Particulates alone are estimated to kill 10,000 Britons each year, and several times as many Americans. Some parts of Eastern Europe and the CIS are particularly badly affected. Nearly five per cent of deaths and four per cent of disabilities in Hungary have been attributed to air pollution, and residents of Kastowice in Poland, where the air is particularly bad, have 15% more circulatory disease, 30% more cancer, and 47% more respiratory ailments than other Poles. But on the positive side, in the city of Los Angeles has taken successful measures for clean air. In Eastern Europe and the CIS countries, many municipalities are now implementing broad-based strategies to curb industrial pollution. In Kotowice, Poland, the air quality monitoring system has been extended which is now the most extensive system in Poland.

Nevertheless 70% of deaths from outdoor air pollution take place in developing countries. The majority of their big cities are seriously polluted, but relatively few studies have been done on them. Estimates in Mexico City suggest that particulates kill 6,400 citizens a year, ozone contributes to the loss of 6.4 million workdays annually, and nearly a third of the children are dangerously contaminated with lead. Studies in Jakarta (where 40 per cent of the policemen have respiratory disease) suggest that bringing pollution down to WHO standards could save 1,400 lives and prevent 600,000 asthma attacks and 125,000 cases of bronchitis in children each year. Sickness due to air pollution may cost China $880 million a year while health damage and the effects on buildings may cost Bangkok $1 billion annually. Both Beijing and Calcutta have nearly four times the reference level of 100 micrograms of particles per cubic meter as a measure of clean air, while Bangkok, Cairo and Manila have recorded double the level. But the story is not one-sided.

Solid waste, toxics and human environment

Solid waste generation, both municipal and industrial, continues to increase worldwide in both absolute and per capita terms. The develop-

ing world generates about 100 to 300 kilogram of garbage per capita per year. Industrial countries now produce 520 kilogram of municipal waste per person every year. Between 1975 and 1996, per capita municipal waste generation in the OECD countries has increased from 400 kg to more than 500 kg. With increased affluence, the composition of wastes changes from primarily biodegradable organic materials to plastic and other synthetic materials, which take a much longer time to decompose. For example, in Brazil, with the increasing use of cellular telephones, the extent of discarded batteries has increased more than nine-fold from 275 K units to 2,200 K units.

In cities of the developing world, an estimated 20% to 50% of the solid wastes generated remain uncollected, even though up to 50% of local government expenditures goes towards waste collection. In fact, in poorer areas in developing countries, garbage collection is often non-existent. In most industrial countries, 100% of the urban population is serviced by municipal waste collection. However, with their rising consumption levels, they confront ever-increasing mounds of garbage.

Poorly managed waste - specifically excreta and other liquid and solid wastes from households and community - represent a serious health threat. In areas lacking sanitation, waste heaps become mixed with excreta and contribute to the spread of infectious diseases. Equally, in areas that do not have sewerage systems, sewage may be discharged untreated into the environment, resulting in water contamination. In both cases, the net results mat be diseases like diarrhoea, dysentery, cholera, other intestinal diseases. And the process, it is poor people who suffer the most. This is because poor people live near waste disposal sites, poor households lack access to safe water and basic sanitation and poor children are the waste-pickers.

Uncontrolled disposal of solid waste into water bodies, open dumps and poorly designed landfills is a principal cause of surface water and groundwater contamination. Uncollected domestic waste is the most common cause of blocked urban drainage channels in Asian cities, increasing the risk of flooding and vector-borne diseases. In

some cities, refuse is often mixed with human excrement, which facilitates the spread of disease, specially among children and waste-pickers. Again, it is poor people who also work as waste workers making them more vulnerable to waste-induced health risks.

In China, for example, most toxic solid wastes are disposed of in the municipal wastes stream without treatment, leading to contamination of soils and water bodies with heavy metals such as mercury, lead and arsenic. These toxics can threaten or destroy marine life.

As many as 25 million agricultural workers in the developing world 11 million of them in Africa may be poisoned each year from pesticides; hundreds of thousands die. Industrial countries routinely export pesticides banned as too dangerous for use at home to developing countries: in the early 1980s they made up a fifth of the US's exports.

This is not to say that the relatively rich escape; indeed the effects in industrialized countries may be more widespread, if more subtle. As many as 50 million Americans may be drinking water polluted by pesticides, and the US National Research Council has estimated that up to 20,000 may die each year from the effects of the relatively low levels in food.

The poor are also most at risk from discharges from and accidents in factories, for they tend to live nearest to them. The effects of the Bhopal disaster in the Union Carbide Factory in Bhopal, India in 1984 were particularly severe because a squatter settlement pressed up to just five meters from the factory boundary. The tragedy cost the lives of about 3000 people and injured another 50,000. In the aftermath of the tragedy, the legal case was first moved to India from the US so that a smaller compensation can be negotiated. After a lot of legal lingering, the victims were paid on average $800 per person. The Bhopal disaster in not only a severe case in industrial accident, but it also represents a tragedy in terms of environmental injustice.

The rising costs of responsible waste management (now up to $3000 per ton) have also encouraged the export of toxic waste from industrial countries to developing ones, where it can be buried

untreated for as little as $5 a ton. In the late 1980s, it was reported that several African countries who urgently needed foreign currency as commodity prices plunged and debt soared were being used as dumping grounds for toxic and hazardous wastes.

Between 1984 and 1986, several tons of hazardous wastes were dumped by the former Soviet Union in Benin. Between late 1980s and the early 1990s, Latin America, particularly countries like Paraguay and Uruguay were alleged to be the destinations of waste shipments from Europe and the US. Starting with mid-1990s, the flow of dangerous waste materials is reported to have shifted to Southern Asia.

Again it is the poor that suffer most. Nearly a third of world's people depend directly on what they can grow, gather or catch. While everyone on earth ultimately depends on its natural systems, they are particularly vulnerable to any degradation of them.

Soil degradation, desertification and human livelihood

Humanity has degraded more than a sixth of the world's productive land since the end of the Second World War. Over just half a century nearly two billion hectares have suffered some degradation, reducing its capacity to support human life. Thus at a regional level, overgrazing accounts for nearly 50% of soil degradation in Sub-Saharan Africa and nearly 30% in Latin America and the Caribbean and Asia. Vegetation removal is responsible for more than 40% soil degradation in Asia, Latin America and the Caribbean and Europe. Agricultural activities are the cause of 60% soil degradation in North America and more than 25% in Asia, Sub-Saharan Africa, Asia and Europe. One quarter of Central Asia's irrigated land, and one fifth of Pakistan's, is affected by salinization.

On about two thirds of the degraded area an area equivalent to China and India combined agricultural productivity has been either greatly reduced or largely destroyed. Although all parts of the world are affected, developing countries have suffered more than 80 per cent of

the damage. And by far the greatest part of the most severely degraded land is in Africa and Asia. Nearly half of the world's degraded lands are in Asia and about half a billion hectares of land in Africa are moderately to severely degraded. These are also the two continents where two-thirds of world's poor people live.

It is a continuing process. Lack of terraces on steep slopes, failures to replace nutrients, excessive irrigation and drainage did most of the damage to arable lands, while overgrazing has been the main problem on range- lands. Over-cultivation, overgrazing and the felling of forests each accounts for around 30 per cent of the damage. Overexploitation for firewood accounts for another seven per cent. Meanwhile poorly drained irrigation turns cropland salty, destroying some 500,000 hectares of what should be highly productive land each year about the same amount as is newly irrigated annually.

Soil erosion and degradation have several impacts on human beings. First it reduces per capita available agricultural land and agricultural productivity. The pressure on arable land has reduced the per capita farm- land in developing countries to 0.11 hectare compared to 0.48 hectare in industrial countries. Land degradation in India accounts for between 4% and 6% in productivity loss in total agricultural output every year - which amounts to $1.5 to $2.4 billion. Second, it makes fodder availability for cattle difficult. Third, soil degradation may force people to be environmental refugees searching for more fertile lands.

The crisis is at its worst in the dry lands, which stretch across a third of the world's land surface. Here the soils are particularly fragile, vegetation is sparse, and the climate is especially harsh and land degradation is defined as desertification. Patches of degraded land erupt and spread like a skin disease, joining up to produce desertlike conditions over vast areas. This process, for example, has created Europe's first desert.

Desertification already costs the world $42 billion a year in lost income. Africa alone loses over $9 billion a year. But the human cost is even higher. Some 250 million people, and the livelihoods of a billion almost a sixth of the entire population of the globe are at risk.

Crop yields are slashed: India loses four to six per cent of its annual harvest to land degradation. Less food and fodder is produced, and prices go up.

It is not just a developing country phenomenon: the continent with the greatest proportion of its dry-land suffering from moderate to severe desertification 74 per cent is North America, just beating Africa, on 73 per cent. In all, more than 110 countries are potentially at risk. But it is the world's poorest people who suffer most. The people of the dry-lands of developing countries are among the most marginalized on earth, economically and politically, as well as geographically. They are extraordinarily vulnerable; they rarely have rights to their land, and traditional methods of managing the ecologically sensitive soils are being driven out. More and more of the good land is being put down to monoculture crops, often for export, while the poor farmers are pushed onto ever more marginal territory. Drought can cause disaster, but so can good rains, if they produce food surpluses from the better land and so drive down prices. Many people including one in every six in Mali and Burkina Faso have already had to leave their land as it turns to dust; another 135 million are in danger of becoming such environmental refugees.

Ten millennia ago, before the first plough had been set to the ground, half of the earth's land surface was be covered in trees. Now about a third of these forests have completely gone and about two thirds of what is left has been fundamentally changed. Only about a quarter of the original forest remains undisturbed.

Up to forty years or so ago, most of the deforestation took place in what are now the industrialized countries. But now the overwhelming majority of it is in the developing world and, again, it is the poor that suffer most. Over the past decade, at a conservative estimate, 154 million hectares of tropical forests, covering almost three times the land area of France, have been the Caribbean lose about 7 million hectares a year, and Asia and SubSaharan Africa about 4 completely cut down: every year an area the size of Uruguay is destroyed. In fact, these estimates tell only part of the story, for they only count forests

that have lost at least 90 per cent of their tree cover: such virtually complete destruction accounted, for example, for only a quarter of Africa's forest loss in the 1980s.

About half the deforestation took place in just six countries Brazil, Indonesia, Zaire, Mexico, Bolivia and Venezuela but almost every tropical country has lost some cover. Less than five per cent of India's original forest, and less than three per cent of the Ivory Coast's forests still remain. Worldwide, only one hectare of tropical forest is replanted for every six cut down; in Africa the ratio is 1 to 32. India is a notable exception planting four trees for every one felled.

Deforestation is mainly due to extension of subsistence farming, largely a result of rural population growth. Up to two-thirds of annual tropical deforestation worldwide is caused by clearance for agriculture. In the tropics much of the felling is done by some 150 million small farmers, who, denied better land, go into the forests to scratch a living; they often exhaust the poor soil within a few years, and then have to move on deeper into the forest and start again. The notion that the fuel wood search by poor people is the main cause of deforestation is not always true. In Senegal, for example, charcoal production – accounting for 91% wood-based fuels in urban areas, accounts for 10% to 20% of annual deforestation. Rural people use only 8% wood-based fuels. Often the causes are interlinked: loggers do the initial felling and build roads that encourage subsistence farmers to come in and complete it. The degraded land that they leave may then be used for cattle ranching.

Definitely, deforestation has many causes, but inequity and the growth of consumption rank high among them. In both temperate and tropical areas rapidly increasing demand for paper and wood are helping to drive the destruction. The demand for wood has doubled since 1950, while the use of paper has soared almost five times. Over half the wood, and nearly three quarters of the paper is used in industrialized countries.

Forests are now generally replanted in industrial countries. Tree cover is slightly increasing in Europe, New Zealand and Australia,

though it is falling in the United States. But much of the original eco-logicallyrich forests have been felled, and the new plantations are usually far poorer mixes of, at best, a few species. Only one per cent of Europe's original forest remains. And such 'oldgrowth' forests are still being cut down. Temperate rainforests are far more endangered than their more celebrated tropical counterparts.

Deforestation has significant human costs. Forests have been a major source of food, fodder, fuel, fibre, timbre, medicine, oil, dyes and other things to people. Deforestation often robs poor people of their livelihood as well as sources for their medicines. In fact, in many parts of the developing world, poor communities, which have been able to draw half of their food from the innumerable forest products, have never a problem of famine.

Forests bind soil to the ground, regulate water supplies, and help to govern the climate. Cutting them down therefore seriously impairs human well-being. Two fifths of the world's people depend for their water absorbed by forested lands on the forests of mountain ranges. But when the trees have been felled, the rain water sheets off the land, rather than replenishing reserves, causing first floods, then drought. Tens of millions of hectares of India have become more vul-nerable to flooding as a result of deforestation the resulting property damage in the Ganges basin alone can reach \$1 billion a year while the number of villages short of water has risen dramatically. Felling forests also affects local climates, and increases global warming: each year, tropical deforestation adds almost as much carbon dioxide to the atmosphere as all the fuel burning in the United States.

Inevitably the poor are the most seriously affected by soil loss and the lack of water. They also lose access to the fruits of the forest, for food, goods and medicines. And they get little or no benefit from the sale of the wood. During the Marcos regime the Philippines lost ninetenths of its forest: a few hundred families shared \$42 billion in revenue, and 18 million forest dwellers were impoverished.

But in recent times, there has been an increasing awareness about deforestation. It has led to serious efforts of reforestation that is

going on in various countries during the last one and a half decade. Some of these measures are in the form of reforestation, such as in China and India. As a result, China has been able to increase its forest area by more than 7000 hectares and India by more than 6,000 hectares between 1980 and 1990. In other cases, laws and regulations have been formulated to reverse the process of deforestation. Thus in Brazil, a new environmental crime law to protect natural resources, such as the Amazon rainforest, was passed in 1997. The law imposes fines of up to $44 million or four years in Prison for activities such as illegal logging and killing wild animals. Because of such measures, the process of deforestation may be slowed and forests may again play an increasingly important role in the life and livelihoods of poor people.

Loss of biodiversity and human well-being

Two-thirds of humanity is believed to live in a biodiversity-based economy. It has been estimated that 3 billion people - three-fifths of the world's population depend upon traditional medicine for their principal sources of cure of illness. About 100 million of world's poorest people depend on fishing for all or part of their livelihoods.

In many parts of the developing world, poor communities have been able to get half of their food from forests alone. Poor people also raw fodder, fuel, fabric, timber, oil, dyes and countless other products from forests.

Biodiversity is definitely critical for lives and livelihoods of poor people, but it is quite important for everybody else as well. Medicines developed from wild species have saved countless lives. Every year drugs derived largely from forest plants and animals alone sell for over $100 billion. Digitalis and digitoxin, for treating heart disease, come from foxgloves; quinine, used against malaria, comes from an amazonian tree; codeine comes from poppies. The rosy peri-winkle, a plant discovered in a Madagascar rainforest, has helped increase the chances of a child recovering from Leukaemia from 20 to over 80 per cent. Taxol, one of the most potent anticancer drugs ever

found, comes from the Pacific yew, which used to be burned by foresters as a weed. Palm oil has a hundred uses in industry, while exports of palm nuts and kernels and rattan are worth $2 billion a year.

The loss of biodiversity has serious human impacts, particularly on poorer people. Some of these impacts in recent times are sometimes best understood with reference to the increasing shrimp and prawn production in developing countries and their exports to the industrial world.

In recent times, there has been a structural change in the trade patterns of various developing countries. For example, there has been an increased shrimp and prawn production and export from Taiwan, Thailand, and Bangladesh. In the past decade, annual production of giant tiger prawns in Thailand has exploded from 900 tons to 277,000 tons. In 1996 alone, Thailand was exporting 23,000 metric tons of shrimps and prawns. Not only the shrimp and prawn production has been found to be unsustainable from a production point of view in terms of instability and risks, but it has been found to have serious environmental, economic, social and political consequences with human impact.

From an environmental point of view, the large scale pumping of sea- water into the shrimp farms is the most serious environmental impact of shrimp farming. It causes salinization in the pond. The massive extraction of fresh water from underground aquifers for salinity control in the ponds is another problem. The seeping or overflowing of saline water to neighbouring agricultural farms and as well as into the water table pose a serious environmental threat. The degraded pond can rarely be used for any kind of agriculture. This is why it has been termed the rape and run industry.

But more importantly, shrimp farming is directly linked to the loss of mangroves, which have been called the nurseries of marine lives. Mangroves play a crucial economic and ecological role in coastal ecosystems. But shrimp aquaculture results in direct loss of mangroves. In Thailand, 202 thousand hectares of mangroves were lost due shrimp industry. In Ecuador, it is 120 thousand and in Viet Nam it is 67 thou-

sand. Such losses had serious problems in terms of soil erosion of coastal land and provision of shelter and habitat for fish and other marine life. Both adversely affected poorer people in coastal areas.

Economically, it affected poor people in two distinct ways. First, in most cases, shrimp farms have been developed on productive agricultural lands. Poorer people have nothing to do with the production and the export of those shrimps to industrial world. These activities have been carried out by local rich farmers, big exporters and the multinationals. Thus poor people are no beneficiaries from the exercise, but find themselves in a situation where they have lesser lands to produce staples for their families. Second, fish caught at sea is a major source of shrimp feed. Each ton of industrial shrimp requires 10 times its weight in marine fish for conversion to feed. There goes the access of poor people to low priced but nutritious sources of animal protein.

The shrimp aquaculture has severe social and political problems as well. For example, taking over land for shrimp production, watching over shrimps during nights, protection against shrimp thefts have resulted in the use of arms, local conflicts and deaths.

Global environmental issues and human development

The international and truly global environmental issues, such as the changes taking place in the earth's atmosphere, are the hardest of all to quantify. Their effects usually occur long after the pollution that causes them has been emitted: thus they cannot be observed, only estimated. Yet they may be the most devastating of all to human well-being, and some cannot be reversed within a human timescales.

The international concerns with regard to environmental deterioration such as acid rain and forest fire may originate in a particular country but they have an effect on others. The truly global concerns such as ozone depletion and global warming pertain to the globe as a whole. All of these phenomena have impacts, direct and indirect, on human well-being. And even though their precise consequences on human lives and livelihoods cannot always be quantified, they are also

believed to have a higher burden on poor people. Polluted air drifts inexorably across national frontiers, with sulphur dioxide emissions in one country falling as acid rain in another. The environmental damage of acid rain is more fundamental and long-lasting than first believed. Acid rain adversely affects forests, agricultural lands all of which are critical to livelihoods of poor people.

Acid rain is causing a lot of damage in industrial countries, particularly in Scandinavian countries and Canada. About 60% of Europe's commercial forests suffer damaging levels of sulphur deposition. In Sweden, about 20,000 of the 90,000 lakes are acidified to some degree; in Canada, 48,000 are acidic. And the source of the problem in a number of instances is not within the country. In Norway, only 7% of the polluting sulphur comes from within the country.

Acid rain is now emerging as a major problem in the developing world, especially in parts of Asia. Acid deposition levels were particularly high in industrial areas such as South-East China, North-East India, South Korea and Thailand. The effects are already being felt in the agricultural sector. In India, in some cases, it resulted a nearly 50% reduction in wheat yield in areas closer to high emissions of sulphur dioxide.

Forest fires are also a trans-national environmental problem. It may originate in one country, but the impact of smoke and air pollution travels to other countries and affects human health and economic well-being.

The Indonesian forest fire in 1997 is a classic case. It exported smoke haze to countries like Philippines, Malaysia, and Singapore. Smoke created a nuisance as well as it posed to be a health hazards. By mid-October, nearly 1.7 million hectares had burned. Poor visibility, due to smoke, caused several major accidents and left drought victims without aid. It also affected these economies by reducing tourism as thousands of tourists cancelled their trips. The 1997 forest fire in Indonesia is only the fifth largest in the past two decades.

Even though the fires in Indonesia captured international headlines, every continent experienced large-scale blazes. Forest fires in the

Brazilian Amazon, as massive as those in Indonesia, increased by nearly 30% over the 1996 fires. Unusual dry conditions in Africa and increased pressure for land led to vast fires in Kenya, Tanzania, Senegal; significant fires also burned out of control in Colombia, Papua New Guinea, Australia etc. Worldwide, in 1997, fires destroyed at least 5 million hectares of forests and other lands.

Whether in terms of health hazards, or in terms of livelihoods, these forest fires affected poor people most. In the Indonesian fire, more than a thousand people had died and more than 20 million had suffered smoke-related respiratory troubles. Majority of these people lived in impoverishment. Even though poor people suffer most from forest fires, sometimes they have little to do with it. In many cases, logging by multinational corporations or clearing areas to speed development are the primary culprits. The economic effects of forest fires are expected to be felt for years.

The weakening of the world's vital ozone layer was the first of the global issues to seize international consciousness, and provides an encouraging example of how timely, worldwide cooperation can avert disaster. Ozone, a form of oxygen with three atoms instead of the normal two, is a troublesome pollutant near the earth's surface, but a lifesaver far overhead. Scattered so finely through the stratosphere, 15-50 kilometres up, that if collected altogether it would form a ring around the Earth no thicker than the sole of a shoe, it filters out the harmful ultraviolet rays of the sun. Without it no terrestrial life would be possible.

The small amount of ultraviolet light that does get through damages health. It is the main cause of skin cancers, which have been increasing fast : the incidence of melanoma, the most dangerous of them, increased 80 % in the United States during the 1980s alone. It is also a major cause of cataracts, responsible for more than half of the blindness in the world and claiming the sight of 17 million people a year. And it may suppress the immune system, helping cancers to become established and grow and making people more susceptible to such diseases as malaria and leishmaniasis. Even the slightest damage

to the ozone layer would increase this toll on human health. It would also affect food supplies: more than two thirds of crop species are damaged by ultraviolet light, and it penetrates beneath the surface of the sea killing the plankton that play a vital part in the marine food chain.

A battery of manmade chemicals has been attacking the ozone layer. At one stage a million tons of chlorofluorocarbons (CFCs) inert, immensely stable, chemicals used in aerosols, refrigeration, for blowing foam and cleaning computers, and in countless other applications were released to the atmosphere each year, to drift up into the stratosphere: each of their chlorine atoms destroys 100,000 atoms of ozone. Halons, used in fire-fighting, and the solvents carbon tetrachloride and methyl chloroform are among other ozone depleters. They have thinned the ozone layer by about 10% over temperate regions, caused an `ozone hole' to open up over Antarctica each southern spring, and threatened to produce a similar hole over the Northern hemisphere, which could cover heavily populated parts of Europe and North America. But ozone depletion may provide one exception at least on a worldwide basis to the general rule that the poor suffer most from environmental degradation; the depletion mainly affects temperate and polar regions, and ultraviolet light has its most severe effects on people with light skin. Yet within industrialized countries, the poor who are less able to afford good sunscreen lotion or sunglasses may be more vulnerable.

In the medium to long term, global warming is almost certainly the most serious of all the environmental challenges. It threatens to disrupt the remarkably stable climate which the world has enjoyed since the beginning of settled agriculture some 10,000 years ago, which has made possible the growth of all civilizations and the expansion of human numbers from a few millions to approaching six billion. It is likely to aggravate most other environmental problems, and could burst both the outer limits of what the planet can take and the inner limits of what human societies can stand.

Carbon dioxide and other greenhouse gases, primarily methane and nitrous oxide, are building up in the atmosphere and acting like

glass in a greenhouse, letting through the sun's rays but trapping some of the heat that would otherwise be reflected into space. Carbon dioxide emitted mainly from burning fossil fuels and from felling forests is responsible for 70 per cent of this enhanced greenhouse effect to date. Researches have shown that global warming is taking place and that human activity is responsible.

In 1999, global emissions of carbon dioxide, added to the atmosphere as a direct result of human activity - amounted to 22 billion metric tons. The industrial countries accounted for more than three-fifths of it. Thus, whether in total or in per capita term, the industrial world still accounts for most of the global warming. But the effects will be felt all over the globe - and could have their greatest impact on poorer countries. A rate of climate change faster than at any time in the last 10,000 years is expected and it has been argued that it is likely to cause widespread economic, social and environmental destruction over the next century. Developing countries and particularly their poorest people are expected to be hardest hit by the failing harvests, growing water shortages and rising seas that will accompany global warming.

By the best estimates, the world's harvests taken as a whole will be slightly reduced in the next century. This, in itself, is likely to increase food prices and hunger. But more important, the effects will be polarized, and in a way that will generally exacerbate existing inequalities and patterns of poverty and hunger. Some areas, like Europe and Canada are expected to benefit from better harvests, but yields are expected to fall in Africa, South Asia and Latin America, where most of the world's poor and hungry people live. A recent study predicts that harvests will be cut by over 30 per cent in India and Pakistan by the year 2050. It is the same story for rainfall; by and large the haves, who get enough now, are expected to get more, while the have nots get less. Water shortages are expected to increase, with Sub-Saharan Africa, the Arab States, South Asia and Europe particularly affected. Deserts are expected to spread in all of these, excepting Europe.

Sea level rise may threaten lives of millions in developing countries. With a one-meter rise in the sea level, partly due to global

warming, Bangladesh, which produces only 0.3% of global emissions, could see its land area shrink by 17%. Similarly, Egypt could see 12% of its territory, home to 7 million people, disappearing under the waves. Sea level rise threatens to make several small island nations, like the Maldives and Tuvalu uninhabitable and to swamp vast areas of other countries.

The preceding discussion on human impact of environmental damages clearly establishes three things:

First, whether it is pollution, degradation or waste generation, environmental damages have serious human consequences in terms of human health, livelihoods and human security. And the impacts are the worst for poor people (box 1).

Box 1: Impacts of environmental degradation on human security in the developing world

- Water-related diseases, such as diarrhoea and cholera, kill an estimated 3 million people in developing countries, the majority of which are children under the age of five.

- Vector-borne diseases such as malaria account for 2.5 million deaths a year, and are linked to a wide range of environmental conditions or factors related to water contamination and inadequate sanitation.

- One billion people are adversely affected by indoor pollution. Nearly 3 million people die every year from air pollution – of which more than 2 million from indoor pollution. More than 80% of these deaths are those of women and girls.

- Nearly 15 million children in Latin America are affected by lead poisoning.

- As many as 25 million agricultural workers – 11 million of them in Africa – may be poisoned each year from fertilizers.

- More than one billion people are affected by soil erosion and land degradation. Some 250 million people are at risk from slash crop yields.

- Desertification already costs the world $42 billion a year in lost income.

- Over the last decade, 154 million hectares of tropical forests, covering almost three times the land area of France, have been lost.

- About 650 million poor people in the developing world live on marginal and ecologically-fragile lands.

Source : Jahan and Umana (2003)

Second, an analysis of the geography of impacts indicates that the rich contributes more environmental damages with a larger share in outdoor pollution, global warming, acid rain, generation of solid wastes and toxics. But it is poor people who bear the brunt of the impacts of environmental damages in terms of loss of lives and health risks from pollution and toxics, loss of livelihoods from soil degradation desertification, deforestation and biodiversity loss. The burden of environmental damages is not equitably borne by poorer people. Women also face greater risks from environmental damages, largely because of their social and economic roles.

    Third, it threatens both the outer limits of earth's carrying capacity as well as inner limits of human endurance. There is also the indication that the unequal impact of environmental damages would beyond the present generation and would have serious implications for future generations. Thus it is not sustainable.

Environmental degradation and conflicts

During 1990-2001, there were 57 major armed conflicts in 45 loca-
tions. Sub-Saharan Africa has been hit the hardest, but no developing
region has been unaffected. Deaths from conflicts are hard to gauze,
and estimates vary. But since the 1990, conflicts have killed as many as
3.5 million people and injured many millions more. Particularly tragic
is that civilians, not soldiers, are increasingly the victims. – accounting
for more than 90% of deaths and injuries. Shockingly, children account
for at least half of civil casualties.

    The other dimension of conflicts is refuge and internal dis-
placement. At the end of 2003, there were about 10 million people who
were refugees and around 6 million people who were internally dis-
placed. The human impacts of both the phenomena are well-known.

    The key issue is: to what extent all these conflicts and their
causalities can be attributed to resource scarcity, environmental degra-
dation and environmental change. One may not have hard-core data or
time series to highlight the issue, but the linkages can be seen through
snapshot of events.

    Reduction in the quantity or quality of a resource shrinks the
resource pie, while population growth divides the pie into smaller
slices for each individual, and unequal resource distribution means that
some groups get disproportionately large slices. Unfortunately, analysts
often study resource depletion and population growth in isolation from
the political economy of resource distribution. The term "environ-
mental scarcity," however, allows these three distinct sources of scarci-
ty to be incorporated into one analysis. Empirical evidence suggests, in
fact, that the first two sources are most pernicious when they interact
with unequal resource distribution. We must also recognize that
resource scarcity is, in part, subjective; it is determined not just by
absolute physical limits, but also by preferences, beliefs, and norms.

    When analysts and policymakers in developed countries con-
sider the social impacts of large-scale environmental change, they

focus undue attention on climate change and stratospheric ozone deple-
tion But vast populations in the developing world are already suffering
from shortages of good land, water, forests, and fish; in contrast, the
social effects of climate change and ozone depletion will probably not
be seen till well into the next century. If these atmospheric problems do
eventually have an impact, they will most likely operate not as
individual environmental stresses, but in interaction with other, long-
present resource, demographic, and economic pressures that have grad-
ually eroded the buffering capacity of some societies.

Conflicts can also arise because of ecological marginalization.
Thus inequalities in access to rich agricultural lowlands combined with
population growth cause migration to easily degraded upland areas;
erosion and deforestation contribute to economic hardship that spurs
insurgency and rebellion.

Tables 1 and 2 present lists of indirect international and intra-
national conflicts, caused largely by environmental factors, over the
years. Looking at the tables, three trends become quite clear:

● Most of the conflicts are within nations, rather than between
nations.
● A number of conflicts are quite long-term, ranging over 20
years and some of them are still continuing
● The nature of conflicts assumes different forms – from group
rebellion to ethnic conflicts- in different situation.

Conflicts also cause severe damage to environment. Two decades of
warfare in Afghanistan have degraded the environment to the extent it
now presents a major stumbling block for the country's reconstruction
efforts. Conflicts in Afghanistan have put previous environmental
management and conservation strategies on hold, brought about a
collapse of local and national governance, destroyed infrastructure,
hindered agricultural activity and driven people into cities already lack-
ing the most basic public amenities.[3]

Three to four years of drought have compounded a state of

widespread and serious resource degradation: lowered water tables, dried up wetlands, denuded forests, eroded land and depleted wildlife populations. Today local communities have lost control of their resources in these eastern provinces with warlords, 'timber barons' and foreign traders controlling illegal and highly lucrative logging operations. With more than 4 million returning refugees, pressure on Afghanistan's natural resources and environmental services are set to increase further.

In Bosnia and Herzegovina, depleted uranium (DU) from weapons used in Bosnia and Herzegovina in 1994 and 1995 has contaminated local supplies of drinking water at one site, and can still be found in dust particles suspended in the however, are very low and do not present immediate radioactive or toxic risks for the environment or human health.

The current Iraq conflict has undoubtedly added to the chronic environmental stresses that have accumulated in Iraq over the past two decades. The country's environment shows severe damages from various wars, environmental mismanagement by the Government and the economic impact of sanctions. A major threat to the Iraqi people is the accumulation of physical damage to the country's environmental infrastructure. In particular, the destruction of, and lack of investment in, water and sanitation systems has led to higher levels of pollution and health risks.

On top of this, continuous electricity cuts have often stopped the pumps that remove sewage and circulate freshwater. Power outages have also affected the pumps that remove saline water from irrigated lands in the southern floodplain, leading to widespread water logging and salinization.

The destruction of military and industrial infrastructure during Iraq's various conflicts has released heavy metals and other hazardous substances into the air, soil, and freshwater supplies. An assessment of the country's chemical risks and levels of environmental contamination, however, has yet to be conducted.

Smoke from the oil-well fires and burning oil-trenches during

the past two months has caused local air pollution and soil contamination. The lack of investment in the oil industry in recent years has reduced maintenance and raised the risk of leaks and spills.

Heavy bombing and the movement of large numbers of military vehicles and troops have further degraded natural and agricultural ecosystems. When the desert's hard-packed surface is disturbed, the underlying sand is exposed and often erodes or blows away. Meanwhile, trans-boundary pollution and a lack of river basin management have led to the degradation of Iraq's major waterways.

Water scarcity and conflicts

It is widely agreed that in future water scarcity will be a major source of conflicts among countries as well as people. The water scarcity index makes clear that water is, or is likely to become, a major constraint on development for more than a third of the countries studied, on four of the five major continents. [4]

In 1990, 28 countries with populations totaling 335 million experienced water stress or scarcity. By 2025, from 46 to 52 countries will fall into these categories, and the number of people in such countries could be as low as 2.8 billion or as high as 3.3 billion, depending on rates of population growth over the next three decades. The difference between these two numbers is one and a half times the number of people living in such conditions in 1990. As early as the first quarter of the 21st century, achievable reductions in population growth could cut by half a billion the number of people who will live in countries that are frequently or chronically short of water.[5]

Among the countries projected to fall into the water stress category before 2025 is India (1990 annual per capita water availability: 2,464 cubic meters), currently the second most populous country in the world with more than 1 billion people. By 2025, India's population is expected to exceed 1.4 billion under the UN's medium projection, and the chronic water scarcity that already plagues many regions of the country is all but certain to intensify. China, today's most populous

nation (1990 annual per capita water availability: 2,427 cubic meters), only narrowly will miss the water stress benchmark in 2025, according to all three UN projections.

Oil-rich Arab states—Kuwait, Qatar, Bahrain, Saudi Arabia and the United Arab Emirates—make up five of the nine countries with the least water per capita. Many countries in the Middle East rely heavily on desalination and nonrenewable groundwater supplies to augment their meager renewable fresh water supplies. And with continuing high family size in these countries, renewable water will become increasingly scarce. Populations in the region are currently doubling every two or three decades. It may appear that the wealth these countries now enjoy will enable them to buy their way out of any future water shortages. But the key point is that wealthy countries and the poor ones are now using water unsustainably. Eventually they will have to face the consequences and place their water management on a sustainable path. Israel and Jordan are high on the list of water-scarce nations, and their placement there says much about the potential for continued conflict in the Jordan River valley.

A dozen or more African nations also are struggling to balance declining per-capita water supplies with the demands of rapidly rising populations. Of 20 African countries that have faced food emergencies in recent years, half are either already stressed by water shortage or are projected to fall into the stress category by 2025. Lacking the financial resources and technology to improve management of scarce water or gain access to more renewable supplies, these countries are in desperate need of improvement in the development and management of renewable fresh water resources. They include war torn Somalia as well as Algeria, Kenya, Malawi and Rwanda.

The water shortage in many regions and the issue of inter-country water sharing over the years has resulted in many conflicts and the deterioration of the situation in coming decades may lead to many more. Table 3 presents a list of direct international and potential conflicts over water resources.

On the basis of all these situation analyses, the implications for

future generations with regard to environment, conflicts and human security needs, however simple, an assessment, of what the future would look like. Some illustrations of future conditions on these issues may provide some insights as to the seriousness of the problem and hence some guidelines with regard to policies toward environmental sustainability.

Future scenario: environment, conflicts and human security [6]

Prediction is always difficult, especially when it is about the future. It can also be misleading. Both economists and environmentalists have been sometimes been prone to forecast the future by merely extrapolating past trends. In fact changes in policy, social attitudes and technology can quickly render such projections obsolete.

But predictions based on present and past trends can serve a useful purpose by showing whether or not they are sustainable. They can indicate the need for change, and give some idea of the timescale in which it will have to happen. Thus the scenarios presented in this section are meant to be indicative, rather than predictive, to sketch in the direction that present trends are taking us, rather than to carry out a precise and rigorous scientific exercise.

Most of the assessments maintain that the world in 2020 would still be an unequal one in terms of income and consumption of goods and services. For example, the OECD projections suggest that in 2020, in the low growth scenario, while per capita income in constant 1992 PPP$ in India would be $3,539, per capita income for the US would be $27,996. In terms of private consumption, the corresponding figures would be $2,057 and $17.519 respectively. It implies a reduction in present inequality, but inequality still remains. The same conclusion can be drawn for the high growth scenario.

With regard to population, between 995-2025, developing countries, even with the medium variant of projections, will experience an annual average population growth of 1.4%, with different regional variations. Thus, 85% of the world's population in 2025 will live in

developing countries compared to 80% in 1995. This would place huge pressure on natural resources of the developing world.

The scenario indicates that much of the increase in pollution and degradation over the next decades will take place in developing countries and that in future, as now, the impact will fall dispropor- tionately on poor people.

If the trends of the past 20 years continue, total energy con- sumption will increase four fold worldwide by 2025. If there are strin- gent and practicable measures of energy efficiency and conservation during 1990-2025, there would be a modest rise in per capita energy use from 1 kW to 2 kW on the part of developing countries and a graduated decline from 7.5 kW to 3.8 kW for industrial countries. Energy use in China might triple by the year 2020, with most of the increase coming from coal.

Air pollution, on past trends, will rise with energy use, and so will its toll. Sulphur dioxide emissions in Asia will overtake those in industrial countries by 2010, causing extensive damage from acid rain, particularly in South China. Within another 25 years the number of the world's cars, now more than 500 million, may well double to top 1 bil- lion. As much of this increase would take place in countries that still use lead in gasoline most of them developing ones emissions of lead could increase fivefold between 1990 and 2030 under an unchanged practice system.

In the area of global warming, the global energy-related carbon dioxide emission is expected to rise between 30% and 40% by 2010 under moderate growth conditions. Much of the growth in energy demand and carbon dioxide emission comes from the developing world. Although carbon dioxide emissions in 2010 are expected to increase some 24% from their levels in 1990 in OECD countries, emis- sions from developing countries are projected to more than double, although from a much smaller base. Given current growth trends, developing countries will account for nearly half of global carbon diox- ide emission; today they are responsible for less than one-third. Within the developing world, China and India would account for more than the

half of its carbon dioxide emission.

The renewable natural resources on which we all depend, but poor people depend disproportionately will become scarcer. Today, nearly a third of world's population now depends directly on renewable resources - on what they can grow, gather or catch - for much of their livelihoods. But the amount of cropland available per person is projected to fall by half from today's already meager 0.27 hectare within 40 years. By 2050, more than 2 billion people will live in regions facing potential land scarcity. There will be extensive and increasing desertification and land degradation, particularly in parts of South Asia and Sub Saharan Africa.

Use of firewood and other traditional fuels - indeed most renewable resources - are driven by expanding population. Thus the pressure on renewable resources in developing countries would be intensified. In 2025, much of the population of Sub-Saharan Africa and South Asia may remain highly dependent on such resources; so may many people in rural Latin America and the Caribbean, given that region's extreme disparities in incomes and land ownerships.

The process is already well under way. Projections suggest that by 2010, just twelve years distant, there will be 12 per cent less irrigated land and 21 per cent less total cropland per head as in 1990, while 10 per cent less fish will be caught per person.

Worldwide water use is expanding even more rapidly than population. By 2025, it will have risen by 40 per cent. By then, three-quarters of the world's available freshwater runoff could be pressed into service, compared to half today. By then, too, the number of people who are short of water may rise nearly six-fold from the present 550 million to 3 billion. Regions that are home to nearly twothirds of the world's population will face moderate to high water scarcity. Many authorities predict that water may be an important cause of war and human conflicts, in the twenty first century.

In the area of waste disposal, if current trend continue, the world may see a five-fold increase in waste generation by the year 2025. All these will add to pollution and the related health risks in

developing countries.

The net results may be that poorer people would be pushed more and more to ecologically fragile lands making them more vulnerable. It has been suggested that by the end of the next decade, poor people living in ecologically fragile systems may increase to 1 billion from the present estimate of half a billion. Scarcity of resources and inequality of access to resources and sinks would make it difficult for them to make the their transition from impoverishment more difficult. The continuing unequal impacts of environmental degradation would severely hamper their health, lives and livelihoods.

No matter whether we look at the years 2010, 2025 or 2050 or any other, the trends remain the same. And they paint a simple, but powerful picture - and a worrisome one too. It implies that there will be a reinforcing dynamics between environmental damages, conflicts and human insecurity. Access by poor people to resources would be further shrunk and they may have to face even greater impacts of environmental damages.

Does it mean that humankind is heading for a dooms day? The answer is yes and no. Definitely the future is bleak if we continue with business as usual. But alternatives are certainly possible and we can shape the future accordingly with commitments, big changes in policies, institutions, values and a sense of collective responsibility.

Implications of environmental issues, conflicts and human insecurity towards achievement of the MDGs

Environmental issues, conflicts and human insecurity have serious implications for the achievement of the MDGs. The unequal access of poor people to natural resources and the larger adverse impacts of environmental damages on poor people's lives will be felt across the MDGs:

●*Unequal access to natural resources and asymmetrical burden of environmental degradation*: Not only have poor people unequal access to natural resources, they suffer more because of environmental

degradation. The growing soil degradation and erosion, desertification, deforestation are affecting poor people more in terms of resources and livelihood, leading to their further impoverishment and vulnerability. This will have an adverse effect on the goal of halving extreme poverty by 2015 and several other MDGs.

Furthermore, the loss of biodiversity and bio-piracy are robbing indigenous people of their sources of resources, livelihood, and medicine. It then becomes more difficult for them to get out of the poverty trap. In societies with a significant population of indigenous people, this will slow down the process of reaching the MDGs.

● *Inaccessibility to safe water, water contamination and wastes:* Poor people bear the major brunt of inaccessibility to safe water, water contamination, water-borne and water-related diseases. This has an adverse impact on a number of MDGs. For example, the greater inaccessibility of poor people to safe water will make the goal of halving by 2015 the proportion of poor people without access to safe water difficult. The greater inaccessibility of poor people to safe water, their larger exposure to water contamination, higher malnutrition and morbidity will have an adverse impact on school enrolment. Inadequate sanitation at school is a powerful disincentive for attending school, especially for girls.

And since child mortality is higher among poorer households, a greater incidence of water-borne and water-related diseases will further deteriorate it among those households. Increasing lead poisoning among poorer children, particularly in urban areas, may also have an adverse impact on child mortality in many parts of the world. All these will make it difficult to achieve the goal of reducing child mortality by two-thirds by 2015.

●*Indoor pollution*: Indoor pollution is a major problem for poorer households, which are at the bottom of the energy ladder. Every year, four-fifths of the 1.8 million deaths from indoor pollution in rural areas are women – a lot of them are pregnant women or have small children. As child mortality is significantly higher among poorer families, exposure to indoor pollution increases the likelihood of not

achieving the goal of reducing by 2015 child mortality rate by two-thirds, as acute respiratory diseases will claim many lives.

Conflicts, within and between states, makes the achievement of MDGs impossible. Conflicts not only result in human deaths, but those who are left behind, struggle for just survival and their story is that of human misery. Conflicts enhances income poverty, deteriorates the hunger situation – sometimes leading to famines, results in child and maternal mortality, adversely affects the environment makes the HIV/AIDS situation worse. So on every front conflicts makes the achievement of the MDGs a long shot. In 2003, among the 38 high and top priority countries, where human poverty was entrenching, human development was regressing and the achievement of the MDGs was off-track, there were violent conflicts in at least 9 countries during the 1990s.[7]

Similarly, human insecurity – whether job and income insecurity, health insecurity, personal and community insecurity, environmental insecurity – create all kinds of deprivations and vulnerabilities which pose a major constraint to the achievement of the MDGs. For example, in 2003, of the bottom 10 countries (out of a total of 177 countries) in the Human Development Index (HDI), which imply a higher level of human insecurity; three of them – Burundi, Democratic Republic of Congo, and Sierra Leone generated more than 1 million refugees – representing 15% of the total 6.7 million – the other 5.7 million generated in the reaming 174 countries. It goes without saying that these three countries, with high human insecurity, are off the track as far as achievement of the MDGs are concerned.

Policy Options

Policy discussions in the environment-conflicts-human security-nexus should begin with five fundamental points:

●*First*, the idea here is not to provide policy recommendations or prescriptions, rather policy options. Thus the assumption is that one size would not fit all and countries and nations should have the

autonomy to choose from various options presented.

●*Second*, policies encompass both strategies and institutions. In the policy discussion, both aspects should get proper prominence. But both in strategies and institutions, the idea is to raise certain critical issues rather than a comprehensive discussion.

●*Third*, as strong causalities go from environmental issues to conflicts and human insecurity, policies aimed at addressing the environmental issues would take care of conflicts and human insecurities. And the policy discussion in the present paper would concentrate on that linkage. But that does not preclude or undermine the need for direct policies aimed at conflict resolution and enhancement of human security. The need for such policies is also heightened by the fact that there are linkages going from conflicts and human insecurities to environmental degradation. But that goes beyond the scope of the present paper.

●*Fourth*, the policy options can be sliced either in terms of themes – resource scarcity, environmental degradation of environmental change - or they can be looked at from the perspectives of national, regional and global levels or a combination of both. The present policy discussion follows the third route.

●*Fifth*, policy options requires policy advocacy, which requires public advocacy as well. In both contexts, it is important to address some of the analytical issues to remove myths or highlight some positive points.

Addressing the analytical issues

The policy discussion and policy advocacy must start with systematic attempts to deconstruct some of the existing myths with regard to environment-poverty nexus. Otherwise policies formulated would be biased and off-target.

Deconstructing the myth that poor people are not the principal creator of environmental damages, calls for revisiting some of the policy issues, particularly policies with biases towards poor people.

Such policies encompass pricing of natural resources, taxes and subsidies. Policy makers must reorient these policies to benefit poor people. A reorientation is also needed in terms of looking afresh at the ownership of the common resources, the legal framework, local management of common properties, and the issue of time use by women. They must change policies and institutions to ensure access of poor people to resources.

The limitations of the Environmental Kuznets Curve suggest that the issue of environmental degradation cannot be left to growth alone, justifying a passive attitude to policy needs. Rather, pro-active policy actions will be required for environmental protection and regeneration. The same may happen through the revisit of Beckerman Hypothesis. These will induce pursuing policies for environmental protection and regeneration, a pre-requisite to achieve the goal of environmental sustainability. A re-evaluation of Porter Hypothesis may encourage policy makers to take a balanced approach towards environmental policies.

Integration of environmental issues in overall national strategies

●Integrate environment issues into national development frameworks with a major concentration on MDG 7 on environmental sustainability

●Ensure the inclusion of the issue in Poverty Reduction Strategy papers (PRSPs)

●Increase the use of environmental valuation

●Address gender dimensions of poverty-environment issues

●Integrate poverty-environment monitoring and assessment in national frameworks and PRSPs

The MDGs represent the global commitment to reduce human poverty by 2015. The commitment, however, is not only to ensure a better world for the present generation, but also to free future generations from the threat of living on a planet irredeemably spoilt by human

activities. Taking this commitment as its starting point, the WSSD held in Johannesburg last year focused on the relationship between human society and natural environment. Building on the World Summit on Sustainable Development in Rio in 1992 and the World Summit on Social Development in Copenhagen in 1994, the Johannesburg Summit aimed to find practical ways for humanity to respond to both these challenges – to better the lives of human beings, while protecting the environment. The idea was to put the humanity on a practical path that reduces poverty while protecting environment, a path that works for all people, rich and poor, today and tomorrow.

Taking the MDGs as the overarching framework, the Summit identified five areas where practical actions can be taken for results, which are concrete and achievable. The five areas are : water and sanitation, health, agriculture, and biodiversity and ecosystem management – in short, WEHAB (box 2). These five areas make up an ambitious but achievable agenda, they reflect concerns in which progress is possible with the resources and technologies at disposal today, and they represent areas in which progress would offer all human beings a chance to achieving prosperity that will not only last their own lifetime, but can be enjoyed by their children and grandchildren too. There were also agreements on several cross-cutting issues, including opening up markets to assist development, actively promoting corporate responsibility and accountability, and pledging to develop and improve on natural disaster preparedness and response.

In fact, MDGs and WEHAB are mutually reinforcing - action in various areas of WEHAB would help achievement goals included in MDGs. For example, actions in biodiversity or agriculture would help achieving the goals of poverty reduction and hunger. Or actions in energy areas would contribute to the target of environmental sustainability. There are, however, some distinct differences between MDGs and WEHAB:

●While water and health are common areas in both MDGs and WEHAB, the areas of focus are quite different.

●WEHAB includes areas like energy, agriculture and biodiversity,

which do not have any counterparts in MDGs.

Box 2 : The WEHAB commitments

- ● Water and sanitation: To halve by 2015 the proportion of people without access to sanitation.

- ● Energy : To increase access of modern energy services, energy efficiency and the use of renewable energy: to phase out subsidies, where appropriate, and to ensure access to energy for at least 35% of the African population within 20 years – as set by the New Partnership for African Development (NEPAD).

- ● Health: To ensure by 2020 that chemical use and production would not harm human health and the environment; to improve by 2010 developing countries access to environmentally sound alternatives to ozone depleting chemicals.

- ● Agriculture : To develop by 2005 made in Africa food security strategies, and for the Global Environmental Facility (GEF) to consider inclusion of the Convention to Combat Desertification to attract funding.

- ● Biodiversity and ecosystem management : To reduce biodiversity loss by 2010; to undertake initiatives by 2004 to implement the Global Programme for Action for the Protection of the Marine Environment from Land based Source of Pollution.

Source: Chetty (2000)

● Most of the MDGs can be termed as human development outcomes, where as in WEHAB, issues included in energy, agriculture or biodiversity can be termed as inputs to human development outcomes

- The WEHAB goals attempt to bring in various concerns toge-
  ther under each area. For example, agriculture integrates food
  security with desertification, and health integrates issues of
  chemical use and ozone depletion.

- The WEHAB is more practical action-oriented while MDGs
  represent a long-terms aspiration framework.

The MDGs provide an overall framework for the achievement of the
WEHAB commitments, the WSSD plan of action as well as its imple-
mentation plan. The whole issue can be approached through the
following seven strategies:

- Using the framework developed earlier and the linkages sug
  gested, assess the implications of the environment-conflicts-
  human security poverty nexus. Bring in the WEHAB commit
  ments to assess the synergies between WEHAB and the nexus.

- Review the set of actions suggested in the WSSD Plan of
  Action as well as the plan for implementing it. Arrange for
  broad-based debates and dialogues on them with different
  stakeholders – governments, private sector, civil society and
  external development partners to identify the relevant issues.
  Explore ways to integrate them in National Strategies, PRSPs,
  and National Environment Action Plan.

- Arrange for collection of new data for dealing with indicators
  related to the commitments made in the WEHAB – commit
  ments which were not in the MDGs. Link these indicators with
  those used for MDG monitoring.

- Diasggregate human development and environmental sustain
  ability data in terms of regions, gender, ethnicity, race, and

rural-urban divide. Use these data not only for a clearer situation analysis, but also for formulating strategies, particularly in terms of targeted interventions.

● Prepare a benchmark survey and data set from the beginning. Formulate a monitoring plan.

● Build institutions for implementation of both the action plan as well as for monitoring exercise. Particular emphasis should be given to the capacity development of policy-formulation and implementation entities, statistical offices, and monitoring and evaluation units.

● Coordinate the activities of various actors for avoiding duplication, building on synergies from varied experiences and expertise, ensuring efficiency, transparency and accountability.

Resource scarcity

The challenge of resource scarcity can be addressed on several fronts. One such front is the replenishment and minimization of degradation. On both fronts, the role of public and policy advocacy is quite critical. Equally crucial is the alliance between communities, governments, and civil society. In order to deal with resource scarcity, several measures can be thought of:

● On issues of deforestation, reforestation is a crucial measure. Similarly, changes in cultivation patterns may be an effective instrument to deal with soil degradation. But these things would require proper incentive mechanisms in terms of price structures, fiscal strategies and regulatory policies. With those mechanisms, issues like loss of mangroves or salinization due to shrimp culture can also be tackled.

●The legal framework and revising the issue of ownership of natural resources, particularly that of community commons, is a major instrument for dealing with scarcity of resources.

●Improving the efficiency of resource use would also be helpful for dealing with the scarcity problem. Issues of de-linking and dematerialization need to be systematically pursued. Historically, economic growth has been directly linked to increasing use of resources. There would be many advantages for both industrial and developing countries if this link could be reduced by using less material resources and also using resources much more efficiently. De-linking ensures more natural resource conservation, lesser environmental degradation, resources for alternative uses, and emergence of a knowledge-based society.

●Search for alternatives and adoption with regard to resource is essential to deal with resource scarcity.

Access of poor people to resources

●Ensuring the access of poor people to resources would diminish the potentials of conflicts and human insecurity. This would require enhancing the assets of poor people through:

●Strengthening the resource rights of poor people

●Providing the legal framework for their ownership of community commons

●Formulating and pro-poor pricing policy

But these actions would also require institutional initiatives such as:

- Strengthening decentralization for environmental management

- Enhancing poor people's capacity to manage the environment

- Empowering civil society, in particular poor and marginalized groups

- Strengthening anti-corruption efforts to protect poor people and the environment

- Encourage private sector involvement in pro-poor environmental management

- Reducing environment-related conflict

Environmental degradation

Policy options for environmental degradation in the national contexts would on one hand require incentive and regulatory measures and on the other, they may be related to the time use of women. These measures should also include strategies for reducing the vulnerability of poor people.

In the incentive mechanism, pricing policy can play a major role in terms of provisioning of cleaner source of energy to poorer people, which will have a major impact on indoor air pollution. Similarly, regulatory mechanisms can substantially reduce industrial pollution, lead poisoning, pesticide use etc.

There is also a critical need for environmental degradation norms, for an effective monitoring system for environmental degradation and necessary legal framework for defaulters.

Environmental change
Policies related to environmental change encompass more trans-

boundary measures as the changes are the outcomes of trans-boundary forces – global warming, acid rain, bio-piracy, water sharing. Options in these areas include negotiations, regional environmental standard setting, addressing issues like trade-related intellectual property rights (TRIPs), emission permits, multilateral environmental agreements etc.

Needless to say, issues are more complex in this domain. For example, the national policy constraints in these areas are sometimes the results of global and developed country policy choices. Trade policies of the North on many occasions are not supportive of environmental reality and sustainability of developing countries. The issue of environmental standards has often been unduly brought in trade policies as an instrument for non-tariff barrier for protectionism. Foreign direct investment (FDI) has often bypassed the issue of environmental sustainability in these countries and sometimes this could be done because of relaxed domestic policies to attract FDI. The inadequacy of debt relief measures has also contributed a lot towards resource mobilization environmental sustainability.

Conclusions

`Environment is not something that we got from our forefathers, but it is something that we have borrowed from our children'.

- An Indian saying

Environment resources are available to humankind so that it can have a secure and peaceful world and life not only for its present generation, but also for its future generations. But is a question of choice. We can choose to deplete the resources, degrade the environment, run into conflicts leading to human security; or we can have a more visionary, long-term approach to it with sustainability, human security and peace being our goal. The choice is ours. And who doesn't know that in the ultimate analysis, human destiny is a choice and not a chance?

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Table 1 : International environmental conflicts

Countries	Time Frame of Conflict	Key Environmental Factors	Nature of Conflict
El Salvador-Honduras	1969	Deforestation, Soil Degradation	100-Day War
Somalia-Ethiopia	1977-1978	Over-grazing of bush, deforestation	Military confrontations
Israel-Palestine (West Bank)	1987-1992	Over-pumping of aquifers, salinity, water pollution	Group uprising
Mauritania-Senegal	1989-1992	Soil Degradation, dam construction	Military confrontations
Israel-Palestine (Gaza)	1995-present	Over-use of aquifer, agricultural pollution	Protracted confrontations

Table 2 : Intra-national environmental conflicts

Countries	Time Frame of Conflict	Key Environmental Factors	Nature of Conflict
Philippines	1970s and 1980s	Ecological degradation of land	Anti-government campaign
Ethiopia	1980s	Soil degradation	Group conflict
Mexico	1994	Deforestation, soil erosion	Group rebellion
Indonesia	1965-present	Resource extraction	Group conflict
India (Northeast)	1979-present	Deforestation, flooding	Ethnic conflict
Peru	1980-present	Soil erosion	Anti-government campaign
Pakistan	1981-present	Soil erosion, water pollution.	Ethnic and group conflict
Sudan	1983-present	Deforestation, desertification	Ethnic and group conflict
Mauritania and Senegal	Mid 1980s-present	Soil degradation, dam construction	Ethnic conflict
Papua New Guinea	1988-present	Pollution, mine tailings, toxic contamination	Anti-government campaign
India (Bihar)	1980s-present	Cropland scarcity, deforestation desertification	Urban group conflict
Niger	1990-present	Desertification, soil degradation	Ethnic group-state conflict
Kenya	1991-present	Over-fishing, inappropriate cultivation practices, deforestation	Ethnic conflict
Nigeria	1993-present	Pollution from oil exploration	Group-state conflict
Israel (Gaza)	1994-present	Over-use of aquifer, agricultural pollution	Group-government conflict

Table 3 : Direct International Conflicts and Potential Conflicts* Over Water Resources [8]

Countries	Time Frame	Body of Water/Territory	Conflict?
India, Pakistan	1947-1960s	Indus, Sutlei	No
Bangladesh, India	1947-1996	Brahmaputra, Ganges	No
Israel, Jordan, Syria	1951; 1953	Jordan River, Yarmuk, Litani	Yes (both dates)
Egypt, Sudan	1958	Nile	Yes
Brazil, Paraguay	1962-1967	Parana	No (military manoeuvres)
Ethiopia, Somalia	1963-1964	Ogaden Desert water resources	Yes
Israel, Syria	1965-1966	Jordan River	Yes
Argentina, Brazil, Paraguay	1970s	Parana	No
Iraq, Syria	1974; 1975	Euphrates	No (military force threatened in 1974; military manoeuvres in 1975)
Israel, Syria, Turkey	1990	Euphrates	No
Czechoslovakia, Hungary	1992	Danube	No (military manoeuvres)
Ecuador, Peru	1995	Cenepa	Yes
Cambodia, Laos, Thailand, Vietnam, China	1960s-present	Mekong	No

Kazakhstan, Uzbekistan, Turkmenistan	1960s-present	Aral Sea	No
Mexico, United States	1960s-present	Rio Grande	No
Israel, Palestine*	1970s-present	West Bank water resources	Yes
Egypt, Ethiopia	1978-present	Nile	No
Argentina, Paraguay, Peru	1980s-present	Chobe	No
Botswana, Namibia, Angola	1980s-present	Chobe	No
Libya, Egypt, Chad, Niger, Sudan	1991-present	Okavango	No

*Assistance from Samina Anwar in preparing the figure is gratefully acknowledged.

Endnotes:

1- This section has drawn from Jahan and Umana (2003).

2- Unless otherwise stated, all the data cited in this section are from UNDP (2004), UNDP (2003), UNDP (1998) and WRI (2004).

3- This and the following examples have been taken from the press releases from the UNEP website http://www.unep.org

4- For an explanation of the water scarcity index, please see Population Action International (2005).

5- Data for this section has come mainly from Population Action International (2005).

6- This section has drawn heavily on Hammond (1998) and Jahan (2002).

7- UNDP (2003).

8- Tables 1, 2 and 3 have been taken from Schwartz and Singh (1999).

Views expressed in this paper are that of the author's own and in no way do they reflect the policies of the organization that he serves.

Environment and Peace:
An Overall Outlook

Ambassador Wafik Z. Kamil

████████At the outset, I would like to thank both the Organizers, the Government of the Islamic Republic of Iran and the United Nations Environment Programme, for convening this Conference, which seeks to examine the interaction between environment, peace and security from the perspective of the dialogue among civilizations and cultures. The theme of the Conference is of immense importance to many of us coming from the developing countries.

Industrialization, the mantra for the present day world, has changed forever the relationship between human beings and nature. Expressing his deep concern at this change, the Iranian President Seyed Mohammed Khatami in his eloquent address to the 1999 Annual Session of the United Nations Educational, Scientific and Cultural Organization (UNESCO) on 29 October 1999, observed and I quote:

> *"The very old relationship between man and nature, in which man loved nature, benefited from her bounty and found solace in her proximity, has been replaced simply by the exploitation and destruction of nature. In the course of thousands of years stretching from prehistoric times to the modern era, never has man looked at nature simply as a 'source of energy'. This does not mean that man has not benefited from the earth and its gifts, has not been engaged with it to develop his social and civil life, and has not been making a moderate number of changes in his natural surroundings in order to adapt himself to nature and to adapt nature to his needs. Of course, he has been doing all these, but never has nature been reduced to such a state of 'sheer objectiveness".*

A career Egyptian diplomat, is currently Secretary-General of the Asian-African Legal Consultative Organization (AALCO), headquartered in New Delhi, India.

Therefore, President Khatami, asks for according top priority to creating a lasting peace between man and nature. The natural equilibrium between man and nature has been disturbed due to industrialization, which primarily depends upon over-exploitation of natural resources. Growing overuse of resources is bringing new tensions. Increasingly conflicts are occurring within countries, and are often fuelled by such environmental factors as desertification, deforestation or competition over resources. This may spread internationally, for key resources are becoming scarcer and more contentious. By 2025 two thirds of the world's people are likely to live in countries with water shortage. Remaining fossil fuel reserves are increasingly concentrated in relatively few countries-not usually those with the greatest demand. Food production per person has leveled off, and stocks are falling.

In this regard, now I would like to draw your attention to the recent Report of the Secretary-General's High-level Panel on Threats, Challenges and Change, aptly entitled A more secure world: Our shared responsibility. The Report identifies, inter alia, environmental degradation amongst the six clusters of threats which the world must be concerned now and in the decades to come. The Report states with concern that "Environmental degradation has enhanced the destructive potential of natural disasters and in some cases hastened their occurrence. The dramatic increase in major disasters witnessed in the last 50 years provides worrying evidence of this trend." Very soon after this Report was submitted the Tsunami struck the world and we all are witness to the havoc which it has brought upon the affected developing countries of Asia and Africa.

The interrelatedness of peace and environmental protection is well-recognized from the award of 2004 Nobel Peace Prize to Professor Waangari Maathai of Kenya. And as Professor Ole Danbolt Mjos, Chair of the Nobel Committee, said in his address at the award ceremony: "Environmental protection has become yet another path to peace. Peace on earth depends on our ability to secure our living environment."

Highlighting this linkage, Professor Maathai stated in her acceptance speech of Nobel Peace Prize and I quote: "There can be no peace without equitable development, and there can be no development

without sustainable management of the environment in a democratic and peaceful space."

Timely is, therefore, President's Khatami's initiative of "Dialogue among Civilizations". The initiative rests on the need to turn the imminent confrontation between the East and the West, between the North and the South, between the wealthy and powerful and the poor and weak, into balanced relationships of just distribution of wealth, protection of natural resources, dialogue, tolerance and understanding as opposed to force and oppression.

Let me now turn to the work of the Asian-African Legal Consultative Organization, popularly known as AALCO, in the inter-national law community. Presently, as Secretary-General I have the privilege to lead this Organization, which has in nearly fifty years of its existence, in its own, unique and original way promoted the dialogue between the countries of Asia and Africa. Seven countries established the Organization in 1956 and now its membership encompasses 47 countries of these two Continents.

The Organization, a tangible outcome of the famous 1956 Bandung Conference of Asian-African States, which recently cele-brated its Golden Jubilee, fosters a spirit of brotherhood amongst Asian-African States. Indeed, through the AALCO, the voice of Asia and Africa has come to resound in the domain of international law, long considered to be traditionally the exclusive preserve of Western societies. Legal Advisers of the Member States of AALCO meet at the Annual Sessions of the Organizations and deliberate upon issues of common concern in international law for the Asian-African states. They strive to forge a common position for Asian-African states which is then effectively channelized into the deliberations taking place at the global forums. Thus, the Organization has assumed an active role in promoting the rule of law, leaving its own durable imprint on the process of evolution, codification, progressive development, and elaboration of international law.

Environmental law, constituting an important part of AALCO's Work Programme, commenced back in 1975. It may be recalled that the 1972 United Nations Conference on Human Environment in Stockholm sensitized the international community to the need for

environmental protection. The establishment of United Nations Environment Programme, now widely recognized as the "environmental conscience" of the UN system, is one of the fruitful outcomes of this Conference. The Conference also brought to light the difficulties faced particularly by the developing countries in providing prosperity to their populations and at the same time ensuring environmental protection. Starting from 1975 and culminating in 1988, the first phase of AALCO's Work Programme on the topic, various issues such as the elaboration of a general convention on environment protection, the foundations for international law relating to environmental pollution, environmental laws and regulations of its Member States were addressed. It may also be noted that many countries adopted national environmental legislations in this period, and ideas were exchanged within the framework of AALCO on main environmental problems of Member States; laws and regulations to combat environmental pollution. Moreover, practical steps were taken by the Governments through appointment of expert bodies or Committees in such areas as assessment and control of pollution; the challenges in implementation of policies; dealing with transfrontier problems; determination of liability for environmental damage, etc.

It is also noteworthy to recall that in the 1980s the transboundary movement of hazardous wastes from developed to developing countries had become a very contentious political issue between the two groups of countries. The then Kenyan President, Mr. Daniel Arap Moi, had described it as "garbage imperialism". The 1989 Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal sought to regulate this trade by bringing into place a "prior-informed consent" regime. The AALCO included this in its Work Programme and actively participated in the elaboration process of this Convention and subsequently promoted its ratification once adopted.

Assisting its Member States in the preparation for the 1992 United Nations Conference on Environment and Development marked the next phase of the AALCO's Work Programme. Between 1989 and 1992, the Secretariat participated in the elaboration process of the three Rio Conventions; namely, United Nations Framework Convention on

Climate Change, Convention on Biological Diversity and the United Nations Convention to Combat Desertification. In fact, a draft of the Desertification Convention prepared by the AALCO Secretariat served as a useful basis in the negotiations process of the Convention.

In the post-Rio phase, the AALCO's Work Programme was steered towards promoting the implementation of the Rio Programme of Action – Agenda 21 - as well as promoting the ratification of the Rio Conventions. In the same year, the United Nations Agenda for Peace identified sustainable development and the environment as the foundations for a peaceful world. Rio marked the shift from the law of environmental protection to law of sustainable development. Sustainable development rests on three pillars of economic development, social development and environmental protection. Within the principle of sustainable development lie principles such as intergenerational rights, the trusteeship principle, the principle of collective duties, the emphasis on duties rather than rights, the precautionary principle, the concept of the interrelationship of rights and obligations, rights and duties erga omnes (i.e. towards the whole of the human community) and so on. All of these were adequately deliberated upon in the period from 1993-2002 in AALCO Annual Sessions, in addition to the crucial issues of funding and transfer of technology from developed to developing countries.

In view of the World Summit on Sustainable Development (WSSD, Johannesburg 2002), the Organization reoriented itself towards studying the outcomes of the Summit, namely the Johannesburg Declaration on Sustainable Development and the Plan of Implementation. In addition, it regularly reports on the emerging issues and concerns in the Conference of Parties of the Rio Conventions to its Member States, for instance the importance of the Kyoto Protocol in international community's efforts to curb greenhouse gas emissions.

Thus, AALCO in its own way has contributed towards the goal of environment protection and sustainable development. However, much remains to be achieved as despite there being more than 500 international and regional agreements, treaties and arrangements covering everything from the protection of the ozone layer to the conservation of oceans and seas, as well as elaborate national environ-

mental legislations, "environmental degradation" has been identified as a threat to world peace. The reasons for this state of affairs perhaps lie in the inadequate enforcement of and compliance with the existing international instruments and also national environmental law. All these remain little more than symbols, tokens or paper tigers.

Perhaps the on-going environmental degradation could be prevented, and hopefully reversed, if we were to heed in action what Mahatma Gandhi said: *"The Earth provides us enough for our need not for greed."*

Note:

Since the author chaired the Introductory Session of the Conference, his paper was not presented at the Conference, rather distributed among the participants. It is included in the present volume due to its relevance to the theme of the Session.

II

Special High-level Interactive Ministerial Round-table

Why the Tehran Conference: the way forward

Chairman: Philippe Roch
Assistant: Adnan Amin

Chairman Roch, emphasized in his opening remarks, that environment is the basis for all cultures, and that the principles of dialogue, respect and harmony should be fundamental aspects of globalization.

Conference Chair Ebtekar noted Iran's long history of dialogue between cultures, and respect for diversity and the environment. She suggested that existing mechanisms to govern conflict should be revisited and strengthened to include environmental protection. She stressed the advantages of a "dialogue mentality" over an adversarial "diplomatic mentality" and said this should be integrated into a new environmental institutional order.

Dr.Klaus Topfer said bringing people of different faiths together was an end in itself, and had been achieved with this Conference. He said spiritual and cultural values should inform the choice of national indicators and questioned the universal utility of GDP as an overarching national goal, referring to China's "green GNP" and Bhutan's "gross national happiness" as possible alternatives.

Participants then engaged in an extended high-level discussion in these issues. Several participants stressed the complexity of the links between the environment and peace, and said assessments and solutions should be holistic and address social, cultural, economic and political dimensions. Some participants said this should inform plans for restructuring international institutions. One participant noted the weakness of many central governments' domestic positions and their consequent inability to implement the commitments that they make

internationally, suggesting that institutional reform should take this into account by including the voices of civil society and regional or local governments.

Many speakers stressed the need to integrate spiritual beliefs and values into international dialogue and to emphasize shared values. Others urged a stronger ethical commitment to environmental protection during war. One participant said there is a need to form one "planetary civilization," while another suggested that the use of the term "civilization" implies a hierarchy of cultural development.

Other participants noted the limited utility of legal instruments, and asked what might be an ethical level of consumption, and stressed that the by-products of war, such as depleted uranium, mean today's conflicts affect future generations. Some participants lamented the loss of momentum since the 1992 Earth Summit. Domination of security issues on the global Agenda, to the detriment of development – sustainable development, was roundly criticized and lamented.

Mr. Philippe Roch, State Secretary, Director for Swiss Agency for the Environment, Forests and Landscape (SAEFL).

Mr. Adnan Z. Amin, Director, UNEP Office at the United Nations, New York.

III

Environment and Conflict

Chairman: Anthony Hill
Assistant: Hossein Fadaei

Resources, the Environment and Conflict[1]
Nils Petter Gleditsch

Abstract

▬▬▬▬▬▬Armed conflict is a product of motivation, opportunity, and identity. The relationship between natural resources and conflict has traditionally focused on the struggle for scarce natural resources, a classical motive for armed struggle. More recently, an abundance of natural resources has come to be seen as an equally or more important factor in conflict, mainly because it provides economic opportunity for the contending parties. This chapter deals with both of these models, relates them to the main causes of conflict, and contrasts them with the cornucopian or technology optimism school of thought. It critiques and summarizes the theoretical and empirical literature and efforts to collect new and improved data, which will permit more realistic analyses, including analyses at the sub-state level.

Conflicts and Human Security

Since World War II there have been over 200 armed conflicts. 29 conflicts in 22 countries were active in 2004. Up to and including 2002, these conflicts claimed some 10 million deaths in battle-related violence. The average number of battle-related deaths per year shows a long-term decline since World War II, with strong short-term variations, and the number of on-going armed conflicts has declined since the early 1990s. In spite of this improvement, armed conflict remains a crucial component of human insecurity. In addition to the direct loss of

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Norway.

life in battle, armed conflict claims high human costs in terms of disease, refugee flows, and the destruction of societal infrastructure, although these indirect effects are much harder to calculate precisely.[2] Genocide and related forms of killing of individuals who are not engaged in armed resistance – a form of violence that by far exceeded battle deaths in the twentieth century – also frequently follow in the wake of armed conflict, and sometimes in the midst of civil wars, as in Rwanda in 1994. Although the work summarized in this essay deals most directly with conflict between organized parties engaged in armed conflict, I will assume that it has direct relevance for other forms of human insecurity as well. In any case, reducing armed conflict will make a major contribution to improving human security.

But how important are resources and environmental factors in accounting for conflict? Increasing concern with the state of the world's environment in the 1970s led many to ask whether environmental degradation might become sufficiently serious to lead to violence. After the end of the Cold War, conflicts along ideological dividing-lines declined and many saw the role of resources as filling the gap.

Causes of Violence

Armed conflict is a product of identity, motivation, and opportunity (Gurr, 1970; Ellingsen, 2000). Each party in an armed conflict needs some kind of shared identity (which could be geographic, cultural, economic, or ideological) in order to organize for armed struggle. Rebels need the motivation to fight, whether it is to redress a perceived grievance, or to capture an economic advantage (greed) or a non-material one (for instance, motivated by missionary zeal). And finally they need the opportunity to fight, geographical (e.g. in terms of rugged terrain) as well as financial (to pay the troops).

A wide range of specific hypotheses have been put forward to explain armed conflict. Some of them relate clearly to resources and the environment and they can be conveniently summarized in three broad classes of explanations, which I will label the neomalthusian school, the resource curse argument, and the cornucopian contrarians.

Neomalthusianism

The original Malthusian model focused on the demand for food. Malthus (1798/1993) assumed that the total world population would continue to grow at an exponential rate and that food production could only be made to grow linearly. Thus, the amount of food produced per capita must decline. And whatever the starting-point, food production must fall short of the amount needed to feed the population at some point. Then, Malthus assumed, corrective action would occur, by means of famine, disease, infanticide, war, and other drastic measures.
        While this model in its original form is no longer widely credited, elements of it can be found in current models of conflict built on ideas of resource constraints. The general argument is that natural resources are limited on 'spaceship Earth'. Population growth and increasing resource consumption per capita combine to deplete these resources and the resulting scarcity will lead to competition and eventually to armed conflict. This line of thinking is found in the Club of Rome's widely publicized book The Limits to Growth and later updates (Meadows et al., 1972; 2004), in a long series of publications from the WorldWatch Institute[3], in the Brundtland report on environment and development (Brundtland et al., 1987), and in the work of Homer-Dixon and associates (e.g. Homer-Dixon, 1999; Homer-Dixon & Blitt, 1998). It is also reflected in the literature of most environmental pressure groups, many environment ministries and other official bodies, and in the justification for awarding the Nobel Peace Prize for 2004 to Wangari Maathai[4]. Scarce resources frequently considered important enough to fight for include oil, minerals, freshwater, and food. Particularly important in theories of conflict is territory (Vasquez, 1995), which can be considered a resource by itself, but also as a proxy for most other resources. But a great deal of public attention has also been given to the prospects of 'water wars' in the Middle East and elsewhere, where upstream countries would use up river water for irrigation and enrage downstream countries and provoke them into war (McLoughlin, 2004).

The Resource Curse
In contrast to theories focusing on resource scarcity, economists in

particular have become concerned about the effects of resource abundance. Countries with abundant natural resources tend to have low economic growth, rent-seeking, and corruption (Sachs & Warner, 1995; Auty, 2001). In turn, all of these factors could lead to internal conflict. But there are also more direct links from resource abundance to conflict. The motivation for conflict can be generated by the prospect of gaining control of valuable resources by capturing power in the country. The opportunity for armed conflict is stimulated by the availability of lootable resources, which can be captured and sold on the world market (Le Billon, 2001b). Alternatively, threats to the extraction or transportation of the resources, can give a rebel movement a possibility of extorting rents from the government or a private company. Finally, a regional or ethnic identity can be strengthened if separatism or regional autonomy promises financial gain (Lujala, Gleditsch & Gilmore, 2005). Collier & Hoeffler (1998, 2004) found the share of national income derived from the export of primary goods (the same measure used by Sachs & Warner in their study of the resource curse) to be strongly associated with the outbreak of civil war. Klare (2001) and others have argued that after the end of the Cold War, international wars are also more likely to take place over oil, water, and other important resources.

Although De Soysa (2002) and others have argued that civil war is motivated more by 'greed' than 'grievance' and that this runs counter to the neomalthusian view, the two are not necessarily contradictory. Locally abundant resources can only be a 'curse' if they are globally scarce, or scarce in other places, and therefore valuable. It is theoretically possible, therefore, to have scarcity conflicts in one place and abundance conflicts in another, even over the same resource. Those who see oil as an important factor in the Iraq wars (1990-91 and 2003) can interpret Iraq's misfortune as a resource curse and the US war deaths as casualties to the fear of future scarcity. Nevertheless, researchers can usually be classified quite easily as belonging to the neomalthusians or the resource curse school since they emphasize either scarcity or abundance to the exclusion of the other mechanism when linking the availability of natural resources to conflict.

Cornucopian Contrarians

The cornucopians are labeled after the Horn of Plenty, a Greek symbol of abundance[5]. As will become evident, elements of the cornucopian argument also contradict the resource curse argument. Of course, elements of cornucopian thinking have a strong foothold in the business community and in ministries of industry and finance. In terms of policy, as distinct from the public debate, the neomalthusians may well feel like the contrarians.

The core of the cornucopian concern is to question the limits to the availability of natural resources. While recognizing that natural resources are theoretically limited, cornucopians stress that they are more abundant than realized by the neomalthusians, as evidenced by the phenomenon that the known resources of oil have tended to grow with consumption. Further, resources can be substituted and recycled if and when they become scarce, or simply as a consequence of technological development. In an age of fiber optics and satellite communication, copper wires are no longer essential for electronic communication. Human ingenuity and the market economy are essential mechanisms in the cornucopian model. If resources are scarce to the point where people will fight for them, it is because politics has interfered with the exploration. In order to avoid waste, inefficiencies, and local scarcities, resources must be properly priced and trading must be allowed.

Another economic argument favored by many cornucopians is that the relationship between economic development and resource use tends to follow an inverse U-curve. This is usually called the environmental Kuznets curve and has been found to apply to many traditional forms of environmental degradation (Cole, 2003)[6]. Therefore, many cornucopians argue that 'richer is cleaner' (Goklany, 1995). Increasing economic development, then, will reduce the risk of environmental conflict. Resource abundance is also likely to have more negative effects in countries that are otherwise poor.

Regarding the demographic component of the neomalthusian arguments, cornucopians divide into two rather different responses. Boserup (1965) argued that population growth is frequently conducive

to rural growth. Simon (1989, 1996) argues that human ingenuity is the only scarce resource and that continued population growth will provide an advantage in the indefinite future. Most cornucopians, however, would follow the argument by Lomborg (2001) and others, that the first demographic transition (lower mortality) is about to be overtaken by the second (lower fertility) and that global population will level out. In highly developed countries, the fertility is already well below replacement levels, but the same trend is clearly visible in most developing countries as well. The 'population explosion', feared by neomalthusians such as Ehrlich (1968) and Borgstrom (1965) is no longer likely at the global level, although some countries still have high population growth. The most likely stabilization point for global population forecast by the UN has been adjusted downwards to 9,000 million, to be reached around the middle of this century (UN, 2004). The assumption that fertility will subsequently stay at replacement level is quite arbitrary, so total world population may well start to decline[7]. At the global level, food production should be able to handle the projected 9,000 million by a comfortable margin.

Most cornucopians are concerned with environmental degradation or economic development rather than with conflict. But their arguments have clear implications for conflict. If resources are globally abundant and can be priced, substituted, and traded in order to avoid serious scarcities, and if the increase in population can be held in check, there is no rational reason why groups or countries should fight over natural resources. On this basis, Beaumont (1997) and others have argued the 'water war' scenario is implausible. On the whole, cornucopians view the threat of resource wars as a result of scarcity as highly overrated.

A Wider Cornucopian Argument

A wider cornucopian argument can be found in liberal conflict theory. It rests primarily on two pillars, the role of cooperation and the role of democracy.

An emerging resource scarcity may stimulate cooperation as well as violent conflict. Two parties sharing a resource may decide that

fighting over a resource is costlier than working out ways to share it. Wolf (1999) points out that water-sharing agreements are very common, while violent water conflicts are not. Gleditsch et al. (2005) have found that sharing a river basin is associated with a higher level of interstate militarized disputes, although most of these are at a low level of militarization. Brochmann (2005) has found that sharing a river basin is also associated with a higher level of cooperation. Low-level conflict may serve as a warning signal that prompts countries into cooperation.

Democracy is relevant to resource conflict in two ways: On the one hand, some liberal theorists argue that democracy is likely to promote resource conservation and environmentally responsible behavior (Payne, 1995) or at least environmental commitment (Neumayer, 2002). Sen (1987) points out that famines rarely if ever occur in democracies, even following crop failures, because press freedom and other features of democracy provide warning signals and mobilize countermeasures. Payne makes a similar argument for how the public in democracies mobilizes counterforces to environmental degradation. Severe resource scarcity is therefore less likely to occur in democracies, thus reducing the risk of scarcity conflicts. At the same time, democracies are very unlikely to fight each other (Gleditsch & Hegre, 1997) or to suffer serious internal violence (Hegre, Ellingsen, Gates & Gleditsch, 2001). If democracies do not fight internally or between themselves for any reason, they are not likely to do so because of resource scarcity. Democracies should therefore be even more likely than other states to choose the cooperative road in dealing with impending scarcities.

Liberal conflict theory does not only modify the scarcity theory of conflict, but also the resource curse school of thought. A democratic country is less likely to suffer serious consequences of resource abundance. Democracies are likely to give more consideration to an equitable sharing of the wealth and to build a welfare state rather than a bulging Swiss bank account. Resource-rich regions will be compensated in ways that make the idea of secession less interesting. For example, while the discovery of natural gas in the Netherlands in the 1960s eventually led to the economic problems that became known as

'Dutch disease', the country did not degenerate into civil war or violent secessionism.

The State of the Art

The argument between the three schools of thought continues to rage in academia and the public debate. In particular, the argument between neomalthusians and cornucopians has generated enormous heat, as evidenced by Lomborg's polemics against 'the litany' and the scalding tone of many of his critics[8]. What, if anything, have we learned from this debate? Do the empirical findings relating resources to internal and external conflicts converge?

    The existing empirical literature suffers from several methodological problems, four of which will be discussed here (see also Gleditsch, 1998): The first is selection bias. Most of the work that links environmental scarcity to conflict is based on case studies of on-going armed conflicts. But such 'selection on the dependent variable' (King, Keohane & Verba, 1994: 129) deprives the analyst of the possibility of comparing cases with and without conflict and 'nothing whatsoever can be learned about the causes of the dependent variable'. Homer-Dixon (1999) identifies resource scarcities in a series of case studies of conflict, but he is unable to say whether these countries suffer from more severe scarcities than countries that avoided armed conflict altogether. Case studies are frequently defended because they allow more detailed knowledge of each conflict and detailed 'process tracing' of causal mechanisms (Schwarz, Deligiannis & Homer-Dixon, 2001). However, most of the case studies in question are much too shallow to permit convincing discussion of causal mechanisms. While usually more detailed than quantitative studies, they rarely use unpublished archival sources or engage in the kind of source criticism that characterizes a proper historical study. In any case, the utility of tracing causal mechanisms is questionable if causal connections cannot be established. Selection bias is also common in studies that claim to reveal 'diamond wars', 'oil wars', and the like. It is true that Sierra Leone and Angola have extensive occurrences of secondary diamonds, and rebels can be shown to have looted such diamonds to fund their operations

(Le Billon, 2001a). But the question remains why this has occurred in these countries while other countries with secondary diamonds, such as Australia and Brazil, have avoided armed conflict in the entire period after World War II.[9]

A second issue is how to measure scarcity and abundance. Hauge & Ellingsen (1998) find that three traditional indicators of environmental degradation – deforestation, land degradation, and freshwater availability per capita – are associated with a higher risk of internal armed conflict at the end of the Cold War period. (Esty et al., 1998, fail to confirm these findings.) Two of their indicators measure the state of the environment, while the third measures the change (deforestation). It is not theoretically obvious whether level or change is more relevant and these operationalizations may simply have been dictated by data availability. Most studies of the resource curse have used the value of primary exports as a share of GDP as their measure of resource abundance (or dependence). Others have criticized this measure because it lumps lootable and non-lootable resources, because it may be a proxy for underdevelopment rather than resource abundance, and because it potentially suffers from endogeneity (conflict destroys other industries and only primary exports remain)[10]. De Soysa (2002) and de Soysa & Neumayer (2003) have used various World Bank measures of natural resources. However, these measures also tend to lump lootable and non-lootable resources. Finally, some studies relate conflict to individual lootable resources, such as oil, drugs, and diamonds (Lujala, 2005). While this may be a promising avenue, there is as yet limited work tying together the overall effect of having one or several of these resources.

Another methodological problem that affects virtually all quantitative studies of resources and conflict is that they are conducted at the national level of analysis, while more than half of today's ongoing civil conflicts are local, in that they concern a subnational territory rather than the integrity of the national government. For the conflict in Aceh, the motivating force is the occurrence of oil in that province, not elsewhere in Indonesia. In Russia, the occurrence of secondary diamonds in Siberia is clearly irrelevant to the armed conflict in Chechnya (Buhaug & Lujala, 2005). Even conflicts over the central

government may be triggered by more localized grievances. A few studies have started to generate disaggregated data and analyze the relationship between conflict and resources at the sub-national level (Buhaug & Rod, 2005), but this line of inquiry is yet in its infancy.

Finally, researchers in the scarcity school in particular have a tendency to refer to future wars as if they had already occurred. The pronouncement by Ehrlich (1968: 11) that 'the battle to feed humanity is over', can now be seen as premature, to say the least. But at the time it was widely seen as 'evidence' that called for explanation, for instance in terms of the population explosion. The 'water wars' literature is replete with similar examples.

Given these problems, and the relatively scant systematic empirical literature, conclusions must be formulated with caution. It appears, however, that the more drastic apocalyptic scenarios forecasting global scarcities, mass deprivation, and major interstate and intrastate violence, should be viewed with skepticism – at least in the absence of major unpredictable shifts. Even many of Lomborg's severe critics agree that global predictions of scarcities have been overdone. However, local and regional scarcities are still possible and in some cases even plausible. A world war (or even Middle East war) primarily over shared water resources seems very unlikely, while local and smaller armed clashes and military posturing cannot be ruled out. Wars between major powers over migrating fish stocks do not seem very likely – the North Atlantic 'Cod wars' and the Canadian-Spanish 'Turbot war' of 1995 are definitely misnamed – but armed confrontations between fishing boats and coast guard vessels will probably continue[11].

Both scarcity and abundance are likely to interact with political and economic factors in their effect on conflict. The impact of democracy on resource use and on conflict has already been mentioned as part of the wider cornucopian model. Economic development is also likely to have a strong impact. Starting a rebel movement funded by lootable resources is much more likely to be an attractive option if the alternative is rural poverty or unemployment in the city. Homer-Dixon's third form of scarcity, structural scarcity, results from an unequal access to scarce resources. It allows global abundance to

coexist with local scarcity. This is outside the framework of the traditional Malthusian model, which is mirrored in his two other forms of scarcity – demand scarcity and supply scarcity. The notion of structural scarcity, however, brings politics and economics centrally into the picture by emphasizing the skewed distribution of resources. That being said, it has been difficult to find support in quantitative studies for the intuitively plausible idea that overall economic inequality is related to conflict (Collier & Hoeffler, 2004; Hegre, Gissinger & Gleditsch, 2003). More promising is the idea that inequality that follows ethnic or regional lines – horizontal inequality – may be conducive to conflict (ostby, 2005).

What are the possible 'drastic shifts' that might change this picture? Human-induced climate change is often presented as the ultimate neomalthusian scenario, where greenhouse gases accumulate quietly, with little immediate effect, but with potentially dramatic consequences for natural processes. However, we know much less about the consequences of global warming than about how it is generated. Even if we accept the common scenario of a human-induced rise in global average temperature of several °C in the 21st century, we are very far from able to account for the negative and positive effects of such a change on human affairs. While the Maldives and substantial parts of Bangladesh may be flooded by the resulting half-meter or so sea-level rise, Siberia may bloom. Whether the net economic effect at the global level is negative or positive, no one can tell at the moment. There are numerous studies on vulnerability, but few on possible gains. While drastic climatic change will take adjustment, and such adjustment is costly, adaptation may also lead to innovation. The climate change literature that specifically relates to conflict is, so far, extremely sparse and largely speculative[12].

Natural climate change is potentially even more serious than human-induced climate change, although its effects are felt more slowly. The coal mines in the arctic archipelago of Svalbard testify to how the earth's climate has been turned completely around during its history. The most recent ice age, which engulfed all of Scandinavia and the Baltic at its peak, ended only some 10,000 years ago. The occurrence of another ice age would make the everyday environmental

debate in Northern Europe seem somewhat trivial. Other natural environmental phenomena can also be quite threatening. A collision with another heavenly body might significantly reduce life on earth, as it probably has done in the past. In the very long run, since the solar system is not a perpetuum mobile, all life on earth must end. Of course, this is an extremely long time perspective, but unlike many other postulated future effects it is a certainty and not just a probable event. Even in a short time-perspective, we are subject to natural events that we cannot control, and that can claim as many lives as most wars, as the South Asia tsunami of Christmas 2004 reminded us.

Environmental and resource factors in conflict certainly warrant our attention. But we must recognize the limitations of our knowledge. And although the human impact on the physical environment is increasing, it is still dwarfed by the effects of natural processes. Man's domination of his environment – whether the benevolent kind envisaged by the cornucopians or the malevolent kind outlined in neomalthusian scenarios – may involve considerable hubris.

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Endnotes:

1- I am grateful for the Research Council of Norway for support for my research, to Naima Mouhleb for assistance, and to Helga Binningsbo, Halvard Buhaug, Steen Nordstrom, and Ragnhild Nordas for comments on an earlier draft. Some of the research summarized in this chapter is discussed more fully in Gleditsch (2001a,b, 2003).

2- The figures given in this paragraph are based on the Uppsala/PRIO conflict data, which include all armed conflicts with more than 25 battle-related deaths in a given year. See Gleditsch et al. (2002), Harbom et al. (2005), and www.prio.no/cscw/armedconflict. The battle-death figures are from Lacina & Gleditsch (2005) and www.prio.no/cscw/cross/battledeaths. Indirect consequences of armed conflict are discussed in Collier et al. (2003) and Ghobarah, Huth & Russett (2003).

3- Their most recent annual report (2005) is, however, considerably more balanced than many of the earlier editions.

4- For some critical questions relating to the award, see Gleditsch & Urdal (2004). See www.nobel.no/index.html for the Nobel Committee's written justification and an indirect response to the critics in the speech by the Committee's chair on the presentation of the award.

5- I call them contrarians because their argument runs counter to the neomalthusian ideology that dominates the public debate. They are also sometimes labeled technological optimists.

6- Environmental degradation represents overexploitation of a resource. For instance, air pollution diminishes the availability of fresh air. Therefore, any environmental conflict can be interpreted as a conflict over a scarce resource.

7- There is little evidence that neomalthusian indicators of population pressure – population growth and population density – are associated

with a high risk of conflict (Urdal, 2005). There is stronger evidence for an association between conflict and large cohorts of young people (youth bulges) (Urdal, 2004). But this is not a result of population pressure in the traditional sense.

8- For a review of the debate about Lomborg's work, see Gleditsch (2003, section 26.5).

9- A careful summary of detailed case studies of the role of resource abundance in fuelling armed conflict can be found in Ross (2004a).

10- Ross (2004b) and Fearon (2005) also find that the relationship between the Sachs & Warner measure of natural resource abundance is not robustly associated with the outbreak of civil war.

11- It is debatable whether such conflicts should be seen as scarcity conflicts (will anyone starve if the other country gets the fish?) or abundance conflicts (will whoever gets the major share get richer?).

12- See Nordas & Gleditsch (2005) and other papers presented to the GECHS workshop on 'human security and climate change' (www.cicero.uio.no/humsec). For a well-publicized scenario, see Schwarz & Randall (2003).

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The Impact of Conflict on the Southern Iraqi Marsh People

Baroness Emma Nicholson

▰▰▰▰▰▰During the early 1980s, the regime of Saddam Hussein launched devastating military attacks against the Shi'a Muslims of southern Iraq, killing tens of thousands of civilians. After the uprisings of 1991, the regime's assaults intensified. Indiscriminate mass executions were carried out, killing further tens of thousands. The Marsh Arabs were targeted specifically: all of their cities, towns, villages, farms and individual dwellings were attacked by aircraft or artillery, and burned or demolished. Those who survived were forcibly displaced at gunpoint, not once but many times -- more than many to whom I have spoken can remember.

As well as attacking the Marsh Arabs militarily, the Hussein regime simultaneously implemented a massive programme of drainage and damming of the marshes in a deliberate attempt to destroy their environment. Over twenty years the marshes were reduced in size by ninety per cent, causing what the United Nations has classified as 'one of the world's greatest environmental disasters'. The situation was further exacerbated by a government-imposed economic blockade of the Marshes, and the deprivation of even the most basic of medical care.

The Marsh Arabs have lived in the Mesopotamian Marshlands for over five millennia, and developed a unique water-based way of life. Marshland society was a very rare early example of an ecosystem which Man had so fine-tuned that the laws of supply and demand were successfully balanced -- in such a way that serious economic outputs were constantly produced and sold in terms of fish, dairy products, furniture and other products from reed pulp; added to which a variety of other crops and wildlife was harvested by every family. Marsh people were always highly industrious, producing food with a wide variety of outputs, not just for themselves and their families but in the wider world within and beyond Iraq's borders. To do this, they successfully harnessed the Tigris and Euphrates Rivers to irrigate their grazing land

Baroness Emma Nicholson, Member of European Parliament, ▰▰▰▰▰▰▰▰
United Kingdom.

and crops. Men, women and children both fished and farmed, with each family of around ten people owning 20-70 high milk-yield water buffalo, marketing dairy produce and two or three boatloads of fish at least each week, together with wild fowl and horticultural produce, palm tree products, and cane outputs with rice as a family staple.

When I first met the Marsh people in 1991, their primary concern, as they were being forcibly displaced by the Republican Guard, was – typically – less for themselves than for the maintenance of their herds of water buffalo. Driven at gunpoint towards the Huweiza marshes, they talked with me about the water and grazing they urgently required so that the cattle could survive despite the traumatic situation they were in. Beyond the immediate humanitarian emergency situation in which they found themselves, the lands and irrigation systems of these anxious and hardworking farmers were being systematically destroyed.

It was my view at the time – and remains my view – that such events and actions demand a response far beyond the borders of the nations in which they take place. As a senior British Member of Parliament, I therefore did everything I could to draw the attention of the international community to this violent military and environmental assault on the Marsh people. I sought immediately to get the world to listen, and visited and revisited the Marshes to explain the story and tell the world this was happening. After one visit in September 1992, for example, I reported to the British House of Commons that:

'Saddam has stepped up his onslaught in the marshes themselves. ... I travelled through marshes smoking from ground-launched bombardments ... reed-built villages have been razed, their small rice plots burned. ... I reached the heart of the marshes, one mile from Saddam's front line. There I found people starving, desperate people, drinking filthy water and eating contaminated fish. They had fled villages under assault by Saddam's forces. ... Many refugees like these have made the dash across the border into Iran. But to make the crossing, they must brave mined waters and a line of Saddam's soldiers.'

I published books and articles including a 1992 book entitled Why Does the West Forget? and a groundbreaking report commis-

sioned from Exeter University, part-funded by the UK government and World Wildlife Fund for Nature. I visited Geneva to gain support from the IUCN. I addressed a specially-convened meeting of the UN Security Council in New York. As a member of the Court of Exeter University I asked the vice-chancellor for scientific assistance in putting the case of the destruction of the Mesopotamian marshlands to the academic world. I gained the support of then UK Foreign Secretary Douglas Hurd and then UK Prime Minister John Major, and together we enlisted other senior international politicians. With the concurrence of the French foreign minister, the March overfly was put in place, with the result that since 1994 each detail of the marsh destruction has been visually monitored and recorded.

I also took journalists to the area as frequently as possible. In consequence, we had films aired by the BBC, ITV and NBC, as well as private productions which we commissioned and financed, including 'Saddam's Killing Fields', a documentary shown by the Discovery Channel. We held photographic exhibitions in the Kufa Gallery, London; the UN and other locations. Other international actors made their own attempts to galvanise international action: the Islamic Republic of Iran, which ultimately took in around 100,000 Iraqi refugees, called on the member states of the United Nations to protect the Marsh Arabs. The United Nations itself called on Iraq repeatedly to withdraw its troops from the area and permit humanitarian access. The immediate result of all these efforts was that most of the key information was by one means or another successfully put into the public domain at the times when the military and environmental violence was actually occurring.

But telling the story clearly wasn't enough. And every day that the assaults were not curtailed, the plight of those people worsened; the slaughter continued; towns, villages and farms were decimated or destroyed; sickness was ever more rife, and, as the Islamic Republic of Iran knows well, the flood of refugees and displaced people grew. Thousands of displaced Iraqis crossed the Iraq-Iran border during this time, and were given sanctuary and support by the Iranian government. Many have now gone back; some still remain.

If the draining of the marshes was the unilateral action of a vio-

lent and vindictive regime, their rehabilitation, by contrast, must be (while Iraqi-led) multilateral in approach, and with regional peace and security as underpinning objectives. The total absence of safe drinking water, for example, from the Iraqi marshes reinforces how precious this particular natural commodity is for the welfare of humanity as a whole. The communities with which the AMAR International Charitable Foundation (of which I am Executive Chairman) works, suffer from one hundred per cent rates of diarrhoea, not to mention other water-borne diseases. It is now more than two years since the overthrow of the former Iraqi regime, and still there is no drinking water for the people of the southern Iraqi marshes.

Moreover, water's lack of respect for international boundaries means that solid structures of dialogue among nations and international non-governmental actors are of vital importance to ensure that even the most basic of human needs are adequately met. For this reason, water is often cited as a potential source of future conflict in many regions, particularly this one. Might it not instead be the goal of the international community to use the universality of this particular need to establish such structures of dialogue in a way which impacts positively and permanently on the way all such 'future conflicts' are mediated? I would suggest that in this instance, the relationship between dialogue and peace is very straightforward indeed. As Joseph Dellapenna suggests in a book that I edited in 2002, "water is simply too important to fight over."

Indeed, in a world where dialogue prevailed over violent imposition of will, complex global issues such as the depletion of resources, the proliferation of disease and environmental pollution would not merely be easier to solve, but would themselves become vehicles for further co-operation, thereby creating a self-sustaining cycle of international ordering infinitely preferable to the cycle of violence and unfulfilled human needs which we see today. Recent international co-operation on the issue of landmines is a case in point. Further, beyond the intrinsically non-violent nature of dialogue, one of its key advantages is that it involves a sharing of information, one of the most important commodities in today's world. Again, Iraq, for so long cut off from the outside world, provides an obvious example. As a report on agriculture

from a recent scientific conference in Basrah noted: "One of the major reasons for [current] low productivity is the poor flow of relevant, modern information to support the efforts of Iraqi farming." It is the duty of the international community to engage at all levels and in all sectors with Iraq in an information-sharing dialogue that enables her to regain the levels of excellence that she previously attained.

This duty, should it be taken up, would be particularly welcome in the southern Iraqi marshes, the location of the largest group of Internally Displaced Persons (IDPs) in Iraq. Today, eighty-seven per cent of the marsh people still have no access to education and are therefore illiterate and non-numerate. During the 1990s, one hundred per cent of the marsh people were forcibly displaced – against their fundamental right – in some cases up to seventeen times, losing houses, land, water, livestock and livelihood. Most if not all of these people are still internally displaced. As the twenty-eighth 'Guiding Principle' on Internal Displacement states:

Competent authorities have the primary duty and responsibility to establish conditions, as well as provide the means, which allow internally displaced persons to return voluntarily, in safety and with dignity, to their homes or places of habitual residence [...]

Already, thanks to actions by the Minister for Water Resources, the Marsh people themselves and other actors, the Marshlands are partially reformed – large volumes of water have been replaced. But there's much more to be done to get this historic community back to work: health, education and physical land restoration are all required. These fundamental rights must now be protected – and restored, and the international community which did little or nothing in the last decade, must use this one to make amends, not least through adopting peaceful dialogue as its most potent tool for promoting stability.

"Environment and Security: Agent-Structure and the Question of Paradigm"

Mohiaddin Mesbahi

Abstract

While the traditional state-centric definition of security still carries a significant weight-almost resuscitated after 9/11- the emergence of non-traditional issues such as the environment, has increasingly become the subject of security studies. In fact, the traditional preoccupation with the notion of level of "stability" and "weakness" of states, and its significance for local, regional, and international security, has become the nexus between traditional and nontraditional interpretations of security. The discursive struggle over the parameter of what security is, and the discussion over the referent object (i.e., state, or human), is further embedded in the larger debate over the extent to which "agency" can willfully shape the structure of the security system and how the agent, in this process, is itself constituted by the structural acculturation. This work is intended to look at the evolution of security as a concept, discuss the role of the ecosystem in this evolution and explain how this paradigmatic debate might shed some light on the ecosystem's role as a "conscious agent" in shaping international relations and global security. Can we have a new level of analysis in addition to or beyond the traditional tripartite companions, namely, man, state, and international system? Is there an ecological theory of international security?

The Environment and the Study of Security: All in the Family?

The connection between nontraditional issues, such as the environment and security, national and international, has been the subject of intense debate over the last two decades and especially since the end of the Cold War and the increasing awareness over the global nature of environmental changes and repercussions. If we were to divide, broadly

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speaking, the debate within security studies on the role of environment, we can identify two schools of thought the "traditionalists" and the "wideners", that is those who continue to focus on traditional notions of security, primarily "national security", and the primacy of state security and the role of war and military and other instruments of power in defending that security, and the so called wideners, who have argued that the underpinning assumptions upon which the traditional perspective had been built, have changed and are changing, and therefore, the focus has to move away from a state centric vision of security to a more globally identifiable unit of analysis, i.e. human, and therefore the focus on "human security".

At issue is whether security and its definition has fundamentally changed, and of course, one can debate from both sides of this issue, and marshal the facts to support one's preferred perspective, from those who argue that the state remains the most important factor in international politics, that national interest overrides global interests, and that the powerful can set the agenda for the preferred content of security and how to achieve it, to those who argue that national security on its own is a misnomer and that the security of state, society, and individual, could only be explained and dealt with properly on a transnational/trans-state and global level.

This is a difficult debate, the traditionalists and even some of the non-traditionalists have argued that the inclusion of nontraditional issues in security studies runs the risk of securitizing otherwise softer issues, including the environment, and actually providing the language of war and confrontation by such exercise, and therefore, expanding the domain of possible conflicts between states on issues such as the environment. They ask the question: Do issues such as the environment, really belong to security studies?

The wideners response is that whether one likes it or not, the impact of environmental degradation, scarcity, and resource depletion, if not elevated to national security consciousness, will lead to the degradation of national security, and conflicts that could not only happen between states, that is the high units of analysis, but also between non-state actors within states or across states, ethnic groups, deprived populations, etc. who can actually take up arms and fight against states

and among themselves.

Some of the theorists of international relations, such as Barry Buzan, have tried to develop accessible frameworks for the inclusion of nontraditional issues, for example, their attempt at sectorization, that is, to divide security studies into military, political, social, economic, and eventually ecological. Unfortunately, this sectorization, although helpful in identifying sectors analytically, does not provide an overarching perspective for prioritization or a holistic approach.

How can one get out of this ongoing debate and move forward towards some sort of a consensus that is not ideological, or bogged down in endless debate between traditionalists and non-traditionalists who are engaged in methodological, philosophical, and at times ideological, and even empirical arguments and counter-arguments, which though rich, revealing and informative, lack a meeting ground? Part of this paper is to suggest that there might be a nexus or a meeting ground where the traditionalists and the wideners can find an operative ground for further theorization and possible inter-paradigm debate, interaction, and commonality. The result of this theoretical nexus could be the foundation for policy-making and the engagement of the local, national, and global "public spheres" for action.

The Theoretical Nexus

In search of this theoretical nexus, one can actually build on the traditionalist concern over national security and more specifically on the notion of stability of states in a post-Cold War, and even more specifically in a post-9/11 era, where the typology of states, strong, weak, or failed, has become a critical component of mainstream or traditionalist approaches towards analysis of national security, and in this case, more prominently U.S. national security, and international/global security. The phrases, "weak states", or "failed states", have almost become household names since 9/11, and the U.S. interventions in Afghanistan and Iraq. (In fact, these concepts precede 9/11 and started to find theoretical and policy currency since the collapse of Somalian state, and then the eruption of ethnic wars in the Balkans).

The post-9/11 rushed definition of a failed state has confined

itself to a state which is not in control of its borders, and therefore vulnerable to penetration by nonstate actors such as terrorists who may use it as a safe haven for terrorist operations. One can, however, actually build on this notion, by centralizing state stability and the concern over the typology of states, and the significance for international security, as a conduit for analysis, interpretation, and common understanding of the impact of non-traditional issues such as the environment on the very concept of stability of state and its ramifications.

The traditional Hobbesian view of states, the minimalist version, confines the viable state to one which controls its borders and can maintain territorial security, and in performing as such is recognized as sovereign. The minimalist version, which delivers a vision of "negative sovereignty" that promises protection of ones citizens against outside barbarians, probably never presented the only source of the Leviathan's sovereignty and awe. The function of the modern state, however, goes well beyond the deliverance of negative sovereignty -which is a given and necessary expectation of legitimacy- and further includes, especially in the latter part of the 20th century, an expectation of delivery of "positive sovereignty", that is the welfare of society and its citizens; the state not only as a "protector" but a "provider". The modern states' legitimacy and thus stability now symbiotically is a product of simultaneous and dialectical performance of both typologies of sovereignty.

Twentieth century revolutions which took place in the context of the inadequacy of negative sovereignty as a source of legitimation, and the promise of the state as a depository of hope and aspirations, justice and development, expanded the role of the state enormously, perhaps beyond its promised Hobbesian capacity, or even Kantian and Rousseauian projection. Simply said, states now rise and fall, become strong and weak or fail, not because they are not strong or protective, against foreigners, and the soothers of fear from barbarians, but because they are on a daily basis judged and confronted according to what they do to their own population, in different sectors, political, social, cultural, or economic. The loyalties of their citizens, and thus the stability of nations, more and more depends on the questions that societies, individuals, or groups overtly or subconsciously and implicitly ask their government: "What have you done for me lately"?

Therefore, stability, and sovereignty is positively defined. Loyalty and legitimacy are measured based on the competence of a state for a meaningful, or at least minimally sufficient level of development. The new individual is not a constant, a passive, fearful, Hobbesian individual at the awe of the Leviathan. Thanks to the democratization of technology, information, and education, and the transnational nature of it, there has been a "skill revolution", where individuals are empowered, at times excessively so, to demand from states, their well-being and even their happiness; loyalties are in flux, they could be dislocated towards smaller or larger units of identity.

This expansion of responsibility and burden of state, that is simply, having too much on its plate, is a quintessential characteristic of the modern state. For all political regimes, whether in the West, in the East, democratic, religious, authoritarian or otherwise, stability depends on legitimacy, and legitimacy depends on performance. This modern state, furthermore, is embedded in an undeniable transnational or "global commons", or one can even use a more traditional concept, coined in the 1970s by Nye and Keohane, called complex interdependencies. If the traditionalist or mainstream security studies is concerned with the stability of states and the increasing emergence of weak states or failed states, then critical issues which go to the heart of positive sovereignty, at the center of which is sustainable development and a sense of fairness, that is nontraditional issues, and especially the environment, will find their proper place in their impact or relevance in affecting negatively the stability of a state, and therefore by association, the regional security and global security.

The Return to the Referent Object: Man, Society, and State: Do They Need a Partner?

The debate over the proper level of theorizing in international relations, and over the meaning and role of system versus unit, i.e. which unit or referent is the real agent, in spite of the claims and counter claims of the debating sides, still remains heated and unresolved. The traditionalists, either within realist or liberal traditions, privilege the state both intellectually and empirically as the location for agency and some even

more so, see this agent at the historical mercy of the "system" (international system) in its predicament, opportunities and constraints. The realists/neorealists and liberal institutionalists -and for that matter, systemic Marxist and critical thinkers- see the role of agency constrained by limitations of systemic compellence, or the proclivities of the agent's self interests and power relations. Thus, the domains of cooperation are either very limited or at best defined by "enlightened and institutionalized self interest" -a refuge never immune from neorealist charges that the claim of common interests is an old ploy of all public good theories (Waltz, Carr, ..).

The constructivist's serious challenge to the three dominant schools, while a well-deserved alternative framework, is yet to find its independent voice; the trapping of being high-jacked and employed by realism or being pushed down to sub-theories of foreign policy and recognition of the role of ideas still remains. Rule-oriented constructivism (Onuf) with its ambitious undertaking of mediating between agency and structure -and the claim of co-constitutionality is promising, though the empirical back up remains foreboding. What contribution can these four general perspectives of IR make to the discussion of the environment and its connection to the discourse on security?

All the competing paradigms, regardless of their differences, have one thing in common; they perceive the environment as the object or target of the activity of the agent (state, society, or individual) and thus as the receiving end of action. The critical role of the environment, or the ecosystem, as a living, active, responsive and consequential agent is not being considered. To Waltz's three levels of analysis, and all of its amendments since its inception by the critics, one has to add a fourth level; the cosmic, of which the visible and immediate ecosystem is the most recognizable content or manifestation. This perspective, deals with the ecosystem as both an active agent and a well defined structure. A "Janus face" living agent that is harmonious and accommodating and nurturing and peaceful, and still and yet capable of extreme violence or war of attrition of unmatchable and lasting destruction.

The ecosystem is a dialectical, symbiosis agent/structure who

actively interacts with all other units (take your pick, man, state, international system); it develops, consciously and programmatically, pre-coded and coded, interactions of amity and enmity. The so silent and presumably passive ecosystem, is communicating and acting and reacting to agent's behavior, and now communicating its responses through ecological, demographic, economic, political, and eventually security implications and manifestations. This communication is being discursively codified in linguistic explanations and debate by the recognized agents of international relations, state or otherwise; the emerging global eco-discourse.

The ecosystem does not share with other agents or structures, the awe for power, and the thirst for satisfaction of its holder. It does not recognize 'boundaries" of distinction and privilege -whether territorial or otherwise. Sovereignty is meaningless. Globally, it imposes organic "commonality". It treats agents by mirroring their actions and processing their consequences. It is the most compelling manifestation of "the System".

The ecosystem "distributes the threats" equally and rather democratically and in wholeness. The equal distribution of the threat undermines singular responsibility and autarky; it demands common action based on common threat and common responsibility which defies sovereignty and its central place in the post-Westphalian world. This threat is derivative of both the local and collective global behavior of a variety of agents, and as such, blurs the distinction between "high" and "low politics"; it actually privileges the latter.

And here is where the relevance of the ecosystem, the environment, for the 'nexus' between the traditionalists and the wideners becomes clear: where "low politics" is the main domain of generating legitimacy and sustenance of the state, where the core to state stability and sustenance –whether it is viable or weak or failing- comes face to face with one of its key arbiters, the environment. This arbiter is at work everywhere, in leaving its imprint on the shape and content of low politics. That particular low politics could be the east coast of the United States where higher levels of mercury are threatening the lives of millions in a war of attrition between the ecosystem and agents in the United States (government, industry, individuals,..) or it could be the

Caspian Sea in the Islamic Republic of Iran where potentially the livelihood and future of millions of citizens is at the crossroads of various agents acting on its ecosystem, and thus subjected to its gradual, but determinately violent response; or it could be Brazil and its rain forest, or Central Asia and its Aral Sea, or it could it be... Low politics has become the domain of a transcendental global threat.

Transcendental Threat

Global warming, mass migrations, environmentally driven conflicts, and more importantly the relentless burdening of unending "development" and consumption which is now just beginning to engulf the remaining billions in India and China, are the early and maturing signs of an ecosystem that has declared war on a series of agents who have declared by their action war on the environment. The ecosystem, in a nutshell, is in response to humans acting on it, posing a transcendental threat. For this unique agent-structure phenomenon is the organic system that engulfs all other agents and structures as a dialectical source of life and death. Therefore, the ecosystem is a transcendental agent and a transcendental structure posing a transcendental threat.

The Dilemma of Agent

A critical problem in this undeclared, though now visible, war on nature is the absence of knowledge, awareness and consciousness of the responsibility for this violent conflict. It is a "banal evil", so widespread, and exercised through a variety of agents across cultures, countries, systems, and ideologies; a conspiracy of collective action, with no individual or collective responsibility. This has become the underpinning characteristic of the reality of relations between man and the environment.

In this co-constituted confrontation, i.e. agents acting violently on the ecosystem, and the ecosystem responding violently in a multi-dimensional manner ranging from the spread of poverty and scarcity wars, to the silent killer of modern and postmodern societies; the ecosystem's war is much more holistic and sinister that the agents'

banal violence perpetrated on it. The loser in this war is clear, and so a peace offer or olive branch is the only pragmatic if not normative option.

It is in this context that the role of human agency in reorganizing, reshaping and transforming this relationship, becomes critical. The ecosystem, as a living conscious organism, will be responsive to this human reorganization or re-conceptualization. It will respond positively to a positive transformation of the human agency's attitudes towards the environment. In other words, the ecosystem is not the mindless or self-sustaining superstructure that does its own thing.

It is co-constituting itself with its interaction with the referent object, let's say for the sake of simplicity, human agency, though it always holds the upper hand.

This is a holistic ecological theory of international relations, with the future of living environment as its core value and prize. So, when we are talking about securitization of the environment, we have to move beyond what has concerned the critics of the widening definition, because we are not talking about securitization of environmental issues between actors, which might lead to conflict, but rather of moving into a higher level of analysis, and positively securitizing the very nature of relations between human agency and the environment. That relationship has become securitized by its very nature. That is, it has become violent, and therefore, whether one gives it linguistic expression or not is irrelevant. Further recognition of this securitized relationship is an exercise in releasing ourselves from the straightjacket of the interstate level of analysis and rethinking the entire enterprise from a holistic and global perspective, where boundaries of sovereignty and self-interest, have to, by the reality of this ongoing conflict, give away to a global and transcendental level of analysis.

There is thus a need for, if you will, a new normative approach, a common environmental theology as a core to international relations. This environmental theology demands formation of a "transcendental episteme" that can reflect, eventually, and hopefully, a global consensus. In constructing this episteme, agents of international relations, primarily state and non-state actors have to be involved. A mechanism should be created to bring together a discursive and normative energy

from these agents that could be articulated by a globally generated and located "epistemic community", from a variety of cultures, countries and sources, which can authoritatively establish a "global common eco-discourse", which can become a foundation for the social content of international relations.

The center pieces of this epistemic project, which are essential if any meaningful and sustained foundation for its global receptiveness is to be found are two fold: the first is an empirical scientific consensus on the nature of the ecological crisis and the very process of interactions between agents and the environment. This challenge is not simple since for a variety of reasons, ranging from genuine scientific disagreements to highly politicized and ideologized "scientific" interpretations, the empirical knowledge and the scientific consensus has been damaged or questioned. And here the attitudes of major international actors, especially the United States, and the shift in its political philosophies and power, especially in the last several years, has been very significant, where issues such as global warming has been questioned, on "scientific" basis, or the international efforts to securitize the issues of the environment has been labeled as too radical and too ideological and so on.

A key task of this emerging global epistemic community is to depoliticize and de-ideologize the empirical scientific findings in order to create a common foundation for the learning and dissemination of what could be a globally agreed upon empirical base of environmental crisis and the conflict between human agency and the environment. The role of the international community, the United Nations, and grass root movements, in support of this empirical foundation is critical. The stakes are simply too high to leave this empirical consensus at the whim of politicization and ideologization either by the left or the right.

The second central piece of this epistemic project is normative, philosophical, and if you will, ethical. Can human agency have the cake and eat it too? Can the promise of modernity be true? That is is an endless process of modernization, development for the sake of development and variation in pathology of consumptions inevitable and does man's relationship with the environment have to accept this as the reality of life. This is a foundational question which goes to the

heart of foundational values of meaning and the purpose of life, and whether man is a purposeful entity, a master and not slave of its material needs and lusts. This is where cultures, civilizations, and religions, have to join to find a common answer, which could become the bedrock of this normative consensus.

This normative answer cannot be "polly annish" empty rhetoric, but it has to be hard-headed, factually based, and normatively and ethically felt. There is a fundamental saying in the Islamic tradition, which is taken from the Quran, and that is simply translated, or paraphrased as consume, but do not be wasteful. This, now we know, was not simply meant as a lofty puritanical edict, it was and is a foreboding warning indeed, reflecting the predicament of a pre-coded relationship between man and nature.

The ecosystem is not at the whim or at the service of man's genius for mastery and exploitation. The Quranic edict also qualifies man's measurement of performance, not based on race, ethnic boundaries, territorial divisions, gender, or level of power, but rather who is more righteous. And a key to righteousness is Taqwa; a conscious, deliberate, and lifelong human commitment to not be a slave of its material desires, to not give into the pathology of over-consumption (israf), and to adopt"qana'at","contentment" as his/her central paradigm in dealing with material abundance. And now we know that the Quranic invitation to contentment is not just a lofty and priestly-worded edict, but the core to the existence of the human future. This also underpins the central epistemology of the Quranic view of human agency's place in the cosmos, a "vicegerancy" of the Transcandental in the nurturing abode of the environment and not the self destructive agent of the illusionary domination.

Environmental Protection
in
Islamic Culture

Seyyed Mustafa Mohaghegh-Damad

Abstract

This article discusses the problem of environmental pollution in two parts, the first of which will look at the theoretical implications. The main reason for environmental destruction and the mismanagement of precious natural resources that have inflicted serious damage on man's environment seems to lie in the overall outlook and view emanating from scientific developments and the processof industrialization in modern times. The natural sciences of our age tend to look upon nature as a lifeless matter that man is allowed and able to manipulate and control as he pleases. This is the very starting point of the problem of encroachment upon nature. On the other hand, in traditional eastern cultures, especially in Islamic and Shiite concepts and ideas as well as in pre-Islamic Zoroastrian Iran, nature is a divine gift that man is obliged to respect, uphold its holiness and keep its equilibrium intact. As a result, rather than imitating purely scientific methods, one should take a spiritual stance on this issue. The second part of this article deals with the question of possible educational measures, i. e. the practical aspects of the necessary spiritual and ethical attitude, including promulgation of requisite laws.

The most troubling global issue of recent decades has been the environmental destruction and its effects on man's life, the crises arising from uncontrolled consumption, wasting, spoiling and prodigal handling of natural resources. Paying serious attention to this widespread phenomenon is a relatively new attitude that was taken after industrialized man realized the problems resulting from the new means of production, first in the industrialized western world, followed gradually by the countries of the Third World. But let us not forget that there is a long standing tradition of warnings by prophets and divine teachers pointing out that the world has been trusted into man's hands

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in an intact and immaculate condition free from all pollution and must not be spoiled and polluted but should be cultivated and attended to with care; a tradition, which according to holy texts, goes back to the early days of man's creation.[1] At any rate, it is no exaggeration to call the environmental issue one of the major and most pressing problems facing contemporary man.

Today, devastating wars, undertaken with advanced weaponry and utilizing the latest scientific and technological achievements, show how man spoils and destroys his natural resources and his life as well. It is astonishing that, on the on hand, contemporary man expresses his shame at the face of his ugly behavior in distant times when he burned and destroyed the crops and fields of his conquered enemies, and calls those days the period of childhood, immaturity and even wildness. And, on the other hand, in our days, exactly in parallel to the rapid development of sciences, of technology and the explosion of information, man, entangled in wars and armed struggles, is so rigorously engaged in the exploitation of his natural household and environmental resources, and is in fact engaged in ruining them in a manner and on a scale making mockery of his so-called wild ancestors. To find an example, we don't have to go very far. Only a few years ago during the atrocious wars waged by the Iraqi dictator, Saddam Hussein, in the Persian Gulf area horrible environmental catastrophes were perpetrated for which hardly any antecedent could be found in earlier times.

According to Professor Peter V. Hobbs, an academic with the Department of Atmospheric Sciences, University of Washington (Seattle, USA), who flew over Kuwait with a team of experts in May 1991 - about three month after the withdrawal of the Iraqi forces from Kuwait and setting on fire of over 600 oil wells there - "4.6 million barrels of oil were burning per day. Emissions of sulfur dioxide were 57 % of that from electric utilities in the United States; emissions of carbon dioxide were 2% of global emissions; emissions of soot were 340 metric tons per day. The smoke absorbed 75 to 80 % of the sun's radiation in regions of the Persian Gulf."[2] And he continues: "As the Iraqi army fled Kuwait in February 1991, they damaged or destroyed 749 oil wells, storage tanks, and refineries, 610 of which were ignited."(p.987)

Professor Hobbs further writes: "Close to the fires the smoke rained oil drops. This oil, together with soot fallout, coated large areas of the desert with a black, tar-like covering. Oil spewing out from uncapped wells formed large pools of oil on the desert, some of which were alight." (ibid)

The question now before all of us is how to confront and respond to the environmental problem, and more importantly, how to solve it. Let us consider the following approach, as a possible way of looking at the problem at hand.

First of all, the exact problem needs to be defined, as precisely as possible, and its fundamental causes also need to be ascertained. Secondly, possible solutions have to be searched for and developed, inclusive of consideration of practical policies and measures, at both national and international levels. Promulgation of requisite laws and regulations at national level and development of necessary legal instruments at the international level – to be followed by ratification by States - are to be given high priority in this process. And for the final stage of the approach, adequate measures need to be devised in order to ensure effective compliance with and actual implementation of the national laws and binding international agreements and instruments. Compliance and implementation are indeed the Achelles Heel of most international agreements and instruments.

Let me now turn to the theoretical aspect of this presentation, which, in my view, is of critical importance to the issue at hand. I have argued in my previous essays on the subject that limiting the main cause of environmental crisis to external and material factors and reliance on a material approach only in seeking solution to such a crisis suffers a fundamental mistake in the first place. This one-dimensional outlook, neglecting the essentially spiritual aspect of the current environmental crisis of contemporary man, can hardly lead us to success. The problem is rooted in man's worldview and his attitudes, in the way he sees and interprets nature. As long as the dominant outlook of the contemporary man of the world - of existence - is not based on a non-materialistic foundation and as long as his relation to his environment is not changed accordingly, escape – or let's salvation – from the crisis will remain beyond reach.

Contemporary man's scientism, compounded by his anthropocentrism, which essentially fosters egoism, is among the main reasons for his strive in recent centuries to dominate nature. Thus, the contemporary man who sees himself, in an almost Pharaonic manner, as the undisputed master of the earth, who rebels against God and all spirituality as well as the laws governing the world and existence – the man who even rebels against himself - fancies the illusion that he is entitled to change and manipulate nature in any way he wishes. Despite his scientific, technological and material progress and achievements, man seems to have undergone spiritual degeneration; entangled in a certain kind of idolatry. Science has been elevated to the level of an idol and shrouded in a garb of holiness, even though with a modern touch and flavour. Any concept or term that somehow connotes "spirit" or "soul" and that will not kowtow before it and surrender unconditionally to this idol, will bear the brunt of its disapproval.[3]

The pervasive materialistic worldview conceives of nature as a lifeless matter devoid of any meaning that can be dominated and possessed in any possible way in order to render wealth and satisfy human passions and desires. Whereas from a divine point of view nature is an intelligent being endowed with life, meaning and a celestial aura. It is governed by laws whose violation will lead to a struggle between the violating element and world as a whole; a struggle that could either ameliorate the element in question or lead to its very extinction, even if it be man himself.[4]

In other words, a divine worldview is a spiritual interpretation of the world; it cannot conceive of nature and existence and its various parts as devoid of meaning and intelligence. A religious, spiritual outlook, to the contrary, does not view the creator of being as a material apparatus devoid of reason, purpose and meaning. Instead, it views it as a living organism that is sensitive, self-conscious and reasonable; that has volition, knowledge, an aim, and that it is creative. In this outlook nature is a harmonious composition of phenomena and entities with an exact scientific order that is directed towards and strives for a supreme goal.

Because of this duality of outlook, approaches to nature and ways of dealing with it can also be dualistic – prodigality, misuse and

mismanagement versus moderation, protection and management. In other words, different outlooks and worldviews will inevitably produce different definitions of concepts and principles.

Based on the above theoretical construct, we hold that the main reason for the failure of the strategies, policies and programs thus far developed and implemented by the dominant Western outlook lie in the intrinsic shortcomings of the outlook itself. As indicated earlier, the dominant outlook suffers fundamental shortcomings and is bound to lead to problems that cannot be solved through policies based on the same outlook. Any meaningful change in the actual situation and the current range of problems and challenges requires, first and foremost, a substantial change in the overall outlook, in the framework of thinking and the corresponding approaches and attitudes, and a later stage, practical strategies and policies.

Turning to the situation in developing countries, one has to admit that the nature of environmental problems and challenges could in general terms be the same as in the developed world. However, we have to keep in mind that solutions could be quite different. Difference in worldview and overall outlook, in dominant cultural settings and values, in the level of development and scientific and technological capacity, and even difference in climatic conditions, would necessitate formulation of policies and programs that respond to the particular local situations of each and every developing society. This is not to deny the common nature of many challenges faced by the international community and on a global scale, nor the relevance and usefulness of utilizing the experiences of others. It is, rather, a reiteration of a simple lesson that seeking solutions for specific situations in developing countries should avoid the easy way out of imitating – or repeating blindfoldedly – the policies of developed and executed in other societies and under different conditions. Due consideration for difference in the overall outlook and values is of utmost importance; for actual policies and measures do as a matter of fact reflect the underlying dominant values and norms. Reliance, instead, on the development and formulation of approaches, policies and measures rooted in and inspired by the specific national/local context and conditions is all but imperative for a successful strategy in our societies.

Having made the point in its general form, I can now turn to the particular Iranian situation. The Iranian people, needless to say, with a rich historical background of several Millennia, embody a culture that represents a rather sophisticated composition of three intricately related constituent elements - Iranian, Islamic, and Shi'ite.

Historic documents attest that Iranians in the pre-Islamic era, based on the religious teachings of Zoroaster – the famous Iranian prophet - looked at nature and especially at earth, water, fire and air as sacred elements. They not only considered polluting these elements a sin, but also saw it as their religious duty to keep them clean and pure. As such they perceived nature and its constituent elements as material and worldly phenomena, yet with a spiritual and heavenly aspect to them.[5]

Iranians can proudly point at a personality like Cyrus - who could best be identified with the "double horned" man mentioned in the Holy Qur'an – a man known for his respect for humane principles, in fact a founder of what now has come to be known as 'human rights', and also known for laying down of principles for the protection of natural resources in times of war and armed conflict. History tells us that the rulers of Assyria before him, on the contrary, took pride in destroying their natural environment. In the inscriptions of Ashurbanipal, drawn up after the conquest of Elam, it reads: "I burnt down the earth of the city of Madaktur, and within one year and one day I swept away its entire land. I deprived this country of the passage of cattle and sheep as well as of the melodies of music." The Declaration of Cyrus, following the conquest of Babylon, stands quite apart:

"When I calmly entered Babylon, the people received me with joy and pleasure…My countless troops moved along Babylon without any hindrance… I did not allow anyone to frighten Sumer and Akkad… I considered the needs of Babylon and all of its temples and tried to restore them… I abolished the repulsive yoke (i. e. slavery) of the Babylonian people. I restored their damaged houses. I ended their misfortune…I gathered all their inhabitants and returned their houses to them…"[6]

During the Islamic period, the Iranian culture, already rich and

articulate in so far as the relationship between man and nature and utilization of nature were concerned, was further enriched with the divine outlook and Islamic teachings and ethical values. In the eyes of the Iranian Muslim existence was seen as a single huge sign of the supreme Lord and of Divinity. The Islamic Sharia enjoined, in very clear terms, such values and principles as abstaining form dissipation, being moderate, holding the balance, being contented, using natural resources in a reasonable and humane way, respecting the rights of animals and plants and even of inanimate bodies, and finally, rejecting all sorts of corrupt hegemony over nature. Teachings and Tradition of Shi'ite Imams, inclusive of their sayings, deeds and actual conduct, further served to enrich the Iranian culture. As an example of the content of the teaching, let me just cite a saying from Imam Ali – the first Shi'ite Imam and the man respected by all Muslims for the depth of his Qur'anic knowledge, discretion and wisdom – who advised his followers in these words: "Fear God when dealing with his servants and his land, since you are responsible, even for the earth and the animals."[7] The advice – and the admonition – to Muslims in their treatment of natural resources is clear and unmistakable. It places the protection of nature on a par with the protection of human life.

Let me also draw attention to the Qur'anic outlook on the matter at hand. The Holy Qur'an allows the recourse to force - use of arms – solely in the case of and for the purpose of self-defense, and then permitted only to neutralize the enemy' – the aggressor's – transgression, going beyond which is itself considered an act of transgression, and hence, illegitimate." (Chapter 2, The Cow, Verse 190). According to this Verse, any attack against persons other than the combatants is forbidden.

Moving from the general to the specific, I now draw attention to Islam's attitudes towards environmental protection in general, and specifically the protection of natural resources against damage in the course of armed conflict. In Chapter 59 – The Resurrection - Verse 5, there is a clear admonition against chopping of trees in a war theatre – considered an example of "corruption on earth".[8]

This is in sharp contrast with what had been enjoined previously in the Jewish literature and tradition. "Go now, fall upon the

Amalekites, destroy them, and put their property under ban. Spare no one; put them all to death, men and women, children and babes in arms, herds and flocks, camels and donkeys" (1 Samuel 15,3).

I should now turn to the second part, dealing with practical methods and measures. Here, I emphasize the importance of two tracks of activity; education and legislation, both of which seem rather obvious to all of us, yet need some emphasis. It appears that all societies, even if to different degrees, need education and public awareness raising in the field of environment and its protection and preservation. This is, of course, particularly the case in developing societies. In my assessment, an educational programme on environment could consist of the following major elements/themes: familiarization with the natural environment and its components; explaining the holiness of nature; promotion of a holistic outlook on the organic and mutually complementary relationship between man and nature; necessity of respect for nature and natural environment; imperative of the preservation and protection of environment; familiarization with threatening and challenging factors; recognition of the critical significance of nature and environment for the sustenance of life for both present and future generations; promotion of a multistakeholder approach to the preservation and protection of environment.

In light of what was discussed earlier on the Islamic worldview and outlook, we believe its teachings could play an important part in defining and articulation of approapriate educational approach and practical policy towards nature and environment and their preservation and protection. The Iranian culture, deeply embued along past centuries, with Islamic precepts and values, could also help in this process.

The second area of imperative and need concerns development and promulgation of legislation for the protection and preservation of nature and environment, both at national and international levels. As well know, there exists a rather solid body of relevant legal instruments, both binding and otherwise, especially international instruments, addressing various aspects of environmental protection. One could, for example and for our immediate purpose, draw attention the relevant provisions of the Geneva Conventions. The Protocol I Additional to the Geneva Convention of 1977 prohibits the use of

methods and means of warfare which are or can be detrimental to the natural environment. Article 55 of the Protocol - Protection of the Natural Environment – contains a very clear and unambiguous language, even if unheed for the most part in almost all armed conflicts since its entry into force.

I-- Care shall be taken in warfare to protect the natural environment against widespread, long-term and severe damage. This protection includes a prohibition of the use of methods or means of warfare which are intended or may be expected to cause such damage to the natural environment and thereby to prejudice the health or survival of the population.

II-- Attacks against the natural environment by way of reprisal is prohibited.

Notwithstanding the existing body of international law, there still exists a considerable lacunae at both levels, particularly, one has to admit, at national level in many developing societies. Here, as well, we believe Islamic judicial sources, and in particular the Shi'ite time-honoured institution of Ijtihad (independent judgement/reasoning) – ensuring effective adaptation of legal code to the requirements of time and circumstance – are capable of making substantive contribution to the process.

In conclusion, I would like to draw attention to and underline the imperative of cooperation for the development and promulgation of necessary international legal instruments. Such cooperation is needed at two levels; first for the development, articulation and adoption of the necessary instruments, and second, and perhaps more importantly, proactive cooperation towards the actual implementation of the adopted instruments. Moreover, in light of the unfortunate approach of the US Government towards the Kyoto Protocol and its negative consequences for the entry into force and implementation of this respectable international agreement, we all need to re-double our efforts from now on to ensure that effective compliance provisions will be envisioned in future agreements and instruments. It is quite heartening that this very point has received such a strong resonance at the

Conference so far. Needless to say, efforts towards ensuring actual enforcement of the existing law does not merely apply to the international level, rather equally to the national level as well. National governments and institutions also need to be held accountable in this regard. Our success in the future towards preservation and protection of environment depends on effective compliance with and implementation of the existing and emerging legal instruments at both national and international levels.

Endnotes:

1- The Qur'an, Chapter 2, The Cow (Surah al-Baqara), Verse 3.
2- Hobbs, P. V., and L. F. Radke, "Airborne Studies of the Smoke from the Kuwait Oil Fires" in 'Science', Vol. 259, 15 May 1992, pp. 987 - 991.
3- Mohaghegh-Damad, S. M., "Theology of the Environment" in: Name-je Farhangestan-e Olum-e Iran, No. 17, 1380 (2001).
4- Allamah S. M. H. Tabatabai, Al-Mizan, Vol. XX, p. 14.
5- Naghizadeh, M. "Water and Architecture and Iranian Culture", International Congress on Man and Water, Tehran, July 4-6, 2002.
6- Seyyed Mustafa Mohaghegh-Damad, International Human Rights: The Islamic Way, Center for the Publication of Islamic Sciences, Tehran, 2004.
7- Nahjulbalaghah (Compilation of Imam Ali's Sermons and Letters), Sermon 166.
8- Tabatabai, op. cit., Commentary on the Chapter Resurrection (Surah al-Hashr).

Note:

This paper was scheduled to be presented at this Working Session. However, the presenter left the session for another engagement before his turn came up. An edited, shorter version of the original is included here because of the interest shown for the subject by the participants at the Session.

IV

Impact of Second Persian Gulf War (1990-91) on the Marine Environment

Chairman: Mohammad Saeed-Hosseini*
Assistant: Parvin Farshchi**

The Impact of the War on the Environment and Water Quality In Iraq

Hayder M. Abdul-Hameed

Abstract

███████Due to the Gulf War II activities in the Persian Gulf the environment and the ecological system of the Gulf has been negatively and severely affected. These activities have caused a high level of pollution in the water, air and marine environment of the entire area, including the aquatic life and human life, particularly that of children. In this study different parameters of pollution of the environment as a result of the Gulf War II have been observed, studied and measured.

Objective of the Study

The Persian Gulf, especially the northern part of it, happened to be the theatre of major military activities in the course of the Guf war II, as a result of which substantial environmental damage and destruction took place. The following presents a partial list only:

Deliberate setting of oil wells on fire (around 700 wells) towards the end of the conflict created a very critical situation in the area. The action created huges volumes of heavy black smokes, carrying to the Persian Gulf area a high concentration of incompletely burned hydrocarbons as well as suspended molecules of heavy metals

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particles and elements such as vanadium, nickel, Sox Nox and volatile organic carbon (VOC). These materials, once settled on the ground in the form of rainy drops, caused severe pollution and impacted in particular the quality of the Persian Gulf air and water. This negative polluting impact caused, in turn, breathing difficulties among the local populace, and the following problems were observed in particular:

- Substantial increase in the cases of asthma and nose bleeding; Creation of a new type of flu during winter time with a highly antibiotic-resistant virus.
- Increase in the rate of death among different marine species as well as destruction of life-balancing systems and metabolism.
- Undue increase in the migration of different types of water life species from the area to more propitious zones due to the creation of localized heat as a result of disposal of hot water from war ships.
- Sharp increase in medical reports on cases of difficulty in breathing and general respiratory system, eye irritation, etc. in such areas as Basrah and Um-Qasr cities in the northwestern part of the Persian Gulf.
- Spread of carsogenic and other hazardous agents, including those containing depleted uranium (DU) – a dangerous radioactive and toxic agent - due to the use of special types of anti-armor rockets and missiles, which are known to cause cancer, sterilization for men and abortion for pregnant women. A number of such cases have been recorded in the south of Iraq and in Kuwait. Removal of such material from the area's waters and soil entail complex and costly operations.
- The marine coastline in the south of Iraq was heavily polluted by oil spills caused by deliberate spilling of oil and setting on fire of oil wells. The coastline has been rendered unsuitable for human activities such as swimming and fishing.
- The pollution of water in the Persian Gulf area has caused further problems for all water treatment and desalination plants in the countries of the area, including Kuwait and Saudi Arabia, and imposed additional costs on the countries concerned.
- Increase in family problems – between espouses - due to

increase in cases of women's cancer and abortion and men's steriliza-
tion – as indicated above.

Conclusions

The environmental and ecological systems of the Persian Gulf were
adversely affected by the Gulf War II:

- The pollution and nefarious impact of different military activi-
ties on the people, aquatic life and environment of the area have been
detected and scientifically established.

- Many types of diseases have been detected in the post-Guf War
II period, including respiratory system ailments and negative impact on
other body organs.

- Increase in the rate of cancer cases in women and children.

Recommendations

●All Persian Gulf countries must cooperate with each other to
remove the negative impact and influence of the Gulf War II,
including through exchange of experiences and lessons learnt
in regional and sub-regional meetings.

●Undertaking scientific and experimental research and studies
on the wide range of the negative environmental and polluting
impact of the War and dissemination of the results thereof.

●Undertaking research and studies in the area of rehabilitative
efforts and activities for the environment in the Persian Gulf,
including on the ways and means of promoting cooperation
among the peoples and countries of the area.

●Designation and proclamation of the Persian Gulf region as a
non-military zone- a zone of peace.

●Promotion of regional cooperation towards ensuring increased
investment on developmental projects, including, in particular,
in the field of environment.

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A Perspective on Iran's Contribution to International Cooperation on Environmental Monitoring, Assessment and Restoration: Case of Environmental Claims Relevant to Security Council resolution 687

Hassan Zare-maivan

Abstract

Pursuant to the establishment of the United Nations Compensation Commission (UNCC), in accordance with the provisions of the Security Council resolution 687, and its operationalization, the Islamic Republic of Iran undertook to register its substantive claims before the Commission for the damage inflicted on various components of diverse ecosystems. These claims sought compensation for damages occurred as a result of Iraq's invasion and occupation of Kuwait in 1990. Damages included losses occurred in the form of depletion of natural resources, degradation of environmental attributes, costs of preventive and mitigation operations, clean-up tasks and restoration activities. Furthermore, monitoring and assessment claims, grants of which were approved by UNCC, provided the recent facts on status of damaged environments. In reviewing text of relevant exhibits annexed to the environmental claims of Iran, there were several key points that could have effectively contributed to variations in the amount of compensation sought. For example, scientific approaches in connecting pollutants to the source of about 700 burning Kuwaiti oil wells or methodology of damage assessment and monitoring of ecological attributes in affected areas over time and methodology applied to convert qualitative or quantitative data into monetary values put forward in the claims. All above points were challenging in nature and indeed were basis for legal concerns.

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Therefore, it was essential to achieve a certain degree of cooperation between scientific and legal teams. Although, the legal ramifications of claims and counter claims followed a procedural path set forth by the Security Council and enforced by UNCC, requisite international efforts were undertaken and sincere and sound interactive cooperation materialized amongst a spectrum of concerned and environmentally conscious people or organizations. These included legal administrators and political liaisons, scientists, technical consultants and operatives, national and international institutions and amongst active representatives of governments. Their cooperation demonstrated the substantial potential willingness for conserving the environment to a sustainable degree. Objectives of such cooperation were to raise the awareness of conflicting parties to consider the consequences of their action in favor of conserving environmental values for local stakeholders and global community, to elaborate on the significance of safeguarding environmental values through penalization of responsible parties for damages rendered in the event of military conflicts, to provide procedural ramifications and means for just compensation of costs related to environmental damage prevention, clean-up, restoration, monitoring and assessment and degradation and depletion of resources, and to set a valuable precedence for future generations. In this context, Iran complied with UNCC guidelines, cooperated with relevant scientific entities and contributed valuably to monitoring and assessment projects. Aspects of knowledge gained and domestic and international cooperation achieved will be discussed.

Introduction

Unprecedented environmental crisis that occurred in the Persian Gulf region in early 1991 was indeed the largest oil-related pollution event, both in scope and magnitude, in the history of petroleum industry. Iraq's invasion and occupation of Kuwait in August 1990, which also involved military activity by the allied forces in early 1991 (16 January to 26 February 1991), came to have far reaching effects on the environment. There were three principal sources of environmental pollution. These were: (1) huge smoke plumes and soot emanating

from almost 700 burning oil wells for prolonged periods; (2) tremendous amount of petroleum spilled into the marine environment following destruction of coastal oil-loading terminals and sinking of oil tankers; and (3) introduction of dangerous and persistent chemical contaminants due to deployment of unconventional and conventional ordinance (Kuroiwa, et.al., 1991; IOC UNESCO, 1993). These sources caused extensive environmental damage and contributed to deterioration of physical and psychological health of people exposed to war. These polluting sources, also followed by the influx of almost 1.5 million refugees into Iran in a matter of several weeks in March 1991, caused physical damage to natural resources of western and coastal ecosystems and wetlands of southern Iran (Madadi and Zare -maivan, 1999, Zare-maivan, 2004 a and b).

Regional/International Cooperation

Claims for compensation of environmental damage were registered before the United Nations Compensation Commission (UNCC) by 6 regional countries neighboring Iraq. Although extent of environmental pollution included both marine and terrestrial ecosystems, the first cooperation initiative was initiated by UNEP and Regional Organization for the Protection of Marine Environment (ROPME) in 1991 and produced an inter-agency plan of action addressing the various aspects of the environmental crisis in the Persian Gulf region. This initiative was adopted in March 1991 and pursued two objectives: (1) to assess the environmental consequences of the war on the atmosphere and marine and terrestrial ecosystems; and (2) to propose programs for mitigation of adverse environmental effects of pollutants, restoration of damaged ecosystems and rehabilitation and protection of habitats affected by the war. As such, a consolidated program of action was developed for the region. Consequently, first multidisciplinary marine surveys and assessments of various components of atmosphere and coastal and marine environments were conducted with the cooperation of scientists collaborating with United Nations agencies – mainly UNEP and UNDP – and in collaboration with regional experts (Gerges, 1992, ROPME, 1999). In this connection, open sea cruises by the

American research vessel, Mt Mitchell and the Japanese research vessel, Umitaka-Maru, were successfully conducted in 1992 and 1993-94 in the Persian Gulf. These initial surveys were extensive in scope and extent of investigation but collected data primarily from the southern part of the Persian Gulf and thus produced little information related to its northern areas. Subsequent investigations related to the provisions of the Security Council resolution 687, for example, monitoring and assessment claims 5000344 (Shadegan Wetland) and 5000347 (mangrove forests), were conducted in the northern parts of the Persian Gulf between 1999 and 2002. Findings of these undertakings contributed to: (a) presenting evidence for legal arguments favoring the necessity of environmental restoration of damaged ecosystems to their pre-war state; and (b) justifying fair and rationalized compensation for the environmental damage occurred.

Results and Discussions

Results of field surveys confirmed previous findings (Kuroiwa, et.al., 1991; IOC UNESCO, 1993; DOE, 1996 and 1999; Le Floch Co, 1999, Aminipouri, et.al., 1999). Level of oil pollution varied in each location. However, in all but one location (Bandar Emam Hassan), oil particles (tar balls and pancakes) and patches were weathered and in many instances were mixed with sand and shells. This indicated an age of greater than 10 years. There were locations where oil particles and patches showed signs of erosion due to wave action and tidal activity. It was also revealed that persistent oil contamination still existed in many coastal areas a decade after the onset of military activities (1990-91) in the Persian Gulf region. In recent years, organizing marine cruises through participation of ROPME and experts from Department of Environment (DOE) of Iran and Iranian Fisheries Research Organization (IFRO) as well as universities has increased. It should be added, though, that more frequent comprehensive cruises needs to be undertaken.

Another area of serious concern relates to the persistence of oil pollution in many areas as well as of deterioration of ecological, recreational and fishing values in coastlines. Recovery at these loca-

tions is an immediate need, which will become more difficult and costly in case of neglect or inadequate attention. Manual recovery and mechanical removal of weathered oil mats and tar balls are necessary in many locations (Le Floch Co., 1999; Zare-maivan, 2004 b). Researches have also shown far worst damage throughout the western, southwestern and southern coasts of the Persian Gulf (Kuroiwa, et. al., 1991; IOC UNESCO, 1993). Therefore, conducting systematic field surveys and marine cruises involving experts from different disciplines and from different countries would facilitate understanding the basic physical and ecological features of the region in time and space and also help the collection of badly needed facts and data. Undertaking of such surveys would serve a number of purposes; the health of environment and its inherent socioeconomic capabilities could be determined, appropriate policies for sustainable exploitation and protection of resources could be formulated, more effective comprehensive guidelines could be adopted, and appropriate monitoring instruments could be implemented. Clean-up, restoration and subsequent monitoring of damaged and impacted ecosystems provide an opportunity to challenge the collective and cooperative will of many nations and international organizations in taking a common approach in this regard. This is an option that has been pursued in the past and still remains a valid, practicable option, particularly in light of the fact that regional governments are already active members in many international environmental conventions and protocols (ROPME, 1999).

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Note:

a- The present paper was not presented at the Conference, only distributed among the participants. An excerpt of the original paper is included here because of its direct relevance to the theme of the Working Session as well as its informative and academic quality.

b- In this Working Session, the following three presentations were also made by three Iranian scholars. The texts of these presentations were not available at the time the present volume went to press.

1- Dr. Afshin Daneh-Kar: "Adverse impact of military activities on the mangrove forest communities of the Northern Persian Gulf area"

2- Dr. Parvin Farshchi: "The pollution impact of oil spill in the area"

3- Mr. Omid Sedighi: "Armed conflict and the destruction of coral reefs in the Persian Gulf area".

V

Protection of Environment
and
International law

Chairman: Geoffrey David Dabelko*
Assistant: Hassan Partow**

Dialogue on Environmental Issues as a First Step Towards Regional Cooperation and the Prevention of Regional Conflicts - Caspian Sea Case Study

Barbara Janusz

▬▬▬▬Efforts in recent years by Caspian Sea States to protect their shared environment through co-operative measures have led to a strengthening of local and regional co-operation of the states and greater integration of civil society into government decision-making. I believe, these findings could serve as a basis for a discussion on development of new analytical and practical approaches to prevention of regional conflicts, regional co-operation, democratisation and development.

The richness of Caspian Sea region in mineral and biological resources and its ethnic and cultural diversity is both a potential blessing and a curse for the region. Lack of legal and institutional infrastructure, both on a national and regional level, has often prevented the full exploitation of this wealth for the benefit of the local populations. Worse yet, obsolete Soviet-era institutions and legal systems and regional conflicts have led to unsustainable development that has in turn threatened human welfare and environmental stability. With the

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collapse of the Soviet Union the geopolitical situation in the region changed significantly. Instead of two there are now five coastal States: Iran, Russia, Azerbaijan, Kazakhstan and Turkmenistan, each filing different legal claims as far as the Caspian Sea and its resources are concerned.

I see the future of the Caspian Sea region in, firstly, raising of a common perception of existing threats, like threats to the fragile environment of the Caspian sea, and secondly, adjustment of regional and national legal systems in the region to conform to international standards. A broad regional dialogue could make a significant contribution towards reaching both these goals.

A dialogue might also improve the uptake of international legal standards in the region. As evidenced by recent environmental agreement, rather than creating entirely new legal concepts, the Caspian Sea States have adopted already existing norms and modified them to ensure that special national historical and cultural circumstances are taken into account. Beyond an intensification and formalisation of the existing dialogue on environmental issues, a regional dialogue on poverty reduction or other issues of common concern are quite conceivable and practicable, and could lead to greater democratisation and strengthening of the rule of law in the region.

On the basis of the Soviet-Iranian agreements and regional customary law, the current legal principles governing the Caspian Sea no longer appear sufficient to deal with the new complex of political, economic and environmental problems. This would suggest the need for a new set of provisions regarding the Caspian Sea's legal status. So far, however, negotiations between the interested States have failed to reach common agreement, whereby opening the way for unilateral action. Until now there has only been one agreement accepted by all the littoral States; i.e., the Framework Convention for the Protection of the Marine Environment of the Caspian Sea, signed in 2003 in Tehran.

Agreement on the Framework Convention shows that both aims of establishment of a successful interstate dialogue and reaching legal compromise in the Caspian Sea case have been achieved only on environmental issues. This welcome development should be seen as a particular contribution- a clear contribution that dialogue can make

towards ensuring long-term regional co-operation and preventing of regional conflicts.

The Framework Convention for the Protection of the Marine Environment of the Caspian Sea is truly a significant step on the long path of rescuing the fragile Caspian Sea environment, which has been severly damaged – one could even go so far as to say devastated - by the irresponsible economc policies of the coastal States, unsustainable exploitation of the non-living resources of the seabed and negative impact of illegal fishing.

The Framework Convention meets the basic international legal provisions governing the protection of the environment, including provisions for prevention, reduction and control of pollution, as well as protection, preservation and restoration of the marine environment.

However, it must be noted that the framework feature of the Convention is a considerable disadvantage for successful practical application of the Framework Conventions, which requires signing of a number of protocols by the Parties, which has not yet been prepared. Even the Tehran Convention as such is not in force.

The inter-State dialogue in the Caspian region has succeeded only in the area of environmental issues. A special Caspian regime concerning the environmental co-operation might be applicable as proto-type to other areas of regional dialogue. The development of environmental regime at the Caspian Sea has been strongly supported by the establishment Caspian Environment Programme (CEP). It was funded by the Caspian littoral governments and the International community through the Global Environmental Facility, and implemented by United Nations Development Programme (UNDP), United Nations Environment Programme (UNEP) and the World Bank, the European Union / Tacis Programme and partly by private sector. Caspian Environment Programme (CEP) aims at sustainable development of the Caspian environment, and assists the Caspian littoral States to achieve this goal. Apart from CEP, Bioresources Commission, CASPCPM, and NGO Crude Accountability are the other on-going environment-related activities in the region.

Since civil society, as represented by NGOs, has access to a local data collection networks not available to many local govern-

ments, a greater role for civil society would be nearly indispensable to any dialogue process in the area. Also, a broader integration of government and civil society in the dialogue process involving all current political and legal issues is considered desirable and should be promoted.

The diversity represented by the participants in a dialogue process tends to foster an environment conducive to the development of realistic new approaches to regional co-operation and the prevention of regional conflicts and democratisation. These approaches should, however, take into account national and regional, ethnic and cultural differences.

Initiatives such as the one we are now attending here in Tehran - International Conference on Environment, Peace and the Dialogue among Civilizations and Cultures – constitute an important part of the regional and international dialogue, making acutely needed contribution to the development of the regional cooperation and the prevention of regional conflicts.

This Initiative, I believe, offers a unique opportunity to look into and further refine the concepts I have alluded to in this brief presentation, and the line of research I pursue at a more serious, professional level.

* See page 309.

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Protection of the Environment
during Armed Conflict

Said Mahmoudi

Compared with the period before 1990, there has been an increasing international interest in recent years in the issue of the impact of war on the natural environment. This has been basically due to Iraq's deliberate assault on the environment and use of the environment as a means of warfare during the Iraq-Kuwait 1990-1991 War.

This was done in two ways. First, Iraq sat fire on some 570 oil wells of Kuwait in February 1991. Combustion of the burning wells was not complete, and more than half of the oil gushed out over the land. As a result of the emissions into the air, a "black rain" covered vegetation in Iran and some other neighbouring countries some during March 1991. Even a "black snow" reached Kashmir in Northern Pakistan. Secondly, a few days after the commencement of the military operations of the Coalition, Iraq began to discharge oil from the Sea Island Terminal and dump the cargo of five Iraqi oil tankers into the waters of the Persian Gulf. In this way some 6 million barrels of oil polluted both the marine and atmospheric environment. Even long after the cease-fire, oil continued to leak into the Persian Gulf both from the tankers and refineries.

The Iraqi deliberate damage to the nature was accompanied by the collateral effects on the environment of Coalition's over 6000 bombs and 2000 tons of ammunition which were dropped in Iraq and Kuwait within a short period of time. Considering the consequences on the environment, this war is described as one of the largest single man-made disasters in history.

The fact is that war in any form and at any scale inevitably causes damages to human beings and the environment. This is witnessed in the 1999 NATO bombing of Former Yugoslavia, US attack on Afghanistan in 2001 and the US-led invasion of Iraq in 2003. The collateral or intentional nature of these damages cannot always be easily

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established.

What was particular with Iraq's action in the Persian Gulf War was a full-fledged and comprehensive use of the environment as both a main target and principal means of warfare. Doubts about the existence of a precise and unequivocal obligation under international law to refrain from such acts brought to the fore the need for appraising the existing law and studying ways to fill up the gaps if any. Since the point of departure for most of the commentators was the Iraq-Kuwait War, the analyses were mainly focused on deliberate destruction of the environment during international armed conflict. The collateral effects of war on the environment and the applicability of relevant legal rules to internal armed conflict were not specifically addressed. This is partly due to that the issue of deliberate environmental destruction in international armed conflict is in itself a broad subject and partly due to that many authors have been of the view that the applicable rules cover all sorts of damages to the environment due to war in general.

The most intensive period of deliberations for establishing the status of law in this area was immediately after the outbreak of the Persian Gulf War. The views expressed in these conferences could generally be categorised in two groups, namely, those who meant that existing laws were sufficient, and those who propagated the adoption of a new comprehensive document. Perhaps the most important development was the efforts of the International Committee of the Red Cross (ICRC) to clarify the situation in practical terms. Generally, the group of experts assisting ICRC came to the conclusion that the existing law was adequate. What was in their view necessary was an effective implementation. With the mandate that the UN General Assembly gave to ICRC in 1992, this organisation prepared a set of guidelines in 1993 for the protection of the environment during armed conflict.

The purpose of this paper is to make an appraisal of the present status of law in this field.

General Norms Relating to the Conduct of War

Although some provisions in the 1899 Hague Convention (II) and the

1907 Hague Convention (VI) respecting the Laws and Customs of War on Land as well as the 1949 Geneva Convention Relative to the Protection of Civilian Persons in Time of War are relevant to the issue of environmental protection in time of war, it was first in the 1977 Protocol I additional to the 1949 Geneva Convention that the subject was directly addressed.

The two decades that followed the adoption of the 1949 Geneva Conventions witnessed several international armed conflicts and an increase in internal warfare where guerrillas and irregular forces were involved. The Geneva Conventions, which had been worked out for international wars of traditional pattern, proved to be inadequate in many instances. On the initiative of ICRC, two protocols additional to Geneva Conventions were adopted in June 1977 to up-date humanitarian law governing armed conflict in general. The first of these two additional protocols is applicable to international armed conflict, and the second one applies to internal wars.

Negotiations for the adoption of the additional protocols took place between 1974 and 1977. In the aftermath of the Vietnam War and with fresh memories of the use of pesticides by the US to clear river-banks and jungles in Vietnam, it was naturally expected that protection of the environment would expressly be included in the protocols. Nevertheless, the drafts prepared by ICRC and submitted to the Diplomatic Conference in 1974 did not deal with the environment. The reason was that Western States did not at that time have any interest in the issue. Even when the inclusion of an item on the protection of the environment was in principle accepted, there was a difference of opinion among the delegates participating in the Conference whether such provision should be formulated in general terms treating the natural environment as an independent subject or it should be addressed in the framework of the protection afforded to civilians. Both these views finally found expression in Additional Protocol I, Articles 35 and 55. Additional Protocol II relative to internal armed conflicts contains no provision directly referring to the environment.

Article 35, which regulates methods and means of warfare, reads:

1- In any armed conflict, the right of the parties to the conflict to choose

methods and means of warfare is not unlimited.

2- It is prohibited to employ weapons, projectiles and material and methods of warfare of a nature to cause superfluous injury or unnecessary suffering.

3- It is prohibited to employ methods or means of warfare which are intended, or may be expected, to cause widespread, long-term and severe damage to the natural environment.

Article 55 reflects the views of those who propagated the environmental protection within the framework of the protection of civilians. It reads:

1- Care shall be taken in warfare to protect the natural environment against widespread, long-term and severe damage. This protection includes a prohibition of the use of methods or means of warfare which are intended or may be expected to cause such damage to the natural environment and thereby to prejudice the health or survival of the population.

2- Attacks against the natural environment by way of reprisals are prohibited.

Articles 35 (3) and 55 forbid intentional as well as unintentional, but foreseeable, damages to the environment. This extensive prohibition is at the same time limited by the requirements of the environmental damage being widespread, long-term and severe. In order for a damage to be covered by the Protocol, all three requirements shall be fulfilled. Consequently minor or short-term environmental damages, even intentional ones, are simply excluded from the purview of the Protocol. The wording of Article 55 may imply that the prohibition of causing widespread, long-term and severe damage to the environment is absolute only when such damage prejudices the health and survival of the population. In other cases, i.e., when the damage is in principle restricted to the natural environment, the obligation is only to take care

and not to absolutely refrain.

There is no general agreement on the meaning of the terms "widespread, long-term and severe". As regards "long-term", several authors have referred to travaux préparatoires of Article 55, and stated that the common understanding in the Geneva Conference was a period of at least ten years. The ICRC Commentary speaks of decades. With respect to "widespread" and "severe" giving a definition viable in all situations is even more difficult. There is no doubt that putting three cumulative and vague adjectives before "damage" clearly makes the provision in Article 35 (3) and Article 55 less effective as regards the protection of the environment. In the aftermath of the Persian Gulf War, proposals for the clarification of the terms were made in several fora including in ICRC and in the UN General Assembly, but no step has been taken so far.

Article 55 is placed in Chapter III entitled "Civilian Objectives". Under this title, there are several other provisions which, without directly referring to the environment, are relevant to Article 55 and its objectives. The purpose of Article 54 is to protect objects indispensable to the survival of the civilian population. The second paragraph in this article reads:

It is prohibited to attack, destroy, remove or render useless objects indispensable to the survival of the civilian population, such as foodstuffs, agricultural areas for the production of foodstuffs, crops, livestock, drinking water installations and supplies and irrigation works, for the specific purpose of denying them for their sustenance value to the civilian population or to the adverse Party, whatever the motive, whether in order to starve out civilians, to cause them to move away, or for any other motive.

Even Article 56 is relevant. This article deals with the protection of works and installations containing dangerous forces. Its first paragraph reads "Works or installations containing dangerous forces, namely dams, dikes and nuclear electrical generating stations, shall not be made the object of attack, even where these objects are military objectives, if such attack may cause the release of dangerous forces and consequent severe losses among the civilian population." The second paragraph of Article 56 limits the offered protection by saying that such

protection ceases if the named objects are used in regular, significant and direct support of military operations. It is suggested that both the content of the provisions in Articles 54, 55 and 56 as well as the methodology of the Protocol give the impression that these articles can be applicable simultaneously.

Despite the criticism about the ambiguity of standards and the very high thresholds that are fixed for the application of Articles 35 (3) and 55, it must be stressed that their inclusion in the Protocol is an important addition to the law of war. Given the general attitude of major Powers participating in the Geneva Conference and the then prevailing approach to environmental issues, no better result could reasonably be expected.

One of the most telling features of the Protocol as regards the attitude of the delegates towards the question of the protection of the environment is the way breaches of Articles 35 (3) and 55 are dealt with. The Protocol, in its Article 85, describes a number of acts that constitute grave breaches of its provisions. Destruction of the environment in breach of the requirements of Articles 35 and 55 is not included there. Environmental damages are thus normal violations of the Protocol. A grave breach of the Protocol is, according to Article 85 (5), a war crime. As such, it entails international criminal responsibility, which in itself means that the offender shall either be prosecuted by his own State or be extradited.

Given the background of Articles 35 (3) and 55 of Additional Protocol I, it is noteworthy to mention that several important States including the US and France are not parties to this document. The US has been of the view that certain rules in the Protocol may be customary law. But Articles 35 and 55 have been expressly excluded from a list of possible customary rules. The contents of these articles have been described as broad and too ambiguous, apt to open the door for war crimes prosecutions whenever the environment suffered serious incidental damage. These two articles are one of the reasons why the US has not ratified the Protocol.

After the Persian Gulf War, several commentators were of the opinion that Protocol I and its Articles 35 (3) and 55 were not adequate for the protection of the environment during armed conflict. That was

why a new effort was done to include damage to the environment during wartime in the list of war crimes in the Statute of the International Criminal Court. However, even this effort failed.

In addition to treaties regulating armed conflicts, there are a number of customary principles of international law that are directly relevant. The famous Martens Clause the 1907 Hague Convention (IV) is a prime example. It reads:

Until a more complete code of laws of war has been issued, the High Contracting Parties deem it expedient to declare that, in cases not included in the Regulations adopted by them, the inhabitants and the belligerents remain under the protection and the rule of the principles of the law of nations, as they result from the usages established among civilised peoples, from the laws of humanity, and the dictates of the public conscience.

This time-honoured and important principle was repeated in Article 1 (2) of Protocol I, which says "In cases not covered by this Protocol or by other international agreements, civilians and combatants remain under the protection and authority of the principles of international law derived from established customs, from the principles of humanity and from the dictates of public conscience." There is no conclusive and fixed catalogue of principles of customary international law governing armed conflict. Nevertheless, it is generally acknowledged that proportionality, discrimination, prohibition of causing unnecessary suffering (principle of humanity), and limitation on the adoption of the means of injuring the enemy are four basic customary law principles in this field.

Some authors propose have proposed the addition of two principles of neutrality and inter-generational equity. By the former, they mean that employment of means and methods of warfare is not lawful if it is likely that they do harm to the human beings, property or the natural environment of neutral or non-participating countries. The second principle, which is developed within the framework of international environmental law, means that employment of means and methods of warfare is unlawful if it can be reasonably apprehended to inflict pain, risk of harm or damage upon those unborn.

Application of legal obligations stemming from both

customary and conventional laws of armed conflict is sometimes subordinated to the exigencies of "military necessity". This concept is used in many international law documents relating to armed conflict, but it is not defined. It is employed as a ground to justify military actions of States that are otherwise in breach of existing law. The basic idea is that use of force is permitted only to the extent necessary to force the partial or complete submission of the adversary. In this sense, military necessity is intertwined with the principle of humanity, which forbids all sorts of force other than what is necessary to force the enemy to capitulate. Other conditions for invocation of military necessity are proportionality and discrimination. These two principles should be honoured even when use of force is justified by military necessity. A basic problem is of course to establish when a military action is necessary and whether it is in proportion to its objective.

The Law of Disarmament

The 1977 Convention on the Prohibition of Military or Any Other Hostile Use of Environmental Modification Techniques (ENMOD Convention) provides in its Article 1 that "Each State Party to this Convention undertakes not to engage in military or any other hostile use of the environmental modification techniques having widespread, long-lasting or severe effects as the means of destruction, damage or injury to any other State Party." A core concept in this convention is "environmental modification techniques", which is defined in Article II as "techniques for changing - through the deliberate manipulation of natural resources - the dynamics, composition or structure of the Earth, including its biota, lithosphere, hydrosphere and atmosphere, or of outer space."

  The standards of the environmental damage in this convention are "widespread, long-lasting or severe". In distinction to the similar standards in the 1977 Protocol I, here the word "or" is used instead of "and". The result of this change is that any technique meeting one of these criteria is prohibited. In this way, ENMOD Convention contains a more stringent standard of protection than the 1977 Protocol. The Convention has not received large support among developing countries

because it was understood as a document between major Powers with possible technology for environmental modification. Nevertheless, its significance should not be underestimated because it indeed prohibits the use of a number of environmentally unfriendly techniques in armed conflicts.

Convention on Prohibitions or Restrictions on the Use of Certain Conventional Weapons Which May Be Deemed to be Excessively Injurious or to Have Indiscriminate Effects (known as Conventional Weapons Convention) and its three protocols were adopted on 10 October 1980.

The fourth paragraph in the preamble of this convention recalls (obviously the prevision in Articles 35 of the 1977 Protocol I) that "it is prohibited to employ methods or means of warfare which are intended, or may be expected, to cause widespread, long-term and severe damage to the natural environment."

The Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on their Destruction sets out in its Article I: Each State Party to this Convention undertakes never in any circumstances to develop, produce, stockpile or otherwise acquire or retain:

1- microbial or other biological agents, or toxins whatever their origin or method of production, of types and in quantities that have no justi-fication for prophylactic, protective or other peaceful purposes;

2- weapons, equipment or means of delivery designed to use such agents or toxins for hostile purposes or in armed conflict.

The1992 Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and on their Destruction, unlike the 1972 Biological Weapons Convention, pro-hibits even the use of chemical weapons. An important difference between this convention and all other disarmament instruments is its sophisticated verification system, which was quid pro quo for major Powers to join it.

There is no direct reference to the environment in this conven-

tion despite the fact that it was adopted in 1992 when environmental protection was at the top of the agenda of all international organisations. Besides, the 1993 Convention, like the 1972 Biological Weapons Convention, suffers from the exceptions that exist for research purposes. Nevertheless, it is undoubtedly an important document of great relevance to the issue of environmental protection during wartime.

There is hardly any serious argument about the fact that nuclear weapons are weapons of mass destruction and kill indiscriminately. As such, their use should reasonably be in violation of a number of well-established principles of international law. However, not all States accept this argument. Some of the nuclear-weapon States believe that there is no difference between nuclear weapons and other types of weapon. The use of all weapons, they argue, is subject to general principles of the law of war, meaning essentially principles of proportionality and military necessity.

Because of undeniable adverse effects of nuclear weapons on human beings and its surroundings, their elimination or at least restriction has been long desired by many. A number of agreements have been reached to that purpose. The purpose of these agreements has not primarily been to protect human beings or the environment, but they have indirectly resulted in the strengthening of such protection.

The impact of the use of nuclear weapons on the natural environment was addressed by the International Court of Justice in an Advisory Opinion delivered on 8 July 1996. Some States had opined that international law documents such as the 1977 Protocol I (Article 35) and the 1977 ENMOD Convention prohibited the use of nuclear weapons. Others had argued that the 1977 Protocol I was not applicable to non-parties and ENMOD Convention was not concerned with the use of nuclear weapons at the time of hostilities. The Court opined that the intention of these agreements could not have been "to deprive a state of the exercise of its right of self-defence under international law because of its obligations to protect the environment. Nonetheless, states must take environmental considerations into account when assessing what is necessary and proportionate in the pursuit of legitimate military objectives." The Court summarised its finding by saying "existing international law relating to the protection and safeguarding

of the environment does not specifically prohibit the use of nuclear weapons."

Although this conclusion leaves it up to any state to subjectively decide "an extreme circumstance of self-defence", the Advisory Opinion is important in establishing beyond doubt that the rules of international law applicable in armed conflict are applicable to nuclear weapons.

International Environmental Law

The development of international environmental law in its modern sense is traced back to the 1972 United Nations Conference on Human Environment in Stockholm. Among numerous international agreements and other documents in this fast developing field of international law that have been adopted since 1972, a few have some relevance to the protection of the environment in time of war.

The Stockholm Conference was convened at a time when reports about the massive environmental destruction as a result of war in Vietnam had been publicised. Despite this fact, the issue of impact of war on the environment was intentionally kept off the formal agenda because of the political sensitivity associated with implied criticism of US tactics in the Vietnam War. Nevertheless, there is one statement in the most important document of the Conference, namely the Stockholm Declaration, which has direct relevance to this topic. Principle 26 of the Stockholm Declaration reads:

Man and his environment must be spared the effects of nuclear weapons and all other means of mass destruction. States must strive to reach prompt agreement, in the relevant international organs, on the elimination and complete destruction of such weapons.

The statement in this principle is limited to war with weapons of mass destruction. The experiments in Vietnam were thus not addressed here.

Another relevant environmental law document is the World Charter for Nature, which was adopted as a resolution by the UN General Assembly in 1982, refers directly to the effects of warfare on the environment. In the section General Principles, Article 5 says

"Nature shall be secured against degradation caused by warfare or other hostile activities." Article 20 states "Military activities damaging to nature shall be avoided." Several other provisions spell out in general terms the duty of States to avoid activities causing irreversible damage to nature.

In the aftermath of the Persian Gulf War and having Iraq as the perpetrator of one of the greatest post World War II environmental catastrophes, it was both natural and politically possible to have a strong statement about the relation of war and the environment in the 1992 Rio Declaration. Principle 24 in this document, which was adopted by the United Nations Conference on the Environment and Development (Rio Conference), states Warfare is inherently destructive of sustainable development. States shall therefore respect international law providing protection for the environment in times of armed conflict and cooperate in its further development, as necessary.

These documents are formally not binding. They only demonstrate, very often in vague and general terms, the aspirations of a great portion of the international society. Their practical impact on the behaviour of States in times of armed conflict is rather limited.

Present Status of Law - An Evaluation

Strictly speaking, today's international law governing the protection of the environment during armed conflict is not substantially different from the applicable law when the Persian Gulf War broke out in 1991. The Hague treaties of 1899 and 1907 as well as the 1949 Geneva Conventions remain relevant, but not sufficient for the challenge. The very fact that they were worked out at a time when protection of the environment was not an issue makes them at best documents of secondary significance. Many of the principles enunciated in these treaties are generally considered as customary international law. It may be underlined that customary rules are normally formulated in vague and general terms. Moreover, their implementation depends very much on States' subjective interpretation of e.g. what constitutes "unnecessary suffering" or "military necessity" and what is "proportionate". If principles of customary international law had been enough, we would

not have probably needed elaborate some of the detailed conventional provisions that are applicable today.

Articles 35 and 55 in the 1977 Protocol I are undoubtedly the most relevant legal provisions existing today. What is contained in these two provisions corresponds in essence to the content of Principle 21 of the Stockholm Declaration adopted by the UN Conference on Human Environment. According to that principle, States have the responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of other States.

The issue is whether this principle as a peacetime customary law may continue to be applicable even in time of armed conflict. The ICJ, in its Advisory Opinion concerning the Legality of Threat or Use of Nuclear Weapons expressed the view that the right to self-defence has precedence over the duty to protect the environment. Thus, one may perhaps say that in situations when military operations are not a direct and immediate response to an attack by the enemy, Articles 35 and 55 should be considered as binding. NATO bombing of Former Yugoslavia and US – UK bombing of Iraq (December 1998 – September 1999) and the US invasion of Iraq in 2003 may fall under this category.

Repeated experiences during the 1980s and 1990s show that Articles 35 and 55, either as conventional rules for those States which are parties to Protocol I or as customary law, have failed to give desired results. The question is whether there are ways to make these two provisions more effective. One possible way may be to revise the 1977 Protocol, to refine and specify the duties (e.g. define widespread, long-lasting or severe), and to include breaches of Articles 35 and 55 in the catalogue of grave breaches in Article 85 of Protocol I. In this way, a completely different sanction system will become operative. Another possible step can be to include deliberate environmental destruction into the categories of crimes for which the International Criminal Court has jurisdiction. One more realistic step is to encourage States to voluntarily include the 1993 ICRC Guidelines and other relevant provisions into their military manuals. Such steps all together may have some effect on the betterment of the protection of the environment at least in the case of collateral damages.

As regards deliberate damages, as long as they are obviously wanton destruction, there is no doubt that they are illegal. But if there are doubts of military necessity, we will have no legal security unless a new global convention forbids it under all circumstances. A new specific convention, if ever a reality, should have its point of departure in the protection of the environment and not (as is the case of Protocol I) in the regulation of armed conflict. That is nonetheless rather idealistic in near future given the realities of the world politics, States' list of priorities, exigencies of self-defence, etc.

A more realistic alternative is the inclusion of precise and detailed provisions relating to wartime environmental damages in environmental agreements. A recent example is the new African Convention on the Conservation of Nature and Natural resources, adopted in July 2003 in Maputo, Mozambique. Article XV of the Convention under the title of Military and Hostile Activities reads:

The Parties shall:
a) take every practical measure, during periods of armed conflict, to protect the environment against harm;
b) refrain from employing or threatening to employ methods or mean of combat which are intended or may be expected to cause widespread, long-term or severe harm to the environment and ensure that such means and methods of warfare are not developed, produced, tested or transferred;
c) refrain from using the destruction or modification of the environment as a means of combat or reprisal;
d) undertake to restore and rehabilitate areas damaged in the course of armed conflicts.

The Parties shall cooperate to establish and further develop and implement rules and measures to protect the environment during armed conflicts. Although it is preferable that such provision will in the first place be inserted in agreements relating to armed conflict and come to the attention of those who directly deal with the conduct of war, using environmental law instruments should be welcomed as the second best alternative.

It may finally be noted that with respect to the protection of the

environment during internal armed conflict, the problem remains that we normally have one party, which does not consider itself bound by all the laws of war. More importantly, States are not prepared to limit their possibilities to crush down internal uprisings and armed conflict. Protection of the environment was intentionally excluded from the 1977 Protocol II, and may remain a taboo in legal instruments relating to armed conflict even in the near future. That being said, States and those forces that consider themselves as candidates for becoming independent States in the future cannot disregard those elements of the law of war which put limits on the behaviours of the parties to armed conflict.

Strategic Environmental Challenges

Antonio Marquina Barrio

Environmental challenges are increasingly included in the new security agenda of the world as well as that of States. This is why some authors tend to speak of *"strategic"* environmental threats. The use of the word *"strategic"* is very effective but may lead to some confusion. It is important to explain first the meaning of the word "strategic" in the context of environment, and the meaning of the word "threat" as applied to environmental challenges.

1- Strategic and Environmental Risks

The meaning of the word "strategic" as applied to environment is not clear[1]. During the Cold War, The USSR was considered a strategic threat. It was commonly accepted as a threat, not only relevant to but vital for state survival, affecting the territorial integrity and independence of a state.

Today we can recognise the tendency to apply the strategic label to policies considered critical for states. That is the case of the so called "strategic relationship", "strategic opportunity", or "strategic partnership" between states which is used so often by politicians in order to present to their audiences something that they consider is relevant or fundamental for the foreign or security policy of the states concerned.

We can also mention some exaggerations. That is the case of the qualification nowadays of Al Qaida as a "strategic threat", without taking into account the difficulties of this organisation in maintaining a significant level of activity[2].

Regarding environment we have to be extremely careful in order to use the appropriate words. We can not speak of environmental "threats" because threats are always intentional.

There is also a tendency in certain quarters to consider nature

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and environmental issues as a hostile force. Thus, formulating environment as an external or internal threat allows the construction of environmental security with the same logic as state security. However, if nature is reified as a threatening entity in Hobbessian terms, then environmental security is a mechanical representation of state security. For this very reason I prefer to speak of environmental risks or global environmental challenges[3].

On the other hand, the exclusivity of state security does not fit well in the universality of the environment. Global environmental problems call into question the State as the referent subject of environmental security, its utility and thinking in national security terms. We have to speak of local, regional or global -no boundaries- challenges (not "strategic" challenges) to human security.

The question is how to reduce human vulnerability to this kind of challenge. In this context, more global approaches are needed — not state approaches — and it is important to keep in mind the limitations of the sovereign State system as a means to enhance human security. Therefore, more agents as security providers are needed, not just States.

However, we should be cognizant of the following in this kind of approach:

- A global citizenship approach is needed, albeit still a debatable issue itself;
- Global institutions that reflect this global citizenship are lacking;
- A cosmopolitan democracy and global governance is yet to develop and take root; and
- Sovereignty is still the first priority for developing States.

For all these reasons, the question of environmental security as linked to human security concepts has to overcome - and solve – in the first instance very critical conceptual problems.

2- Environment in the context of state security

In any case, we can catalogue some vital challenges that may affect the

state security emanating from environment, whether man-made or natural phenomena:

- An abrupt climate change[4];
- Ozone depletion;
- Natural disasters (earthquakes, volcanic eruptions, collisions, hurricanes, floods, fires, etc) that may make a state or a group of states nonviable; e.g., exacerbate poverty, hunger and destroy ecosystems;
- Increasing global warming[5];
- Scarcity of water as a vital resource[6];
- Scarcity of food and natural raw materials;
- Soil erosion and desertification;
- Deforestation;
- High levels of pollution;
- Emerging challenges[7];
- Non-sustainable growth.

Any of the above items, depending on the economic, social and political circumstances, may create very serious problems for the viability and even survival of different states, particularly fragile states. The increasing comparative lack of economic competitiveness induced by climate change in several regions, or critical situations created by dry seasons and/or severe drought are real problems that can produce catastrophic scenarios, in particular for fragile states. These possible situations can not be hidden. In fact, a number of relevant assessments figure in the last few years.

1- UNEP: "experts predict that climate change will increase the severity of floods and and droughts, which may lead to mass migration, undercut state capabilities, and exacerbate widespread poverty. Environmental stresses, and the social phenomena they engender, have both direct and indirect ties to the global community´s greatest challenges: poverty, terrorism, globalisation, poor governance, and inequality"[8].

2-The European Union: "There is an emerging consensus that wide-

spread climate change may increase socially contingent effects, due to multiple stresses coming together. This is unlikely to affect Europeans directly, but may well have effects on Europe. The combination of stresses from climate change from the above effects may converge on a number of vulnerable areas, for example in Africa, leading to potential regional conflict, poverty, famine, migration etc.

It is highlighted that the disproportionate impact of climate change occurs in developing countries because these countries are more vulnerable to climate change than developed countries: their economies rely more heavily on climate-sensitive activities; they are close to environmental tolerance limits; and they are poorly prepared to adapt to climate change. In contrast, richer societies tend to be better able to adapt and their economies are less dependent on climate"[9].

3- Failed and risk states

In this regard we can link environmental challenges particularly to the situations of states at risk and failed states. The term 'failed state' is a controversial term. But for our purpose here we can accept a definition/description such as "a weak state that has little practical control over much of its territory" or " a state that has been rendered ineffective (i.e., has nominal military/police control over its territory only in the sense of having no armed opposition groups directly challenging state authority; in short, the "no news is good news" approach) and is not able to enforce its laws uniformly because of high crime rates, extreme high-level corruption, an extensive informal market, impenetrable bureaucracy, judicial ineffectiveness, military interference in politics, cultural situations in which traditional leaders wield more power than the state over a certain area but do not compete with the state" [10]

The diagnosis of different studies is not always convergent, according to Robert I. Rotberg[11], the nature of state failure varies from place to place but the road to state failure is marked by several signpoints: On the economic side, living standars deteriorate rapidly as elites deliver financial rewards only to favored families, clans or small groups.

Foreign exchange shortages provoke food and fuel scarcities and curtail government spending on essential services and political goods....corruption flourishes as ruling cadres systematically skim the few resources available. On the political side, leaders and their associates subvert prevailing democratic norms, coerce legislatures and bureaucracies into subservience, strangle judicial independence, block civil society and gain control over security and defence forces...governments that once appeared to operate for the benefit of all the nation´s citizens are perceived to have become partisan. As these two paths converge, the state provides fewer and fewer services. Overall, ordinary citizens become poorer …In the last phase of failure, the state´s legitimacy crumbles. The social contract that binds citizens and central structures is forfeit…Domestic anarchy sets in and the rise of terrorist groups becomes more likely.

But failing states are not a new phenomenon, what is new is the securitisation of the problem[12]. Even in this context, little attention was given to the environmental issues that can induce a progressive deterioration of the economic, social and political conditions of a given state, as it was mentioned.

Resource conflicts were widely discussed, but the question of the progressive deterioration of states and their viability in an international competitive context was not analysed enough. Risk indicators recently created for this purpose and early warning on this topic are clearly insufficient[13].

However, as early as 1989, professor Mathews mentioned in this context that states can become "ripe for authoritarian government or external subversion".

Today the question of failed states is up in the international agenda because of the importance of international terrorism, transcending the former approaches that focused on the humanitarian dimension of the phenomenon.

4- Environment and conflict

The links between environmental degradation and conflict were widely criticised in the last decade, in particular because of the

following considerations:

a- Relationship between environmental disasters or degradation and violent conflict and the outbreak of war between states. The resource conflicts are defined as poorly understood[14].

b- Relationships between inequity, environmental scarcity or abundance and conflict within states suffer from a number of weaknesses[15].

But the connection between environmental change and possible inter-state and internal conflicts is a matter of concern for international organisations, national governments, scientific institutions and NGO´s. The consideration of environmental refugees as threats to national security should also be added here.

The question is how to reduce the state vulnerability to this kind of challenge. It can be said that, in the first place, it is a question of developing more analytical tools that can integrate knowledge about vulnerability and coping capacity into conflict[16].

In the second place it is a question of devising sound strategies. In this context, it can be stressed that each nation must act; that global commitments and international agreements are needed; that regional approaches and commitments are an imperative taking into account the diverse environmental problematique of the regions and, that bilateral commitments can multiply results.

Finally, building partnerships with private business and non-governmental organisations are also needed[17].

5- Priorities

Setting priorities is always a difficult task. But, from a European perspective, winning the battle against global climate change is the main priority. There is an overwhelming scientific consensus that the cause of this change is emissions of greenhouse gases from human activity[18]. Global temperatures are expected to increase by 1.4 to 5.8 degrees Centigrade by the year 2100. In this context, climate change needs to be slowed down and eventually halted. But this objective is very difficult to achieve, given the current trend of annual growth rate of 8-9% in India and China.

Based on scientific assessments, including those by EU, the effects of continuing climate change could be the following:
- Sea level rise;
- On agriculture: cultivated area could be expanded in some parts of the globe and threatened in other parts (e.g., northern parts of Europe and southern parts of Europe). Bad harvests becoming more common;
- On energy use, a combination of increases and decreases in demand for heating and summer air conditioning can be expected;
- On health, a 2 degree C increase will result in 2120 million more people at risk of malaria and an epidemic potential increase of 30 to 50% for dengue;
- On ecosystems, significant impacts on ecosystems;
- On water resources, above 2 to 2.5?C global average temperature increase, additional 2.4 to 3.1 billion people will be at risk of water stress;
- On floods, damage will increase several times and millions of people will be at risk;
- On impacts from storm damage and extreme weather, growing damages are likely;
- On regional conflicts, climate change may increase socially contingent effects;
- On migration, possibilities of large scale migration expected;
- On major effects induced by a possible abrupt climate change[19].

For all these reasons, drastic reduction of emissions in developed countries and committing all large emitters is also fundamental. The costs, however, are very high[20]. Moreover, incentives for developing countries to reduce emissions need to be devised.

6- Policies to be implemented

In this context, emphasis in developing countries needs to be placed on a number of areas and policies:
1- Public awareness;
2- An enhanced innovation that will permit a transformation of energy and transport systems;

3- Substantial investments in the energy infrastructure sector over the coming decades;
4- The inclusion of mitigation policies;
5- Emphasis on adaptation policies;
6- Stronger cooperation with third countries;
7- Devising incentives for developing countries to reduce emissions;
8- Devising a new framework for cutting greenhouse emissions beyond the Kyoto Protocol.

7- Conclusion

In general, we can say that environmental challenges could imply very serious strategic challenges, particularly for developing countries (competitiveness, viability, survival). In this context, environment is a real strategic challenge. The question of environment and conflict needs more analytical tools, but we can not dismiss the importance of environmental stresses as trigger factors for internal and inter-state conflicts. In this framework, taking into account of humanitarian and spill-over effects, environmental challenges, depending on the scenarios, must be treated by states as clear strategic challenges.

Setting priorities to address environmental challenges must take precedence in the so called strategic policies of states, given the possible consequences of climate change. But the policies to be implemented will be very costly and it will be impossible to accept free riders.

Endnotes:

1- The word "strategic" linked to environmental issues is used in different contexts and for different objectives. We can find, for instance, "Strategic environmental issues" as environmental issues becoming critical due to the threats they pose to human health, countries´ natural capital and sound future economic development.(see "Strategic Environmental issues in Central and Eastern Europe, www.rec.org/REC/Publications/StratIssues/cover.html) or "Strategic environmental assessment" meaning assessments of environmental

effects of policies programs and plans.

2-It does not exclude the increasing possible damages by the so called "eco-terrorism".

3- See in this regard Antonio Marquina (2004) " Environmental security and human security" in Antonio Marquina , Environmental Challenges in the Mediterranean 2000-2050, Dordrecht, Kluwer, pp. 7-11.

4- See, for instance, Peter Schwartz and Doug Randall (2003): An abrupt climate change Scenario and its implications for United States National Security, .www.gbm.com/ArticleDisplay Servlet.srvaaid=26231. UNEP 2004/5: GEO Year Book: An overview of our changing environment. <www.unep.org/geo/yearbook>

5- See several significant scenarios for the Mediterranean in Antonio Marquina (2004), Op.cit.

6- Water is one of the principal topics for research nowadays. See for instance the last report by the European Commission´s Directorate-General, Joint Research Centre (2005): Climate change and the European Water Dimension.<http://ies.jrc.ce.eu.int>

7- See UNEP (2003) GEO Year Book. Emerging Challenges: New findings, <www.unep.org/geo/yearbook>

8- UNEP (2004): Understanding Environment, Conflict, and Cooperation. www.unep.org, p.1.

9- Commission of the European Communities; Communication from the Commission to the Council, the European Parliament, The European Economic and Social Committee and the Committee of the Regions. "Winning the Battle against global climate change", COM (2005) 35 final. Brussels, 9.2.2005.p.13.
10- www.absoluteastronomy.com/encyclopedia/f/fafailed_state.htm>

11-In this regard see Robert I. Rotberg: "Failed states in a world of terror", Foreign Affairs V. 81, 4, 2002, pp. 127-140. The following characteristics are mentioned for the failed states: a rise in criminal and political violence, a loss of control over their borders; rising ethnic, religious, linguistic, and cultural hostilities; civil war; the use of terror against their own citizens; weak institutions; a deteriorated or insufficient structure; an inability to collect taxes without undue coercion; high levels of corruption; a collapsed health system; rising levels of infant mortality; the end of regular schooling opportunities; declining levels of GDP per capita; escalating inflation; a widespread preference for non-national currencies; and basic food shortages, leading to starvation.

12- See National Security Strategy of the United States, 2002: "America is now threatened less by conquering states than we are by failing ones". See also Judy Batt (2004): Failing States and the EU´s security agenda. EU Institute for Security Studies, Paris.

13- See, for instance Judy Batt, op.cit. in Note 10; Robert I.Rotberg op.cit in Note 9. The Failed States Index proposed by the Fund for Peace, using twelve indictors, is also insufficient, in paticular the indicator 6: "Sharp and/or Severe Economic Decline", Foreign Policy, July-August 2005.

14- UNEP (2004): Understanding Environment, Conflict, and Cooperation, <www.unep.org>

15- Idem. p. 16-18.

16- Idem. p. 5-15.

17- See for instance Warren Christopher on US Environmental Diplomacy. "American Diplomacy and the Global Environmental Challenges of the 21st Century", Standford University, April 9, 1996.
18- See Antonio Marquina. Op.cit.

19- Winning as battle against global climate change, op. cit in note 9, p.12-13. See also European Environmental Agency (2004): Impacts of Europe´s changing climate, EEA, Copenhagen.

20-The Kyoto Protocol saw an international emissions-trading system as one weapon against greenhouse gases. The idea was to give countries and companies flexibility to meet their targets, producing the greatest emission reductions at the lower costs. But the recent surge in the price of carbon allowances - three times higher - make this idea non-viable.

Note:

Mr. Pekka Haavisto, Director of the UNEP Post-conflict Environment Assessment Unit (UNEP/PCEA), Geneva, also made a presentation at this Session entitled "Conflict, Destruction of Environment and Post-conflct Reconstruction: Lessons Learnt". The text of the presentation, which was made orally from personal notes at the time, was not available when the present volume went to press.

VI

Environment and Human Security

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Human security and the Environment: An Analytical Outlook

Hans Van Ginkel

Introduction: Security and the State

██████████Security is both complex and also very simple. It is complex in that it incorporates military, political, economic, social and environmental factors, and the many linkages between them. In this sense both the theory and practice of national and international security have undergone evolution. While basic physiological human needs have changed little, our conceptualization of security, and our approaches to achieving and maintaining security, have changed considerably. International security is no longer conceived of solely as defence of national territory against 'external' military threats under state control. An established literature now exists to support a broad and multifaceted approach to security, and these 'non-traditional security' perspectives – including human security have taken their place in academic and, to an extent, policy circles.[1] But this has not been without controversy in terms of academic rigour and policy relevance.

But security is also a very simple concept. Everyone knows what it means to have his or her security threatened. When we look at insecurity from the individual perspective, we do not find anything new: poverty and hunger, threats to health, illiteracy, environmental degradation, civil conflict, resource insecurity, human displacement through war, underdevelopment, the threat of illegal narcotics, and organized crime. Anything that presents a critical threat to life and

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livelihood is a security threat, whatever the source. People suffering from extreme deprivation or AIDS, or people having their human rights severely violated, for example, do not need us to invent a new concept to tell them that they are insecure.

Yet it is clear that traditional security has failed to deliver meaningful security to a significant proportion of the people of the world at the individual level. This is an empirical reality. For most people, the greatest threats to security come from disease, hunger, environmental contamination, crime and unorganized violence. For many people a still greater threat may come from their own state itself, rather than from an 'external' adversary. Still, attitudes and institutions that privilege 'high politics' above disease, hunger, or illiteracy are embedded in international relations and foreign policy decision-making. Indeed, we have grown so accustomed to this approach that for many, 'security' has become equal to state security.

The fundamental purpose of a state is – or should surely be – to protect the security and promote the welfare of its citizens. In return, the state and state sovereignty are given primacy as the ordering unit and organizing principle of world affairs, based upon the principle of delegation of responsibility and power by individual citizens to their state.[2] But the capacity of many states to fulfil this double purpose is often severely limited. The changing security discourse has thus moved beyond protection of a state's territorial integrity, political independence and sovereignty to embrace such issues as the plight of children in armed conflict; terrorism; trafficking in arms, narcotics and people; the spread of infectious diseases; hunger; and cross-border environmental depredations. Security analysts today have to grapple simultaneously with problems of external threats, internal social cohesion, regime capacity and brittleness, failed states, economic development, structural adjustment, gender relations, ethnic identity, and transnational and global problems like HIV/AIDS, drug trafficking, terrorism and environmental degradation.

These issues are often neglected by traditional security thinking, but they shorten the life expectancy of millions and have repercussions beyond their immediate impact that are only beginning to be understood. And when the degradations reach the point where they become life-threatening on a large scale, it would seem ridiculous to insist that this is not a "security" issue. We need a new approach; an

approach that comes closer to the reality of the daily life of individual people. This contribution will consider the value of a human security approach and identify priority areas for urgent attention within such an approach.

A Copernican Change?

The human security approach is not necessarily in opposition to state sovereignty and national security; the state remains the central provider of security in ideal circumstances. The approach does, however, suggest that international security as traditionally defined – the defence of territorial integrity by military means – does not necessarily correlate with all the dimensions of the security of people, and that an over-emphasis upon statist security can be to the detriment of human security needs. Therefore, while traditional conceptions of state security may be a necessary condition, they cannot be a sufficient one for human survival. Citizens of states that are 'secure' according to the abstract and remote concept of traditional security can be perilously insecure in terms of basic human welfare. A human security approach attempts to redress this asymmetry of attention and resources.

What is necessary – and perhaps what is happening – is a Copernican change in perspective regarding the relationship between the state and people. Traditionally, state sovereignty and sovereign legitimacy rest upon a government's control of territory, state independence, and recognition by other states. The role of citizens is to support this system. The human security approach reverses this equation, and here we see the revisionist – perhaps revolutionary – potential of the concept. The state, and state sovereignty, must serve and support the people from where it draws its legitimacy. The state derives meaning from the people, not the other way around. This ties in with a broader debate regarding the evolving nature of state sovereignty.

Sovereign statehood remains a core characteristic of the international system. However, the legalist model of international politics – premised upon the primacy of sovereign autonomy, sovereign equality, non-interference, non-aggression, and the irrelevance of domestic forms of government – seems to be demonstrably out of touch with reality in a number of respects. Debates about the evolution, erosion and indeed resilience of sovereignty have existed for decades. It has long been acknowledged that sovereignty has never been an absolute

principle; encroachments upon sovereignty have always taken place. But it seems that a number of processes at the international and intra-state levels require a reassessment of the contemporary meaning and relevance of sovereignty, in particular as it relates to the constitution of international order and human welfare. The concept of 'conditional sovereignty' has taken on a renewed importance.

International norms regarding human rights have developed an importance that significantly conditions state sovereignty and goes beyond the voluntary nature of international human rights instruments. This has given rise to a solidarist norm of 'individual sovereignty', whereby the legitimacy of state sovereignty rests not only on control of territory and recognition, but also upon fulfilling certain standards of human rights and welfare for citizens. As a corollary, the sovereignty of states which are unwilling or unable to fulfill certain basic standards may be jeopardized. The use of military force for human protection purposes – such as the case of Kosovo -- is the starkest example of this trend, although a wider range of transnational norms, institutions and processes of human rights and accountability also underscore the nor-mative transcendence of sovereignty in this area. Sovereignty, and respect for its legitimacy, rests in part upon the recognition of other states, but the prerogative of exclusive territorial control is arguably now premised upon a broader set of criteria, including human rights, and "serving the people".

So, the idea of Human Security argues that contemporary secu-rity, if it is to be relevant to changing conditions and needs, must focus on the individual or people collectively. Traditional ideas of state secu-rity are a necessary but not sufficient condition of human welfare. The citizens of states that are 'secure' according to the traditional concept of security can be perilously insecure in terms of health, literacy, nutri-tion, and opportunities. This does not exclude the importance of tradi-tional ideas of security, but it does suggest that it may be more effec-tive to reorient the provision of security around people. Military defence of territory remains important, of course, but human security embraces a broader, more comprehensive set of issues of importance to people throughout the world. In many ways, indeed, this represents a Copernican change in the perception of the relationship between the state and citizens.

Urgent Human Security Tasks?

Of course, there have also been criticisms of the concept of human security. Some have questioned if human security issues are more appropriately considered as 'domestic' issues of welfare and governance. Why should human security issues be regarded as international issues? My response is that human security challenges can and do spill over territorial borders and cause a range of wider security threats and sources of instability. These include refugee flows, illegal trafficking in narcotics and humans, the cross border effects of environmental degradation and the disruption of international markets. And perhaps even terrorism, if we consider that extreme deprivation often provides a fertile breeding ground for extremism. Human security threats are therefore interdependent and very much an international concern that require international cooperation amongst a range of actors.

In fact the overarching objective of promoting human security is both morally imperative and also practically sensible. In this interdependent era, severe inequality, deprivation and insecurity anywhere can ultimately have a negative impact everywhere.

In addition, some voices in the debate have argued that the range of issues that has been brought under Human Security thinking is too broad – perhaps the notion is too vague or lacking in concrete policy relevance. There are certainly many unresolved questions about the concept, and as Kofi Annan has said, "There are no simple answers to complex questions". However, human security is the only conceptual approach that is at the right level to match the complexity of the issues we are confronted with. This is because it embraces all the aspects of freedom from want and fear, and a sustainable environment for the future. It is, indeed, the security concept that fits the UN Millennium Declaration and the Millennium Development Goals.

The objective of human security must be the enhancement and protection of the essential needs and welfare of individual human beings and communities. I am not completely comfortable, however, with the implication of 'urgent' human security tasks, if this means that we have to prioritize certain human security tasks above others. It is my belief that one of the main points of human security is that all threats to essential needs and welfare must be considered urgent – including structural deprivation – and that we are supposed to be challenging the traditional distinction between 'high' and 'low' politics. With this in

mind, the remainder of this chapter will seek to demonstrate that many human security challenges which rarely catch the headlines – the silent killers – are all too often just as urgent as any other.

Let me briefly apply this way of thinking. According to the United Nations Development Programme's Human Development Report of 2002, the life expectancy of people in Malawi is 40 years. Currently, over 14% of the Malawi population of 11 million are said to be living with HIV/Aids, and this is a major factor behind this appallingly low life expectancy. In comparison, the life expectancy in Japan, according to the same source, is 81 years: twice as much, therefore. What sort of a world permits such a disparity in life chances? The deprivation that exists around the world needs to be at the forefront of the foreign policy agenda. There is nothing – including the war on terror and the struggle against weapons of mass destruction and 'rogue' states – more urgent than addressing severe preventable disease and deprivation. It is morally perverse to concentrate all of our attention and resources on just one problem and ignore the others. For me, it is this normative power of human security – to attempt to change attitudes towards security priorities – that is its main value. This means embracing issues such as governance, equity, development and education as essential foundations. We should not be satisfied with focusing on symptoms of human insecurity. We cannot avoid addressing root causes – especially extreme deprivation and despair – if we wish to have clarity of understanding and the capacity needed to move towards a safer life in a better world, for all.

Instead of the distinction between urgent and less-urgent human security tasks, I prefer to think in terms of critical priority challenges and underlying or root causes. Critical priority areas include civil war and conflict, forced human displacement, malnutrition and extreme deprivation, epidemics and disease, and environmental disasters. Underlying root causes include unrestrained globalization, social inequalities, bad land management, suffocating pollution, and dehumanizing and degrading forms of urbanization. It is absolutely essential to see urgent human security tasks in the context of their root causes and address both. This, surely, is one of the fundamental tenets of the human security approach.

The Environment and Human Security

With this approach in mind, let us turn to an area of human security that has not received the attention it deserves. Environmental crises are as urgent as any other human security threat, but are rarely treated as such. In terms of early deaths and deprivation, environmental crises – including lack of freshwater and air pollution – have an urgency that is seldom recognized, even by the human security community. What seems remote now can, before we know it, become urgent tomorrow. It is for this reason that the UN recently concluded the UN Decade on Natural Disasters, and established, for instance, the secretariat on combating desertification after the Rio conference. And it is this thinking that has provided the momentum for the UN University to launch, in Germany, a special programme on environmental degradation and human security.[3] This programme will specifically focus on human vulnerability as a consequence of man-made disasters: for example, flooding, salination of arable lands, desertification, forest fires, and landslides in densely populated areas.

In recent years, the relationship between the natural environment and human security has been of increasing importance in both the scientific and policy communities. Environmental change at the local, national, regional, and global levels is altering the balance that sustains life on the planet. The effects of such change pose both a short- and long-term threat to human security. Global warming is already having a serious impact upon the well-being of the ecosystems and humans. Desertification and a greater magnitude and frequency of extreme weather events affect the capacity of the ecosystems in producing goods and services. Rising sea-levels threaten all life on small islands, as well as all the delta areas and coastal plains in which the majority of the world's populations lives. Environmental degradation such as air and water pollutants affects human health in many regions. Resource scarcity makes certain regions unsustainable, threatening to ignite new conflicts and producing potentially negative knock-on effects, such as forced human migration. New uncertainties have also become major concerns now for human security. Issues such as gene modification, human cloning, biotechnology and bioterrorism are all posing a serious threat to human safety and well-being.

The environment has been a human security concern – in fact, a survival issue – for humans for millennia. Devastating natural disasters and environmental crises that claim lives, disrupt economic

activity, and ruin human artifacts are most certainly not new. Despite technological improvement, people around the world, particularly in the developing world, are still struggling to survive in the face of growing desertification, dwindling forests, declining fisheries, polluted water and air, and climatic extremes and weather events that continue to intensify – floods, droughts and hurricanes. Since these factors threaten the survival of the planet and its human and non-human inhabitants, these obviously need to be considered as an urgent security threat.

Environmental insecurity can be classified into three broad categories: (i) environmental resource scarcity, (ii) environmental risks or adverse changes, and (iii) environment-related tensions and conflicts. There is still confusion about how these concepts should be defined, and disagreement about how these problems should be analyzed. However, the linkages between the environment and security are fairly explicit.

The relationship between environmental change and security is a complex, dynamic and multi-causal one. Environmental changes that affect human security almost always interact with other political, social, and economic factors and evolve through various stages before resulting in human insecurity. Furthermore, environmental insecurities may have different causal roles: in some cases, it may be a proximate and powerful cause; in others, it may only be a minor actor in a tangled story that involves many socio-economic and political factors. The relationship between the environment and security is also a recursive one; just as environmental change may contribute to human insecurity in the form of war, civil strife, and terrorism, these security/conflicts factors could also in turn lead to more environmental degradation and resource scarcities.

We can support this approach with some remarks on environmental challenges related to human security and insecurity, meant neither to give a comprehensive account of those issues nor a full description of all the aspects of the issues mentioned, but rather as an illustrative demonstration.

Water

Few resources have a greater impact on our lives and the life of the planet than water. We need water to maintain basic health and sanita-

tion. We need adequate supplies of water for food production. Agriculture accounts for 70% of the world's water use. We also need water for sustainable industrial development. Industry uses about 20% of the world's freshwater. It is also one of the few resources that moves from one country to another. As precious as water is, it has been terribly scarce. It is true that our planet is covered with water. But it is almost all (97.5 % of it) salt water. Of the remaining 2.5 % which is fresh water, about two thirds (68.9%) is locked in glaciers and ice caps. Only the remaining third is available freshly every year for our use. However, only 0.3% is so-called 'surface water' in lakes and rivers, and the rest if not visible; 30.8% is groundwater. Even the small amount of available fresh water is distributed unevenly and, as a consequence, water is critically scarce in many places. Though water scarcity is a global phenomenon, it is most severe in the Middle East, North Africa and Northern China. Falling groundwater levels, as a result of over pumping of groundwater, is an increasing problem in many countries. The water table under some of the major grain-growing areas in Northern China and throughout India is falling at an average of 3 – 5 feet per year. Moreover, developing countries such as China, India and Indonesia are experiencing water shortages because of water pollution problems arising from the discharge of untreated or poorly treated sewage and industrial waste effluents, particularly heavy metals and toxic chemicals.

Today's water problems are only an indication of what lies ahead. Historically, the demand for water, like the demand for other natural resources, has risen, driven by factors such as population pressure, industrialization, and agricultural intensification. By 2015 nearly half of the world's population, more than 3 billion people, will live in countries that are "water stressed" – that is, they will have less than 1,700 cubic meters of water per capita per year. Spreading water shortages threaten to reduce the global food supply by more than 10 percent. Left unaddressed, these shortages could lead to hunger, civil unrest, and even wars over water. Already, about 20% of the human population lack access to safe drinking water.

As populations and demand for limited supplies of water grow, sub-national and international frictions over water can be expected to intensify. This is because almost 50 countries have more than three-

quarters of their land in international river basins. No less than 214 river basins around the world are international. While water scarcities tend to threaten internal stability in many countries, in some regions, especially in the Middle East and North Africa, it is a serious threat for international conflict.

At the human level, water pollution is resulting in terrible human insecurities right now. It is worth highlighting some recent UNU research work here. The arsenic pollution crisis in Bangladesh is a disaster of unprecedented proportions. The number of people potentially affected by this problem is as many as 35 million, making this one of the largest crises confronting humanity. To put this into perspective, the number of people drinking arsenic-contaminated water exceeds the 34 million people estimated to be infected by HIV worldwide. There are clear indications, however, that we have only seen the tip of the iceberg in arsenic pollution. Drinking arsenic-contaminated water causes terrible skin lesions and long term exposure can result in cancer of internal organs[4]. It is a major threat for public health and a formidable drain on the development potential of affected areas. Potentially, equally disastrous is the contamination of coastal waters with persistent organic pollutants (POPs) threatening to enter the human food chain.

Land Scarcity
Land scarcity is another underlying issue that should be considered an urgent human security issue. Land is the basis for many life support systems, through the production of biomass that provides food, fodder, fibre, fuel, timber and other biotic materials for human use, either directly or through animal husbandry. Land degradation and land scarcity obviously threaten these essential life support systems. Land scarcity is also a recurrent theme in local and persistent conflicts around the world. A recent report from the UN Secretary-General indicates that over 2 billion hectares of land (about 40% of the world's agricultural land) is affected by soil degradation worldwide, putting at risk the livelihoods of more than 1 billion people. Global demand for goods such as cereals, meat, fruit – commodities that depend upon fertile land – is set to explode. Simultaneously, however, land shortages are compounded by three disturbing trends:

1.5 billion additional people will be on the planet by 2020,

almost all in poorer developing countries;

The natural fertility of agricultural soils is generally declining;

It is increasingly difficult to find productive new land to expand the agricultural base.

Population Explosion

Population growth associated with poverty is itself another critical issue. If every ten years we go on adding a billion human beings to the planet, we cannot avoid aggravating every resource scarcity problem. And at the same time, we will diminish our ability to make social, economic, and environmental progress in the developing world. World food production is still rising, but several trends will make it more challenging to feed an additional 3 billion people over the next 30 years. This will exacerbate tensions between "haves" and "have nots", characterized by enormous per-capita differences in resource consumption; and the growing global environmental degradation caused by industrialized nations but felt most severely by poorer countries. Even though recent research of the International Institute for Applied Systems Analysis (IIASA, Luxemburg) indicates that the growth of the world's population will come to an end by 2070, it will still mean that we have to feed four billion people (67%) more than today; a tremendous task indeed.

The environmental refugee (persons displaced owing to environmental causes, notably land loss and degradation, or water scarcity or natural disaster) represents a growing, yet largely unrecognized problem. Estimates of the number of 'environmental refugees' in the world vary widely, some are as great as 25 million, putting this group numerically well ahead of the 'political' refugees currently of concern to UNHCR. The numbers are expected to increase substantially in the coming years. Sea level rise could have a devastating impact upon many coastal regions in the world, further increasing these human security threats.

Resource Abundance

At the same time, however, it is not only resource scarcity that can be a threat to human security. Human insecurity and conflict can be a result of an abundance of certain types of resources when people or organizations violently compete for them, or when such resources or

their profits are concentrated in the hands of a small exclusive group. Sierra Leone is 'cursed' with the presence of diamond mines on its territory. Far from enriching the country, these contributed to one of the most brutal civil wars in Africa as vying warlords competed for control of diamond mines or used the revenue from illegal diamond sales. There was always plenty of money for weapons during the civil war, but life expectancy was 38 years before the latest peace accord brought shaky peace to the country. We must recognize that diamonds were at the heart of the conflict in Sierra Leone and other countries, and therefore central to ending conflict. Other countries on that continent – including Angola and Nigeria – have also proved that natural resources can be a source of misery and insecurity, and not just a boon supporting development as is the case in Botswana. The role of the oil industry in the present troubles in Venezuela is also a clear illustration of both sides of the national 'wealth' coin.

Concluding Remarks
Globally, the 20th century brought unprecedented gains in human development, from life expectancy to per capita income to education. As a consequence, the human security of many has improved. During the same period, however, human impact on the environment has risen dramatically as the scope and intensity of human activities has increased. As a consequence, it is not just war, violence, organized crime and terrorism that represent a major human security threat: environmental degradation represents a direct threat to millions of individuals – through the effects of pollution, ill health and vulnerability to natural disasters, amongst other things. It can represent a threat to the coherence and stability of communities – by undermining their capacity to operate as productive communities, or their capacity for the provision of public services. It can also potentially lead to conflict between communities and states, as a result of the spill-over effects of pollution and competition over resources.

It is essential to promote a broad approach to human security that includes structural vulnerabilities and root causes of human insecurity. Surely we can all agree that the human security movement is all about preventing future catastrophes, and not just responding to immediate problems. Moreover, such an approach can only work if it rests upon strong normative foundations, particularly human solidarity and justice.

Endnotes:
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2- For a powerful statement of state sovereignty deriving from and being conditional on the responsibility of states to protect the security and promote the welfare of their citizens, see The Responsibility to Protect: Report of the International Commission on Intervention and State Sovereignty (Ottawa: International Development Research Centre for ICISS, 2001). The Report is available also on the website at < www.iciss.gc.ca >.
3- For details of all UN University activities see the UNU homepage at <www.unu.edu>.
4- 'Arsenic Crisis Today – Strategy for Tomorrow', United Nations University Report, Tokyo, 2002.

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Environment and Security Inter-linkages: The Case of the Environment and Security Initiative (ENVSEC) in South East Europe, Central Asia and the South Caucasus

A Contribution by
"UNEP-UNDP and the OSCE ENVSEC Initiative"

Hossein Fadaei

"Sustainable development is an exceptional opportunity for humankind – economically, to build markets and create jobs; socially, to bring people in from the margins, politically, to reduce tensions over resources, that could lead to violence; and of course, environmentally, to protect the ecosystems and resources on which all life depends – and thereby merits more urgent attention and high-level commitment."

Kofi Annan
Global Environmental Outlook, UNEP

Introduction

The issue of the interlinakges between the environment and security has been the focus of intenrational fora during recent years. Policy-makers today face a complex international order, where non-traditional threats to local, national and multinational stability are growing, and where the processes driving these threats are often beyond the control of any individual government. A consensus is emerging that environmental degradation, inequitable access and unsustainable use of natural resources, are important sources of human insecurity. These factors can in many instances trigger or fuel violence, and increase vulnerability to natural disasters. Conversely, cooperative actions around common environmental concerns can be a powerful tool for preventing conflict and promoting peace building.

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The Environment and Security Initiative (ENVSEC) is one of these international endeavours in addressing and assessing the linkages between environmental stresses and human security in selected regions of Southeast Europe, Central Asia and the South Caucasus.

This paper takes a glance at the evolution of the two "Environment" and "Security " definitions as they relate to "Human Security" and their interdependence, reflects on the principals, aims, targets and the achievements of the ENVSEC initiative. It highlights the major issues identified as environmental security concerns in those regions and the way the three leading International Organizations (United Nations Environment Program, United Nations Development Program and the Organizations for Security and Cooperation) have joined hands in responding to those concerns. As such the paper does not intend to address the scientific discussions on the nexus between Environment and Security. Rather, it aims at presenting a picture of the overall state of the research and action on environment and security and, in that context, elaborate on various aspects of the ENVSEC Initiative.

Environment and Security: evolved concepts

Both 'Environment' and 'Security' are concepts whose definitions have evolved and expanded during the past decades. Traditionally, the term "security" was defined as protecting the territorial integrity and political sovereignty of a state from military aggression from other states. With the end of the Cold War and the search for new security paradigms, the earlier scientific discussions on integrating environmental concerns into security policy became increasingly relevant. The notion of Security evolved as the dominance of military doctrine in debates on the security of the people and the states was challenged and the perception of the factors influencing state and people's security changed. Elements such as poverty, internal conflict, over-population, environmental change and competition over resources were seen increasingly as more "threatening" to the well-being of people and the integrity of states.

The new view on "environmental issues" came as the result of

two major developments. Firstly, preparations for the United Nations Conference on Environment and Development (the Rio Earth Summit) in 1992, and later the participation of many leaders from across the world, as well as the unprecedented international attention to and interest in environmental issues in the aftermath of the Summit, brought environmental issues to the forefront of the international development agenda. These issues acquired rather high priority on the development agenda of many developing countries. Secondly, the knowledge and the scientific research on the implications of the rapid technological change and its effects on human life and environmental systems increased substantially during that period. It was therefore no surprise that environmental security discussions gained great momentum in the late 1980s and early 1990s.

A major step in the evolution of "environment and security" definitions and the rising international awareness on the potential effects of the global environmental changes on Human Security, was the establishment of the World Commission on Environment and Development at the UN General Assembly in 1983. The Commission released in 1987 a landmark report; the Brundlandt Report - "Our Common Future". The publication of the UNDP Human Development Report in 1994 focusing on human security was another major development in this regard. The Brundlant Report notes that "the whole notion of security as traditionally understood - in terms of political and military threats to national sovereignty - must be expanded to include the growing impacts of environmental stress - locally, nationally, regionally, and globally". In this context environmental stress is both a cause and an effect of political and military conflict. Even if "environmental stress is seldom the only cause of major conflicts within or among nations [...] environmental stress can thus be an important part of the web of causality associated with any conflict and can in some cases be catalytic".

The UNDP "Human Development Report" described security in a "Human Security Context" as an "integrative" rather than merely a "defensive" concept. The UNDP definition of human security includes seven categories of threats, ranging from economic and food security to the protection of human rights and access to clean water, air

and land. The Report underlines that human security should not be equated with human development. "Human development is a broader concept, defined as a process of widening the range of people's choices. Human security means that people can exercise these choices safely and freely."

Ten years after the Brundtland report, the link between environment and security has become a major concern for international institutions and governments. As such, the intenratioanl fora started to focus on the challenges of the process of transforming to a market economy as a new dimention of the environment-security linkages in addition to the issue of environmentally induced conflicts in developing countries.

In recent years, a growing array of non-military issues, including economic change, terrorism, population growth, migration and sub-state criminal activities, have been added to the environment and security considerations. Some key environmental threats to human security that have received particular attention include: resource scarcity, outbreaks of infectious disease, toxic contamination, ozone depletion, global warming, water pollution, soil degradation, loss of biodiversity and trade in natural resources to finance armed insurgency or repression.

Thoughts on the Environment-Human security linkages: Environment affects security

Although scientists have argued whether mere environmental stresses are the only and direct causes of violent conflict and wars, it is the consensus among most analytical studies on environment and security, in the context of sustainable development, that the unsustainable management of natural resources contributes to human rights violations, poverty, migrations, environmental disasters and therefore to armed conflict and insecurity. Hence, the environment and security nexus is recognized in the context of "human security" and is discussed at different levels, including the inner-state level as it affects "state security", and at the intra-state level as it influences regional and global stability and peace. Such a nexus is recognized and observed in the

UNDP's Human Development Report (1998) in the context of "poverty eradication", where it says" the environmental damage always hurts those living in poverty the hardest.... People in poverty are forced to deplete resources to survive, and this degradation further impoverishes people".

As regards the direct contribution of environmental factors to insecurity, one example could be the issue of water resources, as the water scarcity, aggravated by the duration and frequency of extreme climatic events, and unsustainable management and use, could trigger conflict among competing water users in upstream and downstream countries.

In brief, and in considering either of the two notions (environment as a direct cause of insecurity or as a source of human insecurity), the following scenarios have been identified as contributions of the environmental factors to insecurity:

- Control of natural resources as the objective of conflict, or the means for financing it (e.g. conflict over control of minerals or oil fields), which creates instability between neighbouring regions;
- Environment used as an instrument of war (e.g. poisoning of water supplies);
- Environmental degradation resulting from military action;
- Environmental degradation as a source of human insecurity (e.g. soil degradation, toxic waste or water pollution reducing well-being or creating health risks); and
- Environment used or perceived as a means of control and per suasion of one country over another (upstream – downstream relations).

In sum, even though environmental factors are not considered as the direct cause of conflicts, they are well recognized as part of a complex web of socio-economic problems such as overpopulation, poverty, forced mass migration, refugee movements, hunger and starvation, political instability and ethno-political tensions which could lead to conflict.

Insecurity affects the environment

The environment itself can be dramatically impacted as a consequence of conflict, which often involves the widespread use of defoliants and other chemical weapons, destruction of sensitive infrastructures and the targeting of energy generation and chemical production facilities. Naturally, this leads to the rapid movement of refugees and the sudden increase in local demand for food, wood fuel and goods, which can ultimately lead to the significant degradation of ecosystems and natural spaces.

Environmental concerns as opportunities for dialogue, cooperation and peace

The third pillar of the Environment and Security nexus is the notion of cooperation and dialogue. Shared environmental concerns could play a valuable role in catalysing cooperation, initiating dialogue and providing alternative dispute resolution mechanisms.

It has been observed in many cases that cooperation and dialogue have been catalysed as a result of pressing common environmental concerns and their transboundary effects. Such shared environmental concerns have even paved the way for political reconciliation between or among the neighbouring countries.

Examples of such cooperation on environmental concerns have been diverse and included activities on air quality, surface and groundwater use, land use, biodiversity conservation and the exploitation of shared valuable resource stocks or sites. Levels of cooperation also differs n terms of the depth of commitment required from the concerned countries; from sharing of technical data to joint research, and from collaborative monitoring and non-binding 'joint policy declarations' to regulatory harmonization and implementation of international dispute resolution mechanisms.

How to make Environment and Security mutually supportive

The complex and multidimensional character of the environment and

security nexus explained above, requires an integrated approach where economic, environmental and foreign policy sectors are brought together to ensure sustained security, cooperation and peace and therefore to make environment and security mutually supportive. In other words, the mere involvement of foreign policy and security factors, will not guarantee a long lasting peace if the decisions taken do not include the environmental, economic and social parameters. Therefore a practical integration of respective capacities of the various actors in the above policy arenas is the guiding principle for acting in conflict prevention and enhancing security.

The role of the environment sector

From the environmental policy perspective, it is essential to intensify international cooperation on environmental concerns within the context of international environmental agreements, particularly in pursuit of solving global environmental problems with local and regional impacts. Intensified international cooperation should also be used as a long-term strategy to solve or prevent environmental problems that trigger environmentally induced conflict. In environmentally induced conflicts that have not yet escalated into violence, the relevant institutions of intergovernmental cooperation can serve as conflict resolution arenas. Equally important is environmental assessment and monitoring as a first step in identifying the environmental risks with a potential for insecurity and in providing early warning to the policy makers and public.

The Development Sector

A further contribution towards protecting the environment and preventing conflict and ensuring long lasting security is to consistently integrate environmental concerns into development policies, in particular in areas such as agriculture and energy. The prime development policy measures that can be applied to minimize or prevent environmentally induced conflict include, (OECD DAC, 1997):

- Economic cooperation;

- Promotion of participation and democracy;
- Cooperation in population policy matters;
- Support for the establishment of the rule of law; and
- Protection of human rights.

     The development policy in the context of environment and security places a focus on stabilizing the socio-economic and political framework conditions in the concerned countries. This includes efforts to promote the involvement of segments of the population in decisions that concern them, and to promote a balanced representation of the various ethnic or cultural groups in decision-making bodies in general.

     The development policy approaches defined as such focus as well on supporting the formation of problem-solving or problem-managing capacities. This includes creating a knowledge of the emergence and prevention of environmental degradation, knowledge of ways to cooperatively utilize increasingly scarce resources and knowledge for utilizing peaceful dispute settlement mechanisms (Baechler 1998).

The security and foreign policy Sector

The foreign policy and the security actors play a key role in providing the necessary instrumental resources to environmental actors in preventing environmentally induced conflicts. The political sector has the capacity to provide a stabilized political environment in which local and regional conflicts are situated and to facilitate long lasting consensus among governments on norms and values, as well as to promote activities with a clear confidence building perspective. Specific foreign policy instruments, such as dispute mediation and the initiation of political dialogues between states, bear particular relevance to conflict resolution. In some cases, armed forces are utilized to monitor critical environmental changes and to appraise the risks entailed by environmental problems and their consequential effects.

How the ENVSEC responds

The ENVSEC Initiative is indeed a practical endeavour in addressing

environment and security concerns in a multifaceted approach and in a cooperative framework established by the environment, development and security actors. It recognizes the complementarity between the missions of UNEP, UNDP and OSCE in addressing the environment and security priorities of the pilot regions of Central Asia, the Caucasus and South Eastern Europe (SEE). The guiding principle of the initiative is that while there are differences between those environmental concerns that relate to the promotion of human security (which are clearly the mandate of UNEP) and those with implications for national sovereignty and political stability (which fall more clearly within the purview of security institutions at the national and multilateral levels), actions that reduce environmental stress can guarantee access to vital resources and remove economic incentives for violence and as such present opportunities for enhancing cooperation and peace.

The Initiative is basically composed of three distinct but inter-linked pillar; dealing with a) Environment and security vulnerability assessment and mapping, b) policy development and implementation, and c) capacity building and institutional development.

The ENVSEC undertakes the assessment of environment and security challenges in a participatory manner involving governments, academia and civil society. Through mapping, research, cross-border fieldwork, and targeted outreach, the initiative visualizes, prioritizes and draws the attention of politicians and people to situations and hot spots where risks are high and environment and security linkages are important.

The two pilot regions of Central Asia and SEE were covered in the first (assessment) phase of the Initiative in 2003, whereas the South Caucasus was added in the beginning of 2004. The end products for the two pilot regions were the compelling cartographic representations of the links between environment and security with supporting text, which were presented at the Fifth Ministerial Forum "Environment for Europe" in Kiev, Ukraune, in May 2003.

The maps show both key issues and key areas from an environment and security perspective. The intention behind this somewhat simplified visualization of risk factors in maps is to raise awareness on the issues, place them high on the political agenda and provide a foun-

dation in the regions concerned for further co-operative action and empowerment around environmental concerns.

Focus and the uniqueness of the Initiative

In spite of numerous scientific discussions, which affirm the close links between environmental problems and security risks, many environmental and security policies and priorities are, in actual terms, addressed in isolation from each other. The ENVSEC is an example of cooperation between three leading organizations in the areas of environment, development and security, with the aim to link these considerations and to provide a framework for intersectoral cooperation in the field of security policy and resource management.

The initiative facilitates a collaborative process whereby key public officials and development partners are able to motivate cooperative environmental action to address the links between environment and security, through compelling graphical representations and consultations. Thus the main goals of this Initiative are to:

- Identify the environmental risks with security implications in selected regions;
- Improve the methodology to map environmental risks to security and conduct integrated regional assessments of vulnerability to environmental stresses posing threats to security;
- Identify areas and means to foster environmental cooperation within, between and among states to overcome political, economic, ethnic and historic tensions thus contributing to peace and stability;
- Integrate environmental considerations into foreign and security thinking and policymaking and -- vice versa - integrate provisions for early warning and conflict prevention into sectoral policies such as environmental policy; and
- Focus on capacity building efforts by multilateral and bilateral donors on addressing areas and issues prone to tensions and threats to security, or open to cooperation.

To achieve these aims, the initiative seeks through regional consulta-

tions, policy dialogues, stakeholder involvement and inter-institutional cooperation to:

- Raise awareness of the linkages between environment and security and foster policy integration in the related areas;
- Discuss the implications of environmental change for human security and regional stability with governmental and non-governmental stakeholder groups and to identify opportunities for transboundary cooperation to promote sustainable development, peace and stability in these regions;
- Use the mapping of risks as well as needs and opportunities for environmental cooperation as part of an integrated assessment and consultation dialogue in the respective regions to improve sustainable resource management, crisis prevention and peace promotion;
- Create networks among stakeholder groups in these countries to promote environmental cooperation and foster sustainable development as a tool for confidence building and regional stability; and
- Facilitate a platform for cooperation among the institutions involved with other important institutions in the field, such as the United Nations Economic Commission for Europe (UNECE) and NATO's Science for Peace Program.

The Achievements

Mapping of environmental Concerns with Security Implications in South Eastern Europe, Central Asia and the South Caucasus

Through a consultative process, the initiative has identified and mapped the key environmental issues of greatest security relevance in the above regions. The supporting data is drawn from the knowledge base of the UNEP GEO process, and a review of relevant scientific and strategic studies literature. The results have been the production of a series of maps for each region describing the following main areas of concern:

●Critical natural resources and natural services (e.g. water, forests), with key ecological threats, international points of contention, and threatened populations identified;

●Industrial threats to human security (e.g. aging dams and industrial facilities);

●Existing policy frameworks and mechanisms that address transboundary natural resource management and other environmental concerns and provide peace building benefits;

●Relevant trends for population growth and movement, resource demand, quality and use in each of the regions; and

●Opportunities for promoting regional integration and peace building through collective environmental action.

Each map is accompanied by text indicating the relevance of the theme to security in the region, and the environmental governance tools that can be implemented to mitigate the risk. The assessments also identify data gaps and potential environmental security 'hot spots', thereby clarifying the recommended follow-up to the assessments. The subsequent phase of activities has been the commissioning and verifying of the identified hot spots through field-testing and local multi-stakeholder consultations, and consequently defining remedies and responses for the identified hotspots.

The major environmental risk with potential security implications in these regions

The transition from command to market economies, as well as the response to economic and governance challenges in the context of deepening regional integration and the rapid population growth, have intensified pressure on natural resources in the regions of Southeast Europe, Central Asia and the Southern Caucasus. According to the UNEP GEO 2000 and 2002 reports, the following major environ-mental issues have been identified which could bear implications for regional security in the above regions:

●Rising flows of people and invasive plant and animal species

as a consequence of the increase in international commerce, lowering of borders and deepening integration into the international trade system, European Union and NATO.

●Increasing water scarcity. Poor water quality as a consequence of pollution and lack of infrastructure is among the major causes of infant mortality in these regions. Many of the major cities are dependent on and are overexploiting their groundwater resources. Water pollution and scarcity may worsen in the near term as a consequence of economic recovery.

●Aging and obsolete hydro, power generation and industrial facilities, chemical production plants and infrastructure.

●Land contamination, soil erosion and flawed agricultural and irrigation policies creating food insecurity. Out of Europe's total land area, 12 per cent is affected by water erosion and 4 per cent by wind erosion, generally as a consequence of unsustainable agriculture, salinization and water logging.

●Severe overharvesting of forest resources in Armenia, Georgia and Central Asia, triggering avalanches and diminishing water quality.

●Overfishing of transboundary marine and coastal areas, including the North Sea, Baltic Sea, Mediterranean, Black Sea and Azov Sea. The Caspian Sea, for example, possesses 85 per cent of the world's sturgeon and 90 per cent of its black caviar. Shared among five states, it is increasingly threatened by extensive hydromodifications, growing oil exploration, and overfishing (including illegal traffic in caviar).

The Specific ENVSEC concerns in Central Asia

The Central Asian region comprises the Republic of Kazakhstan, the Kyrgyz Republic, the Republic of Tajikistan, Turkmenistan, and the Republic of Uzbekistan. This represents a total area of about 4 million square kilometres with a total population of about 60 million people. These countries gained sovereignty and became independent states in 1991 after the dissolution of the USSR.

The landscape of the region comprises the high mountain

ridges of the Pamir, Tien Shan and Altai, deserts and steppes, a few very large rivers - Amu-Darya, Syr-Darya, Irtysh, Ili, and several inland lakes, the largest of which are the Caspian and Aral Seas.

The region is rich in natural resources, which have been industrially exploited and processed for decades, often leading to considerable environmental pollution and land degradation. Decades of uranium mining has left the region with poorly maintained radioactive waste storage sites. Kazakhstan's already high level of natural radiation is increased by the remnants of nuclear test sites including the famous Semipalatinsk polygon. Current industrial pollution remains an environmental as well as security threat throughout the region. Also the dried-up Aral Sea will probably remind generations to come that managing transboundary basins with many competing interests is not an easy task. The region is also the global leader in the export of grain and cotton. Fossil fuel exploration and production, hydroelectricity, and mining, and metal smelting make up the bulk of industrial production in the region.

ENVSEC started an assessment of environment and security linkages in Central Asia in 2003 through regional consultations in Ashghabat. The issues identified as potential threats to security in Central Asia during the EnvSec first (assessment) phase included:

- Water supply and contamination;
- Soil degradation, salinization and desertification;
- Industrial, municipal and hazardous waste

Several key areas and "hot spots" were identified in these areas during this phase. By now, a number of follow-up projects have been initiated, including an in-depth assessment in the Ferghana–Osh–Khudjand area (the Ferghana Valley). This year will see the preparation and launch of an assessment report on the in-depth assessment together with a comprehensive work programme for the Ferghana Valley that will address transboundary river management, natural disasters, as well as industrial and radioactive risks. Other 2005 highlights will be further research and awareness work around Semipalatinsk, continued support to the Central Asian festival of

environmental journalism, and strengthening a network of Aarhus information centers including those on the local levels (centres in Khodjand, Ferghana and Astana will complement those already opened in Dushanbe and Osh). Further project development in Kazakhstan and Turkmenistan is under consideration.

In South Eastern Europe

In the context of the ENVSEC South Eastern Europe covers the countries of Albania, Bosnia and Herzegovina, Bulgaria, Croatia, the former Yugoslav Republic of Macedonia, Romania, Serbia and Montenegro, and Kosovo. The past decade of conflict and transition has left the region with a legacy of inadequate growth, declining living standards and high environmental stress. The region is mainly affected by heavy industrial pollution in urban-industrial areas, intensive agriculture with yet uncalculated health impacts, a lack of water technology and infrastructure, and industrial pollution from the mining sector.

ENVSEC consultations in Belgrade in 2002 have led to a first assessment of environment and security interactions. This was continued with a regional meeting in Skopje in 2004, which confirmed priorities and suggested further work. This includes the assessment of regional cross-border risks from mining and industry, improved management of common river basins (e.g. Tisza, Sava), and the promotion of nature conservation as a tool to encourage regional cooperation. A desk assessment of security risks from mining will culminate in a workshop in Romania in 2005. Other current or planned activities include rehabilitation of the most prominent hot-spots (e.g. a feasibility study for closing the Lojane mine in FYR Macedonia), and fostering cooperation in the Tisza and Prespa international basins.

In the Southern Caucasus

The Southern Caucasus, composed of Armenia, Azerbaijan, and Georgia, has long been a focal point for change, in fact a bridge between Asia and Europe. The region is in the midst of a tumultuous transition and has seen multiple inter-state and ethnic conflicts in its

recent past, some of them escalating to full-scale warfare putting regional cooperation altogether in danger. The environment is not spared by turbulence, while many environmental challenges contain a strong security dimension. Among those are the management of shared resources (not least in the Kura-Araks river basin which covers a large part of the region), pollution from aging industries and irrigation networks, and even uncontrolled growth of capital cities. Disagreements about real or perceived environmental threats, such as those related to the lack of transparency about environmental conditions in areas of 'frozen conflict', Metzamor nuclear power plant or the Baku-Tbilisi-Ceyhan trans-regional pipeline, further complicate the picture. On the positive side there are quite a few opportunities to foster cooperation between the countries in the environmental field.

The ENVSEC assessment of environment and security linkages in the South Caucasus was completed in 2004 and presented at the Ministerial meeting of EECCA countries in Tbilisi. The priority areas and issues identified so far include:

- Environmental degradation and natural resource access in areas of frozen conflict;
- Environmental management in trans-boundary areas; and
- Population growth and unstructured development in the capital cities.

The assessment, as well as other on-going initiatives, form the basis for an ENVSEC work programme in the region. The plans aim at further strengthening cooperation in the Kura-Araks basin (including assessment of cross-border ground-water resources and multi-country monitoring programmes), international investigation of environmental issues in selected territories of "frozen conflict", and strengthening capacities for integrated policy development, i.e., through national Strategic Environmental Assessments on relevant issues (including development plans for urban centers such as Yerevan and Batumi). Awareness-raising is always high on the agenda and includes both work with the local media, NGOs, and establishing public information outlets (Aarhus centers) - in the capitals and beyond. Yet another dimension of ENVSEC is its catalytic activities, such as preparing

ground for the removal of rocket fuel at a former military base in Armenia.

The way forward

The supreme principle in preventing and peacefully resolving environ-mentally-induced conflict is cooperation. It is essential that environ-mental, development, foreign and security policy actors work together towards the common aim of peace, and that their specific instruments be integrated to that effect. The ENVSEC was established based on the notion that only a cooperative and integrated work of the three leading organizations, together with the informed and motivated participation of the people and the policy makers could pave the way in addressing common environmental and security concerns. The ENVSEC did indeed initiate a process of dialogue, trust buildingand a sense of cooperation among countries in those regions by sensitising and alerting them about the natural threats that could affect their security and sustainable development

Thus, the Initiative continues its work to strengthen its three pillars of Assessment, Policy Development and Policy Implementation in becoming a solid and well-institutionalised centre on environmental conflict prevention. As such the Initiative aims to accomplish its tasks in the current regions, to extend its work into other regions, to work on enhancing the methodologies of environment and security assessments and to provide capacity building services in the three environment, development and security fronts.

The Development-Security Nexus: Global Concerns and Regional Realities

Kevin Clements

Executive Summary

> *"In the twenty-first century, all States and their col-*
> *lective institutions must advance the cause of larger*
> *freedom—by ensuring freedom from want, freedom*
> *from fear and freedom to live in dignity. In an*
> *increasingly interconnected world, progress in the*
> *areas of development, security and human rights must*
> *go hand in hand. There will be no development with-*
> *out security and no security without development. And*
> *both development and security also depend on respect*
> *for human rights and the rule of law."*
> Report of the Secretary General to the United Nations
> General Assembly, 21 March 2005

The interdependence between development and security was reinforced with the release on 21 March 2005 of UN Secretary-General Kofi Annan's new report entitled, "In larger freedom: toward development, security and human rights for all." This report synthesized and expanded upon two parallel UN processes addressing critical security and development issues: The High-level Panel on Threats, Challenges and Change and the Millennium Project. The Secretary General's report holds great promise for advancing policy discussions and engendering sustainable operations that more coherently fuse together security and development analysis and response.

International attention to the necessity of linking security and development in policy and practice is of relatively recent origin. Following two devastating world wars in the first half of the 20th century, the United Nations was created to address the twin goals of maintaining international peace and security and advancing the socio-eco-

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nomic well being of peoples. However, the onset of the Cold War quickly led to the fragmentation of international efforts to promote peace and security on the one hand, and socio-economic development on the other. It was only with the end of the Cold War that it became possible to start viewing these two domains as complementary and mutually reinforcing.

One of the main features of the 1990s was the gradual dissipation of the threat of conflict between states, and the resultant opportunity for the international community to move from state-centered to human-centered perspectives of security. As internal conflicts and human security gained importance, development (particularly official development assistance) emerged as a powerful tool for conflict prevention and peacebuilding. Experiences on the ground showed that chronic poverty and underdevelopment have the potential to lead to conflict, or to create weak states unable to combat organized crime and corruption. Insecurity, violent conflict and rampant corruption, likewise, have proven to be chief obstacles to development. This was played out in places such as Haiti, Sierra Leone and the Solomon Islands, where efforts aimed at addressing either the development needs of a population or the internal security demands of a country in isolation of each other were met with relapses into conflict, insecurity among populations and continued underdevelopment. Research on internal conflict highlighted the correlation between such diverse phenomena as poverty, bad governance, mismanagement of natural resource wealth, human rights violations and violent conflict.

In response to the growing calls for more effective conflict prevention and post-conflict peacebuilding interventions, scholars, policy makers and practitioners sought to identify development strategies that are sensitive to conflict and security approaches that can enhance human rights, human development and human security. Throughout the 1990s, there were important advances as governments, international institutions and non-governmental organizations initiated new policies, programs and projects which attempted to better link up security and development in conflict-prone, conflict torn or post conflict countries. Policy and programming innovations at the UN were met with similar advancements at the international, regional and domestic levels. For

example, the UK's Department for International Development, the World Bank's Low Income Countries Under Stress (LICUS) program, and Australia's whole-of-government approach to support neighboring states like Papua New Guinea and the Solomon Islands began to examine how integrated development and security strategies could be tailored for conflict prevention, peacemaking and peacebuilding in specific countries and regions.

The international context was altered by the terrorist attacks of 9/11, and the subsequent wars in Afghanistan and Iraq. The dramatic re-emergence of hard security threats in the early days of the 21st century galvanized countries into re-thinking their security policies on a global scale. New schisms emerged within the international community along the security-development spectrum. The aforementioned report by UN Secretary-General Kofi Annan was specifically designed to create a common ground and forge a new consensus among UN member states on the interdependence between the security and development agendas at the country, regional and global levels.

Yet, despite its deceptive simplicity, the security-development nexus is far from simple. It is, in fact, highly context-specific and time-bound; it is also riddled with tensions, contradictions and dilemmas. Stressing the importance of joining up security and development inevitably leads to a number of key questions that are critical to policy makers around the world. To what extent, for example, is the failure of governance a failure of development? Have conventional development patterns and models played a role in the emergence and maintenance of conflict? To what extent is the best long-term response to the collapse of security and the eruption of violent conflict a re-commitment to development initiatives? If development models and patterns are even partially implicated in conflict and the failure of governance, how must development approaches be re-shaped to work against violence and to support human security? What are the sources of resilience in any society? What are the foundations of a viable state? How can development partnerships support local capacities? Can development goals be pursued under conditions of state failure and violent conflict and if so, how? What is the relationship between indigenous (local) and introduced (external) approaches to governance and conflict management

and what are the consequences of this relationship for conflict? What is the relationship between conflict management or mitigation and the operation of local security forces? Under what conditions are external security interventions helpful? How can security interventions work to support development and long term conflict prevention goals?

A number of institutions have begun to examine these questions in concrete contexts. One such initiative is a collaborative project between the Australian Center for Peace and Conflict Studies (ACPACS) in Brisbane and the International Peace Academy (IPA) in New York. The project aims to contribute to a better understanding of the ways in which the development and security agendas can be combined constructively in the management of violent conflict and in addressing its underlying causes. This paper is a product of their collaboration. It combines emerging insights from a multi-faceted research program currently undertaken by IPA and a parallel research project conducted by ACPACS in the South Pacific region. The paper was prepared for presentation at the ACPACS Conference in the hope of generating dialogue across institutional, disciplinary and regional boundaries

The paper seeks to (i) situate current analyses of the security-development nexus within an historical context, (ii) link current global concerns with regional and country-level realities and priorities in the South Pacific region and (iii) draw tentative conclusions about the convergence or divergence of security-development policy and practice in the 21st century. The paper demonstrates that normative, policy, and programming initiatives at the global level are important manifestations of the changing international environment with important ramifications at the regional, national and local levels. However, normative or policy frameworks designed in New York do not necessarily make a difference in Port Moresby unless these are better aligned to local needs and aspirations. Thus, research efforts to bring greater clarity to the security-development nexus need to be firmly grounded in local as well as global realities.

Introduction

"In the twenty-first century, all States and their collective institutions

must advance the cause of larger freedom — by ensuring freedom from want, freedom from fear and freedom to live in dignity. In an increasingly interconnected world, progress in the areas of development, security and human rights must go hand in hand. There will be no development without security and no security without development. And both development and security also depend on respect for human rights and the rule of law." Report of the Secretary to the United Nations General Assembly, 21 March 2005 [Italics added]

In his recent report entitled "In Larger Freedom: Toward Development, Security and Human Rights for all," UN Secretary General Kofi Annan forcefully underlined the interdependence between development and security. Building upon two previous reports by the High-level Panel on Threats, Challenges and Change and the Millennium Project, the Secretary-General's report was designed to advance policy discussions and engendering sustainable operations that more coherently fuse together security and development analysis and response.

Indeed, there is growing commitment today to the necessity of linking up security and development in policy and practice. Yet, it is important to realize this commitment is of relatively recent origin. Although the UN was created to address the twin goals of maintaining international peace and security and advancing the socio-economic well being of peoples, the Cold War quickly led to the bifurcation of international efforts in the area of security and development. It was only with the end of the Cold War that it became possible to start to view these two domains as complementary and mutually reinforcing.

Since the 1990s, there has been considerable work on the linkages between security and development. One such initiative is a collaborative project between the Australian Center for Peace and Conflict Studies (ACPACS) in Brisbane and the International Peace Academy (IPA) in New York. The project aims to contribute to a better understanding of the ways in which the development and security agendas can be combined constructively in the management of violent conflict and in addressing its underlying causes. This paper is a product of their collaboration. It combines emerging insights from a multi-faceted research program currently undertaken by IPA and a parallel research

project conducted by ACPACS in the South Pacific region.

The purpose of this short background paper is to (i) situate discussions surrounding security and development in an historical context, (ii) link current global concerns with regional and country-level realities and priorities in the South Pacific region and (iii) draw tentative conclusions about the convergence or divergence of security-development policy and practice in the 21st century. The paper maintains that normative, policy, and programming initiatives at the global level are important manifestations of the changing international environment with important ramifications at the regional, national and local levels. However, normative or policy frameworks designed in New York do not necessarily make a difference in Port Moresby unless these are better aligned to local realities, needs and aspirations. Thus, the analysis that follows seeks to link the global and the local understandings of the security and development nexus.

I. The Post-Cold War International Context: The Convergence of the Security and Development Agendas

At the international level, bringing the security and development communities together became possible with the end of the Cold War. Although the UN Charter explicitly recognized the links between international peace, security and development, the onset of the Cold War had made it impossible to deal with these goals in an integrated and mutually reinforcing way.

For nearly fifty years, the concept of peace applied to the security of states, with a range of collective security institutions that underpinned the balance of power between the two Cold War military blocs. The United Nations was relegated to a very limited role. Meanwhile, promoting socio-economic development became the sovereign prerogative of UN member states whose numbers increased manifold with de-colonization. With limited funds and fragmented mandates among its development agencies, the UN played a secondary role to national governments, the Bretton Woods institutions, bilateral and multilateral donor agencies in promoting socio-economic development. Internationally, two separate architectures were created to deal with

peace and security on the one hand, and the socio-economic development of countries on the other.

At the country level, security and development policies also evolved on separate tracks. This was particularly true for new states whose numbers increased multi-fold in the 1950s and 1960s. Under the shadow of the Cold War, states that emerged from colonial rule were often unable to find an independent path to achieve socio-economic development. Closely aligned to one of the two superpowers, many new states became "clients," heavily dependent on external military assistance and economic aid for their survival. National governments attempting radical reforms saw their efforts blocked when these threatened the vital interests of the super powers or their allies. Non-aligned states, which sought to preserve some degree of independence from the East-West conflict, often found themselves trapped in a futile arms race to ensure regime stability and security. State security institutions (armies, police and intelligence forces) amassed power and the lion's share of resources while the country's socio-economic needs were left unaddressed.

The international development aid system that was created in the early years of the Cold War further reinforced the gap between the political/security interests of states and the socio-economic needs of their populations. Many governments were rewarded for their political allegiance through military or development assistance—irrespective of their domestic records. During the Cold War development assistance was often used to expand political influence or as an instrument for alliance management—with socio-economic development serving as a secondary concern.

The end of the Cold War, and the resultant disengagement of the major powers from countries in the frontlines of superpower rivalry, exposed the vulnerability of many post-colonial states. As the threat of inter-state wars waned and several proxy wars of the Cold War era gradually came to an end in Southeast Asia, Central America and Southern Africa, intra-state conflicts came to the fore in the late 1980s and early 1990s. Deprived of external superpower support, a number of states were seriously weakened and became susceptible to conflict. Some of these conflicts, such as in Somalia and Sudan, had been

festering throughout the Cold War. Others (as in the Balkans) erupted in the wake of changing national and international power relations. Still others teetered on the brink.

A closer look at crisis countries revealed a mix of developmental factors: failed economic policies often heavily supported by donor governments or international financial institutions; inadequate government capacity to deal with pressing problems such as high population growth, rapid urbanization, or deadly pandemics; poor governance; widespread poverty, marginalization and absence of hope for the future. The linkages between developmental conditions and internal conflicts were too important to be ignored.

II. Linking Security and Development: Global Responses

At the United Nations, the release of two seminal reports by former UN Secretary General Boutros-Boutros Ghali, Agenda for Peace (1992) and Agenda for Development (1995), set the stage for a more holistic look at the violent conflicts in the developing countries. The OECD Development Assistance Committee followed suit by issuing The DAC Guidelines: Helping Prevent Violent Conflict (1997 and 2001). In 2001, Secretary General Kofi Annan released his report on Prevention of Armed Conflict. Collectively, these initiatives affirmed that the artificial separation between security and development institutions, policies and practices could no longer be sustained. They called for better integration between the international community's socio-economic, human rights, humanitarian, security and developmental strategies and approaches for conflict prevention, peacemaking and post-conflict reconstruction.

In tandem with the heightened international awareness of the interdependence between security and development, the Security Council saw an expansion of the range of issues brought before it. Human rights abuses, protection of civilians in war, small arms, gender and peace, children and armed conflict, and HIV/AIDS became legitimate issues for the Council's consideration.

Simultaneously with developments at the UN, several governmental and non-governmental actors championed a range of issues that

came to be subsumed under the new "human security" agenda. The campaigns to ban anti-personnel landmines, to regulate small arms and light weapons, and to establish an international criminal court were part of the emerging international consensus around major issues that threatened human security and militated against human development.

Meanwhile, on the ground, humanitarian workers, peace-makers, peacekeepers and development agencies responded to civil wars, ethnic conflicts and failed states with multiple and often disparate tools and instruments. The number of United Nations missions increased rapidly throughout the 1990s with over a dozen peacekeeping operations and a similar number of peace and political missions in post-conflict societies. These missions were radically different from traditional peacekeeping operations. Often deployed in contexts where there was little peace to keep, they involved a combination of military and civilian tasks including community policing, demobilization, dis-armament and reintegration (DDR), protection of refugees and internally-displaced people. Significantly, the UN even undertook direct administration of Kosovo and East Timor in the absence of a sovereign government in these territories.

In line with policy and operational needs, there were various efforts to overcome the compartmentalization of the security and development institutions of the Cold War era. Throughout the 1990s, there were several waves of bureaucratic reforms in the United Nations. These led to the creation of the Office for the Coordination of Humanitarian Affairs (OCHA), the Department of Political Affairs (DPA), the Department of Peacekeeping Operations (DPKO), and the Office of the High Commissioner for Human Rights (OHCHR). Although each of these departments continued to have separate man-dates and functioned in isolation from the UN's development agencies, various mechanisms were established to encourage inter-departmental and inter-agency cooperation or collaboration.

There was a corresponding revision of institutional structures within individual governments and inter-governmental organizations. From Australia to Norway, from the World Bank to the Organization of African Unity, new units were created to deal with conflict resolution, conflict prevention and peacebuilding. New inter-governmental and

non-governmental networks were created. Countries such as the UK, Canada and Sweden began to develop more 'joined up' government approaches to align their foreign, security and development policies and programs more closely.

In short, one of the most striking features of the 1990s was the gradual dissipation of the threat of inter-state conflicts, and the resultant opportunity for the international community to move from state-centered to human-centered perspectives on security. As internal conflicts and human security gained importance, development (particularly development assistance) emerged as a powerful tool for conflict prevention and peacebuilding.

III. Rethinking Aid and Violent Conflict

During the Cold War development agencies had deliberately refrained from getting involved in security issues, including violent conflicts. They saw their role primarily as promoting to socio-economic develop-ment. When confronted with conflict, development actors basically had limited options. The predominant approach was to work "around con-flict" —treating conflict as a "negative externality" to be avoided. When conflict erupted, development assistance was generally replaced by humanitarian assistance. In those cases where they were able con-tinue their operations, development agencies worked "in conflict" while trying to minimize conflict-related risks to their programming. Only in exceptional cases were development actors prepared to work "on conflict" by seeking to address the sources of conflict through development programming.

The pervasiveness and intensity of intra-state conflicts and complex humanitarian emergencies of the 1990s led to a re-assessment of existing policies and instruments of aid. On the one hand, interna-tional donors began designing new programs and projects to respond better to peacebuilding objectives. Good governance, security sector reform, DDR, the rule of law and transitional justice became areas of innovative programming. Although programming in these sectors has largely been experimental and technical in nature, collectively these new programs involved a greater convergence between security and

development objectives.

More important, however, development agencies increasingly sought to gain a better understanding of the links between development strategies and violent conflict. There were a range of new studies, including the pioneering work on "Do No Harm," the OECD DAC study on the incentives and disincentives of development assistance, and various frameworks for conflict analysis. Among these, peace and conflict impact assessment (PCIA) methodologies specifically focused on the need to build conflict sensitivity into the design, delivery and evaluation of development initiatives to ensure that these have a positive impact on peacebuilding. The result of all these different approaches has been much greater strategic and tactical consciousness of some of the major drivers of conflict and how these can be averted through integrated security and development tools and instruments.

While development assistance continues to be an area of great relevance for conflict prevention and post-conflict peacebuilding, the growing body of research on the linkages between security and development has also brought to the fore other key areas that require attention. Globalization, trade, debt, private investments, natural resource management have all emerged as areas where security and development intersect with negative or positive ramifications.

IV. Post 9/11: Re-Thinking Security and Development

The previous sections provided a quick overview of the gradual convergence of the security and development agendas in the post Cold War decade. Although these developments signalled an important change at the normative, policy and operational levels, their actual impact in terms of conflict prevention and peacebuilding in the 1990s was tentative, uneven and, at best, mixed. Even before these advances were fully consolidated, however, the international context changed dramatically with the terrorist attacks of September 11, 2001.

September 11 represented an important turning point in international approaches to the security-development nexus. At one level, 9/11 dramatically demonstrated that in an interdependent world threats to collective security are varied. They can originate from conventional

inter-state conflicts as well as from non-traditional sources such state failure, international terrorist networks, cross-border criminal activity, and grievances deeply-rooted in global developmental fault lines. Thus, 9/11 served to underscore the interdependence between developmental and security concerns.

Yet, 9/11 also served to put into sharp relief the persistent tensions between state-centric security and human security — which had largely been concealed during the optimism of the post Cold War era. The international conflict prevention and peacebuilding agenda of the 1990s primarily targeted low level or local conflicts that did not threaten the vital interests of powerful states. (Indeed, the international community avoided conflicts where such interests were at play — as in the case of Chechnya or Kashmir.) With the exception of the Balkans and the Iraqi invasion of Kuwait, many conflicts of the 1990s did not directly threaten international peace or the security of powerful states. 9/11 was qualitatively different insofar as it was seen as a direct threat to state security as well as to international peace. As a result, state-centric security strategies re-gained dominance on the international stage.

The "war on terror" and the subsequent US-led wars in Afghanistan and Iraq constituted radical departures from international approaches to peace and security that had been gaining ground since the end of the Cold War. The preventive/preemptive war doctrine emerged alongside multilateral approaches to conflict prevention and peacebuilding.

The post 9/11 environment has had a rather ambivalent effect on the security-development debate. On the one hand, powerful states have begun to incorporate developmental concerns into their national security strategies. Failed, fragile or weak states are now identified as direct security threats to the vital interests of powerful states, with the attendant call for strategies to avoid their collapse due to poverty, bad governance or other socio-economic problems.

On the other hand, serious cleavages have emerged in the international community concerning global priorities and appropriate multilateral strategies. Developing countries see the current emphasis on hard security issues (including terrorism, WMD, and inter-state conflict) as competing with the human security issues that they face

(including poverty, pandemics, environmental degradation and intra-state conflicts). They further take issue with the heightened invest-ments in global security and stability at the expense of pressing needs for global social justice and equity. There is a growing risk of a renewed divergence between the international development and secu-rity agendas—which the UN Secretary-General's report seeks to address.

However, before turning to an exploration of what lies ahead globally, and the prospects for a re-vitalized security-development agenda following the release of the Secretary General's rport, it is important to examine how the security-development nexus has unfolded in the South Pacific since the 1990s. Like other regions, the South Pacific was inevitably influenced by larger global trends and debates. Nonetheless, its concerns and realities were quite specific.

V. Development and Security in the Pacific Island States Region

The issues at play in the Pacific Island states represent, in microcosm, many of the difficulties and challenges facing much larger countries in other parts of the world. A combination of failing governance, physical insecurity and growing levels of economic uncertainty afflict, to varying degrees, each state in the South Pacific. Yet, and in large part owing to their geographic and temporal isolation from the rest of the world, many of the issues affecting the region have gone relatively unnoticed and understudied.

A number of the states in the region are precarious and vulner-able following violent conflict. In the most violent conflict in the region in terms of deaths, Bougainville (PNG) suffered a secession attempt which lasted for almost ten years, causing widespread destruc-tion and over ten thousand deaths. The parties' commitment to the peace process and a political solution remains impressive, although there continue to be significant economic, psychological and political challenges. Bougainville's neighbour, Solomon Islands, is too gradually emerging from civil conflict and a breakdown in governance. While ostensibly in a post conflict phase, the Solomon Islands could return to violence if underlying problems such as the lack of economic

opportunity are not addressed simultaneously with stabilising the security situation. Fiji has experienced a number of coups which have substantially challenged democratic rule. New Caledonia is stable following a violent struggle in the late 1980s between supporters of complete independence from France and those who wish to retain political allegiance. Levels of social violence in parts of Papua New Guinea are high and the auguries of unrest in the Indonesian (but ethnically Melanesian) province of West Papua suggest that this area is moving towards significant violent struggle. In other cases, the challenges of security and development may be less physically visible but are no less significant. There exists the challenge on how to enervate stalled domestic economies, boost human development indicators and harness together societies with extraordinary linguistic diversity into working states.

Increasingly individual 'insecurity' is being emphasized as a cause of the failure of state in the region and calls for linking development and security programs are advocated as the most appropriate remedy. Indeed, the region's traditional reputation of relative tranquility is being challenged by labelling it as 'an arc of instability' and 'collective basket case'. Such labels may oversimplify and hyperbolize the situation but they, nonetheless, behove critical reflection on the part of donor assistance and policymaking communities on how their development strategies can be most effectively designed and delivered.

The last few years has seen a significant refocusing of programming attention. A long-standing development focus on the Pacific Island region has recently been coupled with an intensifying emphasis on security, particularly on the part of Australia. This reflects the growing internal security problems in a number of states but also a renewed concern with the national/state security of neighboring states, namely Australia. The police-focus of the Australian led regional intervention into the Solomon Islands in 2003 (the Regional Assistance Mission to the Solomon Islands – RAMSI) is emblematic of this new 'security-first' focus. Putting international police on the ground and prioritizing the empowerment of local institutions that provide law and order in the hope that this will serve as a quickening for wider development to take root has been emphasised as a strategy taken

towards another South Pacific neighbour: Papua New Guinea.

It is still too early to judge whether a security-focused strategy will be any more successful of a response to the problems facing individual states and the region as a whole. Indeed there are key questions that must be addressed which concern the short and long term interaction of development and security - and of different development and security approaches - in conditions of latent and actual conflict. RAMSI and the new Australian initiatives in Papua New Guinea (the Enhanced Cooperation Program) are notable recent efforts to work directly with some of these questions in the Southwest Pacific. Additionally, the very real failure of effective governance, including state incapacity are a very real threat, and represent a crisis for the pursuit of both development and security.

As well as questions as to appropriate response, there is significant debate over the underlying causes of conflict in the region. One of the sharper lines drawn in this debate is between those who see the causes of conflict lying primarily within the character of Pacific Island society itself, and what can be cast as its inability to adjust to modern liberal democratic governance and largely unregulated international markets, versus those who understand the conflict flowing largely from the evolving but fractious relationship between indigenous and introduced systems of power, authority and governance. This division leads to real differences in policy orientations – which are relevant to the way development, governance, security and peace-building assistance are approached within, but also well beyond, the Pacific Island region.

The theoretical and practical dilemmas raised by state incapacity in the region are critical to policy makers everywhere. To what extent, for example, is the failure of governance a failure of development? What role might development patterns and models pursued not just in the past few years but over decades, have played in the emergence and maintenance of conflict? To what extent is the best long-term response to the collapse of security and the eruption of violent conflict a re-commitment to development initiatives? If development models and patterns are even partially implicated in conflict and the failure of governance, how must development approaches

be reshaped and rethought to work against violence and actually support people's well-being? What are the sources of resilience in the society or the state, and how can development partnerships support, or at the very least not undermine these resources? Can development goals be pursued under conditions of state failure and violent conflict and if so, how? What is the relationship between indigenous or local and introduced or international approaches to governance and conflict management and what are the consequences of this relationship for conflict? What is the relationship between conflict management or mitigation and the operation of local security forces? Under what conditions are external security interventions helpful? How can security interventions work to support development and long term conflict prevention goals?

The answers to these questions are bound to be context specific. Yet, they also cut across many regions and countries whose problems lie at the intersection of security and development. It is important to underscore the theme raised at the outset of this paper: that normative and policy frameworks need to be designed so that they reflect local needs and aspirations. In turn, research, policy and programming in the South Pacific cannot be divorced from global concerns and their regional ramifications.

VI. Whither the Security-Development Nexus?

The above discussion examined the trajectory of global and regional efforts to link security and development in the post Cold War era. It is quite clear that asserting the interdependence of security and development is much easier than implementing it. There are multiple tensions, contradictions and difficulties that lie in the way. These range from the competition among states in a state-centric international system to the difficulties of reforming institutions whose mandates militate against an integrated approach to conflict prevention and peacebuilding.

However, the developments of the 1990s demonstrate that the international community has reached a new level of understanding of the complexity of the security and development challenges at the local, national, regional and global levels. The post 9/11 instinct to militarize

security by strengthening state-centric military or security approaches and institutions is not universally accepted. It is increasingly recognized that in a globalized world, to choose between security and development is a false choice. Similarly, prioritizing between state and human security is a false start. These are intimately, albeit not always directly, connected—not least because the international political climate no longer allows the security concerns of the powerful to ignore the development concerns of the marginalized. As Secretary General Kofi Annan noted in his recent report: "In a world of interconnected threats and challenges, it is in each country's self-interest that all of them are addressed effectively."

The recent report of the High Level Panel on Threats, Challenges and Change, which was convened by Secretary General Kofi Annan, forcefully asserts that development is the indispensable foundation for collective security and urges the international community to place development at the core of building a more stable, secure and equitable world. The High Level Panel Report identifies six different sets of threats to collective security, and in each case examines ways of meeting the challenges of prevention. It makes the compelling argument that development is the first line of defense for comprehensive collective security: "It helps combat the poverty, infectious disease and environmental degradation that kill millions and threaten human security. It is vital in helping States prevent and reverse the erosion of State capacity, which is crucial for meeting almost every class of threat. And it is part of a long-term strategy for preventing civil war, and for addressing the environments in which both terrorism and organized crime flourish."

Similarly, the recently published Millennium Project report entitled "Investing in development: A practical plan to achieve the Millennium Development Goals," declares that the Millennium Development Goals are the linchpin to global security. It notes: "The Goals not only reflect global justice and human rights—they are also vital to international peace and security, as emphasized by the High Level Panel on Threats, Challenges and Change."

These two important reports, as well as the Secretary General's report, have opened a new opportunity at the United Nations for a

re-assessment of international priorities and commitments in the coming years. These documents confirm that threats originating from the development realm remain front and center on the prevention agenda. This is not to say that development problems automatically lead to war and violent conflicts. It is becoming increasingly clear, however, that key development issues such as poverty, inequality, unemployment and under-employment, illiteracy and sickness constitute the environment in which individuals, communities, nations and international organizations operate. When the pressures these create become unsustainable, violence erupts at the interpersonal, local and national levels. It is significant that 56% of those countries classified as having low development by the UN Human Development Report experienced civil war in 1997-2001. Only 2% of those countries classified as having high development experienced civil war in the same period. In short, development is an indispensable component of the expanded security agenda. The challenge remains in finding the most effective strategies to link security and development at the local, national and global levels.

Note:

A shorter version of this paper - co-authored with Necla Tschirgi - was prepared for the Australian Centre for Peace and Conflict Studies (ACPACS) Conference in Brisbane, Australia, 1-3 April 2005.

VII

Special Panel on Dialogue among Civilizations

Chairman: Lalit Mansingh*
Assistant: Richard Jordan**

The Mountain and the River Valley: Environmentalism as the Foundation of Dialogue between Civilizations

Rabbi Lawrence Troster

████████I am a rabbi and theologian who has been involved with the religious environment movement for more than ten years. My commitment to the religious environmental movement has two sources: one emotional and one intellectual. My emotional connection comes from my experiences during many canoe trips that I took in my youth in middle Ontario, Canada. Some of my most spiritual experiences have occurred when I have been in the wild whether on the lakes and forests of Ontario, the mountains of British Columbia or the oceans off Alaska and Florida to name a few. Looking up at the sky at night to see the vault of the heavens, something humanity once saw every single night, now unfortunately has become a rare and wondrous experience.

Intellectually, during rabbinical school, I began to be interested in the relationship between science and religion. This issue surfaced for me during the study of the philosophy of Rabbi Moses ben Maimon or Maimonides, as he is known in English. Maimonides like so many medieval philosophers, Jewish, Christian or Muslim, saw no contradiction between what we would call science and religion or what they would call reason and revelation. Christian theologians and later Christian scientists like Galileo used a wonderful metaphor to describe

Professor and the Jewish Chaplain at Bard College in Annandale- ████████
on-Hudson, New York.

the relationship between these two sources of truth: the two books of God: the Book of Scripture and the Book of Nature. While Maimonides never used that metaphor, he came close in seeing the scientific study of Creation to be a necessary precursor to religious faith and philosophy. In his great compilation of Jewish law, the Mishneh Torah, he interpreted the commandments of loving and fearing God (Deuteronomy 6:5,13) in the following way:

"When a person observes God's works and God's great and marvelous creatures, and they see from them God wisdom that is without estimate or end, immediately they will love God, praise God and long with a great desire to know God's Great Name...And when a person thinks about these things they draw back and are afraid and realizes that they are small, lowly and obscure, endowed with slight and slender intelligence, standing in the presence of God who is perfect in knowledge." (Mishneh Torah, Sepher Madah, Hikhot Yesodei Ha-Torah 2:1-2)

Thus, when we study Creation with all the tools of modern science, we are filled with love and a sense of connection to a greater order of things. We feel a sense of wonder but also a sense of awe and humility, as we perceive how small we are in the universe. In his great philosophical treatise, The Guide for the Perplexed, Maimonides made it clear that the study of the natural world (what he called Physics) was a necessary precursor to philosophy (Metaphysics).

Using Maimonides as my inspiration, I sought out the writings of those scientists and (mostly Christian) theologians who saw that science and religion should be in dialogue not conflict. That intellectual journey eventually led to my writing and publishing a number of articles. This part of my intellectual journey continues.

It was my lecturing on this issue which brought me into contact with people who were involved in the environment movement and who wanted to see how their faith could become part of that movement. Over a number of years, I too became involved on a regional, national and international level. As a result of my organizational connections I have met and spoken with people of all faiths, clergy and laity, scientists and scholars, who are deeply concerned about the growing environmental crisis. This concern has brought them together in a way

that I have rarely seen in interfaith discussions on other topics. Why is there this constructive and congenial dialogue between Jews, Christians, Muslims, Hindus, Buddhists and other religions of all kinds on the environment?

First of all, because the degradation of the environment crosses all national boundaries and affects people with no regard for religious or distinctions. It is a universal human crisis. I was recently in Newark, New Jersey, a city in which the minority communities suffer a high rate of asthma in their children because of the particulate pollution of diesel buses and a large incinerator that burns a large part of the garbage for the whole state. I met an African-American Baptist minister who said, "There are no fences in the sky," by which he meant that those people in the mostly white suburbs thought that they were immune from this pollution but they were wrong. Climate change is not going to affect only a few people; it will have affected everyone, everywhere. The environmental crisis is a worldwide problem that no community can ignore. And since all our traditions agree upon the basic unity of humanity, we can all agree that as a human problem we must work together to solve this crisis.

But more deeply than that, environmentalism is a worldview or philosophy, which transcends all previous political, economic or religious categories. It is neither right nor left, conservative nor liberal, capitalist nor socialist. I believe that environmentalism is at once both traditional and radical.

Environmentalism is traditional in that it upholds the values of humility, moderation and frugality. The Abrahamic religions all believe that God is the sole Creator and owner of the world (Psalm 24:1). Human beings were created by God to be the stewards of the world. We could use the world for our benefit but only in a way that will not destroy Creation or upset its divinely established order. Thus we should stand in humility and awe and we should use Creation in a moderate and frugal way. There is, in the Jewish tradition, a commandment that tells us that we are not to wantonly destroy any aspect of God's creation. We do not own Creation. We are part of it. Greed and the unthinking waste of Creation will lead to our own detriment as well as the decline of all life.

Another value that various traditions can join together on is environmental justice. This is the term used to describe both the connection between degradation of the environment and its impact on the poor and also the unequal distribution of resources between the developed and underdeveloped world. Poor people are disproportionally affected by environmental damage. While one fifth of the world's population is living better than any human beings in history, they are using 80% of the world's resources to maintain their standard of living. Another fifth is struggling just to survive: hundreds of millions of people are malnourished and over a billion people do not have access to clean water.

In the Jewish tradition, Creation since the expulsion from the Garden of Eden has been out of balance because of the humanity's unchecked egoism and greed. Unlike other creatures, which by their natures live in proper balance within Creation, humans have the free will to upset God's work. Judaism responds to these inequities with the concept of tzedek, usually translated as righteousness but which can also mean equity. Tzedek is the practical attempt to return the world to a more equal balance of power. Some examples of tzedek laws in the Torah which attempt to redress the imbalances in human society and Creation are the laws of the Sabbatical year which mandate that the land lie fallow every seven years and that all debts are released (Exodus 23:11, Leviticus 25:2-5, Deuteronomy 15:1-4) and the Jubilee Year which demands that every 50 years all land return to its original owners and that slaves be released (Leviticus 25:8-24). There is in the Torah a whole program of tzedek, which tries to preserve a just distribution of resources across the community.

vironmentalism thus can draw upon some of the best ethical values of all the world's religions. While we may speak in different terms there are many points of contact by which we can bring our traditions to deal with this universal human crisis.

But we must also recognize that environmentalism is also radical in the original sense of the word, which means going to the root or foundation of things. Environmentalism challenges the fundamental way we are now living, working, producing and consuming. Previously, people could assume that the world was so vast that what-

ever we took from it and whatever we put back into it would not have that much effect. We know that this is not true. Humans have been changing their physical environment for thousands of years. Before the last two hundred years, these changes had only local or at most regional effects. In the modern era, with large-scale industrialization and a growing global economy, environmental change has also increased proportionally. While we can say that previous generations did not understand how we are affecting the biosphere, we can no longer escape our responsibility for the decline of the basic life systems of the world. Climate change, shortage of fresh water, loss of biodiversity, toxicity of the soil and other environmental problems are some of the issues which will confront humanity in the coming decades. How we respond now will affect how severe these problems will become. So while we can draw upon our traditions to bring great wisdom to this crisis we must also recognize that we are in a situation that none of our traditions could have imagined and maybe that will bring us together in a way that other issues will not.

But environmentalism can also bring us together in another way. Environmentalism is based on the modern sciences of biology, ecology, physics and astronomy. From these sciences there has emerged several new perspectives that reveal the unity of humanity and indeed of all life. From astronomy we learn that every atom that makes up our bodies originated in the beginning of Creation. We are all literally made of stardust. From biology we learn that there are virtually no significant genetic differences between all humans and that the genetic differences between all organisms is relatively minor. When we destroy other creatures we are destroying a part of ourselves. From ecology we learn the interconnectiveness of all life in many subtle ways that humanity could never have conceived of before. Becoming aware of these connections is called environmental consciousness or environmental identity. Environmental educator Mitchell Thomashow has described this identity as getting people to "perceive themselves in reference to nature, as living breathing beings connected to the rhythms of the earth, the biogeochemical cycles, the grand and complex diversity of ecological systems,"[1] (Mitchell Thomashow, Ecological Identity, page xiii) He also said that "Intrinsic to an ecological world-

view is the ability to see an ecosystem as part of oneself. This knowledge is gained both through an understanding of scientific ecology and the ability to observe and internalize the interconnections and interdependence of all living things." When we gain an environmental identity, we can create a foundation for dialogue between civilizations.

Environmental author Even Eisenberg in his wonderful book "The Ecology of Eden," created a typology of two different worldviews that he calls the worldviews of the mountain and the river valleys. The mountain worldview cultures, "made their living from small-scale mixed husbandry...the peoples of the great rivers were more ambitious. They practiced large-scale, irrigated agriculture that was not so different, at heart, from what large corporations do in California today."[2] These two ways of living on the land, says Eisenberg produced different economies, social structures, political forms and different ways of looking at the world. These worldviews were concretized in the symbols of the Mountain and the Tower. The mountain is a symbol of wilderness, a sacred place in which heaven and earth meet. In ecological fact, mountains are critical to many ecosystems: sources of water, biodiversity and the earliest farming. Those who farm on a mountain must be ecologically aware in order to succeed. Differences in altitude created a variety of farming and animal husbandry that required constant attention to rainfall and thus created a sustainable agriculture. It also meant that people had to be aware of the presence and necessity of the wilderness of the mountain, which created all their bounty. The valleys produced the first cities with their man made towers. In the floodplain of the valleys large-scale irrigation projects could be produced that allowed people to ignore wilderness and even to think that they have transcended it. In the end their agriculture was not sustainable and many ancient valley cultures declined when their land became salinized. Nonetheless, the valley cultures produced the great achievements of human civilization. Eisenberg believes that our modern agriculture and civilization has followed the Valley model to our peril. The way we live, based on this worldview is not sustainable in the long run as we ignore the necessity of wilderness. I have chosen Eisenberg's typology because in all of our three faiths mountains play prominent roles. We can use this symbol as a way to

create a common foundation of dialogue. We can bridge the differences between civilizations to come to a common understanding of what unites us. We all live on the Mountain of God.

One last point. All of our sacred texts are filled with references to the natural world. In many ways, Creation is the common source of all of our spiritual traditions: the first of the Books of God. I believe that the spiritual dimension of humanity is as intrinsic to Homo sapiens evolution as speech, tool making or consciousness. Anthropologist Mircea Eliade once asserted that the contemplation of the sky might be the original impetus for religious experience. He wrote: "For the sky, by its own mode of being, reveals transcendence, force, eternity. It exists absolutely because it is high, infinite, eternal, powerful" [Italics in original][3]. Scientist James Lovelock, the creator of the Gaia theory once asked, "How can we revere the living world if we can no longer hear the bird song through the noise of traffic, or smell the sweetness of fresh air? How can we wonder about God and the universe if we never see the stars because of the city lights?[4]

In the end, the environmental crisis is not an issue of technology, economics or politics. It is spiritual crisis, which requires a spiritual solution that cannot be confined to a single tradition. We need the wisdom of all the great civilization of the world to be brought to bear. Thus environmentalism can bring us together to find our common spirit flowing from the great Mountain of God.

Endnotes:

1- Mitchell Thomashow, Ecological Identity, (Cambridge, MA: MIT Press, 1996) pages 12-13.

2- Even Eisenberg, "The Ecology of Eden," in: Judaism and Ecology: Created World and Revealed Word, edited by Hava Tirosh-Samuelson, (Cambridge: Harvard University Press, 2002), page 27. This essay is a summery of Eisenberg's book The Ecology of Eden, (New York: Alfred A. Knopf, 1998).

3- Mircea Eliade, The Sacred and the Profane, (New York: Harcourt

Brace Jovanovich, 1987[1959]), page 119.

4- James Lovelock, The Ages of Gaia, (New York: W.W. Norton & Company, 1988), page 210.

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Religion and Ecology:
A Growing Alliance

John Grim

████████The environmental crisis has been well documented in its various interconnected aspects of resource depletion and species extinction, pollution growth and climate change, population explosion and over consumption. Each of these areas has been subject to extensive analysis and scrutiny by the scientific and policy communities and, while comprehensive solutions remain elusive, there is an emerging consensus that the environmental crisis is both global in proportions and local in impact. Moreover, there is a dawning realization that the changes we are making on planetary systems are comparable to the changes of a major geological era. Indeed, some have said we are closing down life systems on the planet and causing species extinction at such a rate as to bring about the end of the Cenozoic era. While this stark picture of the state of the environment has created pessimism among many and denial among others, it is also increasingly evident that human decisions, values, and behavior will be crucial for the survival of many life forms on Earth. Hence the importance of factoring the world's religions into these deliberations.

Our intervention in ecological systems can now be regarded as a primary determining factor in the future of evolutionary processes. The manipulation of nature has reached proportions never before faced in the human community. We are shutting down natural selection and intervening with the processes of life and death- both for humans and for other species. Whether our interventions will ultimately be beneficial or detrimental remains to be seen, as we are poised at a critical juncture in the unfolding of the journey of the Earth community.

A central question before us, then, is what is the appropriate role of humans in relation to present and future life on Earth. What are the consequences of manipulating nature on such a scale? What kind of ethical restraints will be needed for a sustainable future for the planet? Do we in fact have obligations to future generations that may transcend

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our contemporary concerns? This requires an expansion of our ethical sensibilities across time (intergenerational) and across space (to include the planet as a whole).

If life on Earth is going to continue in some viable form, we need to ask how we might reconceive our role to insure mutually enhancing human-Earth relations. If we are not able to encourage the flourishing of life on the planet, are we not then calling into question the very nature of what it is to be human? While answers to these questions are not simple or forthcoming, our attention to them is of utmost importance.

Central to our discussion here is the role of the world's religions in responding to these challenges. For what may be a key determining factor in issues regarding sustainability is what kinds of values, attitudes, and ethics will help to shape our future as a viable species on our planet. In addition, we need to attend to the challenge of intersecting ethical values into the dialogue with science in ways that are meaningful, not simply rhetorical or sectarian. Religions have both promise and problems in this regard. They have sustained human aspirations and energies for centuries but they have also contributed to intolerance, violence, and fundamentalist views of various kinds.

There are several challenges at present with regard to establishing a new framework that moves away from the human role as manipulating or managing nature. There is first the need to identify the large-scale evolutionary context for intersecting ethical concerns into discussions on sustainablity. This implies understanding the scale of the changes that humans are making and recognizing that new human-Earth relations are required for a sustainable future. Second, there is the challenge of finding the appropriate language for such human-Earth relations as well as intersecting that discussion with environmental science and policy. While many scientists and policy experts are open to the perspective of values and ethics for sustainablity, there is still a large gap in the understanding of these terms. Even terms such as religion and spirituality can cause confusion and misunderstanding. A functioning lexicon of terms is needed to shape the discussion. Thirdly, there is a need to ground these discussions in the search for a viable global ethics. We are at a critical juncture in human history and in Earth

history. The need to create a multiform planetary civilization that is not obsessed with simply manipulating or managing nature is of the essence. A complex global ethics will be central to this reformulation. The Earth Charter is a key document that identifies an effective global ethics.

These are questions worth pondering as we enter the 21st century with a new sense of humility at what we have wrought on the planet in the last two hundred years as well as with a sense of hope at what kind of niche we might still achieve as a species. We are young as Homo sapiens and have not fully earned the title of sapiens. Some writers, like Bill McKibben in The End of Nature and Thomas Berry in The Great Work, have suggested we are just emerging from adolescence into our role as adult members of our species, now responsible in certain ways for the continuity of life in its various forms.

Evolutionary Perspective:

Two significant exhibits, the Rose Center and the Hall of Biodiversity, at the American Museum of Natural History in New York illustrate our critical moment in history. The Rose Center includes the Hall of the Universe, the Hall of the Earth, and the Planetarium, which opened in February 2000 Copernicus' birthday. Visitors can see a spectacular planetarium show illustrating where we are in the midst of the vast number of galaxies in the night sky. We are told we are discovering ourselves as citizens of the universe and that we have descended from stardust. One can then take a walk through time down a spiral staircase where one travels through 13 billion years of universe evolution. Each step is equivalent to 750 million years. At the end of this journey one arrives at the last display that is a single human hair behind glass. This represents, we are told, all of human history. A new kind of vast evolutionary perspective begins to seep into our consciousness.

At the same time the Hall of Biodiversity at the museum illustrates the great plethora of life illustrates the great plethora of life forms that exist on the planet. A plaque on the wall notes that we are in the midst of a 6th extinction period for which human activities are largely responsible. It also observes that we are capable of stemming this mas-

sive destruction of life forms. As one walks through the Hall of Biodiversity the choices are laid out clearly — on one side the destruction we are doing to ecosystems and species, on the other, examples of restoration and sustainable practices. The questions these two exhibits raise might be condensed into Lester Brown's provocative question. He puts it this way, "the challenge for humanity is a profound one. We have the information, the technology and the knowledge of what needs to be done. The question is, can we do it? Can a species that is capable of formulating a theory that explains the birth of the universe now implement a strategy to build an environmentally sustainable economic system?" He warns that the mobilization for the changes we are facing (which he notes will require new behaviors and values) is on the scale of World War II.

One might suggest it may be even vaster than that as scientists note we are closing down a geological period and freezing natural selection in the process. Thus there is a particular urgency to involve the world's religions that are institutionally and inspirationally capable of assisting in the transformation of values. Let me hasten to add, however, that it is clear that religions may be necessary for this process, they are certainly not sufficient. Moreover, we are fully aware of the problems they often bring regarding intolerance, intransigence, fundamentalism, narrow-mindedness and so. Hence while religions may bring a broadened environmental ethics, we need creative interdisciplinary initiatives so as to formulate more integrated approaches to environmental science, policies, and law, as well as to ecological economics and long-term fiscal planning.

As a human species with a planetary impact we are at a critical juncture between progress and development at any cost and a reconfiguration of economy and ecology for a sustainable future. What are the appropriate boundaries of protection and uses of nature? The choices will not be easy as we begin to reassess our sense of rights and responsibilities as well as to reevaluate appropriate needs and over extended greed. A new set of values will be necessary.

A Sustainable Future for the Planet:
The process of revaluation has already been set in motion by a number

of key sectors ranging from grassroots and non-governmental organizations to national governments and the United Nations. Religious communities have begun to join this movement as well. The convergence of efforts toward sustainability fostered by civil society, the nation states, and international organizations is noteworthy. For the first time in human history remarkable new initiatives are emerging that are struggling to restrain our overextended presence on the planet. The results of these initiatives will be difficult to evaluate immediately, but their cumulative effect may be indispensable in redirecting our present destructive course as we grapple with the problem of how to achieve the conditions for a sustainable future. The questions we need to address are not simply sustainable development but sustainable life on the planet. The Earth is, indeed, in the balance.

Over the last decade, the wide range of conferences being held, research being published, and policies being implemented regarding the environment are impressive. Indeed, since the United Nations Conference on Environment and Development (also known as the Earth Summit) was held in Rio in 1992, the UN has identified the environmental crisis as a critical global challenge. A key document of this conference, Agenda 21, highlighted sustainable development as a central goal of the Earth community. Since that time the United Nations has held seven other major international conferences to analyze our global situation and devise strategies for ensuring a sustainable future. These include conferences on women, on population, on habitat, and on social issues. This has been supplemented by the work of literally thousands of non-governmental and environmental organizations around the world.

Moreover, the Rio+5 conference in 1997 brought together 500 key stakeholders ranging from leaders in business, politics, health, environment, and education. A Benchmark Draft of the Earth Charter was issued there by Mikhail Gorbachev and Maurice Strong on behalf of an international group of two dozen Earth Commissioners. The Earth Charter, initiated in Rio in 1992, is intended to be a blueprint for sustainable development bringing together three areas: Ecological Integrity; Social and Economic Justice; and Democracy, Nonviolence, and Peace. It can be seen as part of a broader effort of individuals and

organizations to formulate a global ethics. It was officially approved by the Earth Charter Commissioners at the UNESCO headquarters in Paris in March 2000 and launched as an international initiative at the Peace Palace in the Hague in June 2000. (See www.earthcharter.org) The Earth Charter can be seen as not only a document but also a process as it involved the most wide spread consultation ever to take place for an international document. The world's religious communities gave input to the principles of the Charter through the 10 part conference series at Harvard on religion and ecology.

Call for the Participation of Religions:

The question that is raised here is what is the contribution of the world's religions to this emerging global ethics in the fostering the flourishing of nature and the enhancement of human-Earth relations. As key repositories of deep civilizational values and as indispensable motivators in moral transformation religions clearly have an important role to play in revisioning a sustainable future. Indeed, many are calling for the greater participation of the religious communities in alleviating the current environmental crisis and orienting humans to have restraint, respect, and responsibility toward the Earth. There are several key documents that contain such a call.

One is the statement of scientists titled "Preserving the Earth: An Appeal for Joint Commitment in Science and Religion" which was signed at the Global Forum meeting in Moscow in January 1990. It states: "The environmental crisis requires radical changes not only in public policy, but in individual behavior. The historical record makes clear that religious teaching, example, and leadership are powerfully able to influence personal conduct and commitment. As scientists, many of us have had profound experiences of awe and reverence before the universe. We understand that what is regarded as sacred is more likely to be treated with care and respect. Our planetary home should be so regarded. Efforts to safeguard and cherish the environment need to be infused with a vision of the sacred."

A second important document is called "World Scientists' Warning to Humanity." This was produced by the Union of Concerned

Scientists in 1992 and signed by over 2,000 scientists including more than 200 Nobel Laureates. The document also suggests that the planet is facing a severe environmental crisis and will require the assistance and commitment of those in the religious community. It states: "a new ethic is required – a new attitude towards discharging our responsibilities for caring for ourselves and for the Earth. We must recognize the Earth's limited capacity to provide for us. We must recognize its fragility. We must no longer allow it to be ravaged. This ethic must motivate a great movement, convincing reluctant leaders and reluctant governments and reluctant peoples themselves to effect the needed changes."

The response to these appeals has been slow at first but is steadily growing. Over the last decade some key movements have taken place among the religious communities that have shown significant levels of concern and commitment regarding alleviating the environmental crisis. Some of these include the interreligious gatherings on the environment in Assisi under the sponsorship of the World Wildlife Fund (WWF) in 1984 and under the auspices of the Vatican in 1986. In addition, the United Nations Environment Programme (UNEP) has established an Interfaith Partnership for the Environment that for more than 15 years has distributed thousands of packets of materials for use in local congregations and communities. The Parliament of World Religions held in Chicago in 1993 and in Cape Town, South Africa, in 1999 issued major statements on Global Ethics embracing human rights and environmental issues. This statement on Global Ethics was formulated by the Catholic theologian, Hans Kung, who continues to pursue efforts in this regard through his institute in Germany. The Global Forum of Spiritual and Parliamentary leaders held international meetings in Oxford in 1988, Moscow in 1990, Rio in 1992, and Kyoto in 1993, which had the environment as a major focus. Since 1995 a critical Alliance of Religion and Conservation (ARC) has been active in England and in Asia. Similarly, the National Religious Partnership for the Environment (NRPE) has organized Jewish and Christian groups on this issue in the United States. In August 2000 a historic gathering of more than 2,000 religious leaders took place at the United Nations during the Millennium World

Peace Summit of Religious and Spiritual Leaders where discussions of the environment was one of four major themes.

It is in this spirit that a three-year conference series took place at Harvard University's Center for the Study of World Religions to examine the varied ways in which human-Earth relations have been conceived in the world's religions. Recognizing that religions are key shapers of people's worldviews and formulators of their most cherished values, this broad research project and accompanying activities, have uncovered a vast wealth of attitudes toward nature sanctioned by religious traditions. From 1996-1998 over 800 scholars and activists participated in a series of ten conferences examining the traditions of Judaism, Christianity, Islam, Hinduism, Jainism, Buddhism, Taoism, Confucianism, Shinto and Indigenous religions. The conferences were organized by Mary Evelyn Tucker and John Grim with a team of area specialists in the world's religions.

The purposes of the conferences were:

- Reconceptualizing attitudes toward nature by examining perceptions from religions of the world with attention to the complexity of history and culture;
- Contributing to the articulation of functional environmental ethics grounded in religious traditions and inspired by broad ecological perspectives;
- Stimulating the interest and concern of religious leaders and lay people as well as students and professors of religion in seminaries, colleges, and universities.

The papers from these conferences have been published in ten volumes by the Harvard Center for the Study of World Religions and distributed by Harvard University Press. In these conferences and in the resulting monographs it was assumed that religions are necessary but not sufficient partners in identifying the conditions for a more sustainable future. Although religions have been late in awakening to the reality of the environmental crisis, they have nonetheless clear contributions to make as attitudinal and ethical changes will be indispensa-

ble to the reconfiguring of human-Earth relations. Along with science and technology, economics and business, public policy and politics, the world's religions can become partners in reshaping attitudes and ethics for valuing nature not simply as a resource for humans but as the source of all future life.

To illustrate the contributions of religions in partnership with science, economics, and policy a web site has been created under the Harvard Center for the Environment (www.environment.harvard edu/religion). This web site contains introductory essays to each of the world's religions traditions and their environmental contributions, annotated bibliographies, syllabi and resources for teaching religion and ecology, a speaker's list and much more. In addition there are examples of some 100 grassroots religiously inspired environmental movements around the world. In addition, there is an annotated bibliography of the evolutionary and ecological sciences, along with bibliographies of ecological economics, and ecological ethics.

There are limits, clearly to what religions can do, but their acti-vation may result in indispensable partners for a sustainable future. An example of the limits of religions in terms of population issues are the fact that two of the traditions have been obstacles at UN population conferences, namely the Roman Catholic and Islamic groups. However, there is an important research effort trying to identify a more plural approach among world religions to issues regarding population control. This is led by Daniel Maguire at Marquette University and is called the "Religious Consultation on Population, Reproductive Health and Ethics." On the positive side, there are numerous cases of the con-tributions religions are making in the form of grass root movements for tree planting or river restoration or species protection. Some examples of this include river clean up of the Ganges and the Yamuna Rivers in north India, the ordaining of trees to protect them by monks in Thailand, and the efforts to plant a million trees a year by an alliance in Zimbabwe of the traditional Shona people along with the African Zionist Churches.

The Role of Religions: Worldviews and Ethics

Religion is more than simply a belief in a transcendent deity or a means to an afterlife. It is, rather, an orientation to the cosmos and the human role in it. Religion in its broadest sense is a means whereby humans, recognizing the limitations of phenomenal reality, undertake specific practices to effect self-transformation and community cohesion within a cosmological context. Religion thus refers to those cosmological stories, symbol systems, ritual practices, ethical norms, historical processes, and institutional structures that transmit a view of the human as embedded in a world of meaning and responsibility, transformation and celebration. Religion connects humans with a divine or numinous presence, with the human community and with the broader Earth community. It links humans to the larger matrix of mystery in which life arises, unfolds, and flourishes.

Certain distinctions need to be made here between the particularized expressions of religion identified with institutional or denominational forms of religion and those broader worldviews that animate such expressions. By worldviews we mean those ways of knowing, embedded in symbols and stories, which find lived expressions, consciously and unconsciously in the life of particular cultures. In this sense, worldviews arise from and are formed by human interaction with natural systems or ecology. Consequently, one of the major concerns of religions in many communities is to describe in story form the emergence of the local geography as a realm of the sacred. This worldview generates ethics, ways of acting, which guide human behavior in personal, communal, and ecological exchange. The exploration of worldviews as they are both constructed and lived by religious communities is critical because it is here that we discover formative habits regarding attitudes toward nature and our place in the world. To resituate human-Earth relations in a more balanced mode will require both a reevaluation of worldviews and a formulation of viable environmental ethics.

Religious rituals and symbols are grounded in the dynamics of nature. Human experience of local natural systems is the most immediate connection to the wider cosmos. Religious cosmologies describe the experience of change in relation to the natural world and provide rich resources for inspiring such transformation in human life. The

death-rebirth cycle of nature serves as a mirror for human life. Religions translate this cycle into rich tapestries of interpretive meanings that inspire culture, art, music, and life orientations beyond tragedy, suffering, and despair. By linking human life and patterns of nature, religions have provided a meaningful orientation to life. Moreover, they have been significant catalysts in motivating human action. A key component that has been missing in much environmental discourse is how to identify and tap into these motivating elements and ethics that inspire changes of attitudes and actions. It is here that religions may be most helpful.

Religions bring values and ethics of reverence, respect, redistribution, and responsibility for formulating a broader environmental ethics that includes humans, ecosystems, and other species. Humans can advocate for a reverence for the Earth and its long evolutionary unfolding, respect for the myriad species who share the planet with us, restraint in the use of natural resources on which all life depends, equitable distribution of wealth, and recognition of responsibility of humans for the continuity of life for future generations.

Clearly religions have a central role in the formulation of worldviews that orient humans to the natural world and the articulation of ethics that guide human behavior. In addition, they have institutional capacity to affect millions of people around the world. Religions of the world, however, cannot act alone with regard to new attitudes toward environmental protection and sustainability. The size and complexity of the problems we face require collaborative efforts both among the religions and in dialogue with other key domains of human endeavor, such as science, economics and public policy. Moreover, while alternative technological responses will be necessary, they alone will not be sufficient nor are they an adequate end in themselves. For as the scientist Brian Swimme has indicated, we are making macrophase changes to the planet with microphase wisdom. We need a more comprehensive ethical and spiritual vision of our role as humans on a planet whose life systems are severely diminished by our actions.

Converging Perspectives:

Religions, thus, need to be in conversation with sectors which have addressed environmental issues, such as science, economics, education, and public policy, and the values embedded in these disciplines also need to be more careful understood. This was an important motivating factor in the culminating conferences that followed the Harvard conference series on world religions and ecology. Three interdisciplinary conferences were held in the fall of 1998 at the American Academy of Arts and Science in Cambridge and at the United Nations and the American Museum of Natural History in New York. These conferences included participants and scholars from the various world religions but also scientists, economists, educators, and policy makers. The Harvard web site for the Forum on Religion and Ecology is also constructed with sections for key dialogue partners in these disciplines.

It is becoming increasingly clear that environmental changes will be motivated by all of these disciplines in very specific ways: namely, economic incentives will be central to adequate distribution of resources, scientific analysis will be critical to understanding nature's ecology, educational awareness will be indispensable to creating modes of sustainable life, public policy recommendations will be invaluable in shaping national and international priorities, and moral and spiritual values will be crucial for the transformations, both personal and institutional, required for the flourishing of Earth's many ecosystems. All of these disciplines and approaches are needed. In this way, the various values, incentives and knowledge that motivate human activity can be more effectively channeled toward long-term sustainable life on the planet.

In short, drawing on all of these disciplines, a comprehensive reevaluation of long-term priorities is called for so   as to envision ecology and economics as part of one Earth process. We need to examine the tensions between efficiency and equity, between profit and preservation and between private and public good. We need to make distinctions between human need and greed, between the uses and abuses of nature, and between the intrinsic value and instrumental value of nature. We need to move from destructive modes of production to constructive ones and from the accumulation of goods to appreciation of the good.

As Thomas Berry has observed: "The ethical does not simply apply to human beings but to the total community of existence as well".

The integral economic community includes not only its human components but also its natural components. To assist the human by deteriorating the natural cannot lead to a sustainable community. The only sustainable community is one that fits the human economy into the eve-renewing economy of the planet. The human system, in its every aspect, is a subsystem of the Earth's system, whether we are speaking of economics or physical well being or rules of law. In no instance can the subsystem flourish by devastating the base system." ("Transforming Economic Myths" unpublished paper) In essence human flourishing and planetary prosperity are intimately linked.

The collective hope for ourselves and for future generations of all species is that a new creative balance of ecology and economy will emerge in our time so that the Earth community will not only be sustained but will truly flourish. The religious communities have a role to play in evoking this new creative balance.

Iran- a Crossroad of Civilizations: the Challenge of Dialogue among all Civilized Nations

Reza Sha'bani

Iran is a vast country - a land of over 1.6 million square kilometers, situated in the South-Western part of Asia. As a geographical unit, it offers quite a rich mosaic; highly varied and often harsh natural conditions at local levels accompanied by quite established and recognizable patterns of physiographical and climatic features at the national level. Due to these very features Iranians as a nation have suffered tremendously in their long history.

To start with, a better knowledge and deeper appreciation of Iranians requires a fuller picture and better appreciation of their natural situation and environment. In so far as its physical geography is concerned, Iran comprises of the western and the larger part of an extensive mountainous area extending from Eastern Asia Minor and the Caucasus to the plains of Punjab. This rather vast area forms the bulk of the Iranian plateau, which in current political terms comprises of the present day Afghanistan and a sizeable part of the Pakistani territory.

In so far as the climate is concerned, the Iranian plateau has been to a considerable degree shut off from the influence of damp, maritime air masses, hence, receiving rather low amounts of precipitation – between an average of three to twenty-five centimeters annually. Generally hot, cloudless summers accompanied with also generally cold winters has meant that life has never been easy for Iranians.

Certain regions of the world are distinguishable as being associated with a particular human culture pattern, which is at once distinctive in character and also sufficiently strong to have survived as a readily identifiable entity over many centuries. Such geographical regions; e.g., Iran, can be said to be home of a human group which possesses a high degree of social cohesion, which in turn fosters a sustained though possibly fluctuating political identity, a characteristic way of life, and a unique material culture capable of influencing other

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cultures to varying degrees.

Iran has remained a significant political and cultural unit over several millennia, with its artistic and commercial products highly valued by Greeks and Romans alike in ancient times and in Europe and other regions in more modern times. Despite recurrent waves of invasion and temporary periods of subjugation to foreign rule, Iran has remained as one of the focal areas of the Middle East region since the second half of the first Millennium B.C. I doubt there is any need here to delve into the significant intellectual, political and artistic influence of the country and its people across the Islamic world during the Islamic era.

It is therefore hardly accidental that the inhabitants of this ancient land should have exhibited sustained interest in other lands, peoples and cultures; one of their strongest intellectual contributions having been in the sphere of regional description. For early Iranians, as for other peoples, travel was at first a commercial activity. However, it acquired other features, including an administrative aspect, once the country developed into an "imperial" entity under the Achaemenids. The influence of such commercial activities are to be found in abundance in the areas which came to be ruled by Iran in early times as well as in later historical periods. Oases cities such as Bukhara and Samarqand in Central Asia are among prominent examples. Many authors have drawn attention to the distinction between towns lying on international trade routes, such as the Silk Road, and those in the interior which lack major long-distance trade activities and tend to function more as local centers. In this respect, Iran displays a rather special and even unique characteristic, making it quite distinct from areas farther west.

Judging from the wide brush I just portrayed from the long history of the land, its people and the interactions with others, one could surmise that environmental factors can be held to exert influence on the nature and evolution of the society. That is first aspect. The second aspect concerns the significance of a specific regional unit such as Iran within the bigger general environmental framework. The third aspect concerns special characteristics which could be held responsible, at least partially, for giving the Iranian society its distinctive quality.

In very brief words, and again in a wide brush, one could consider the following as special characteristics of Iranians since the times of the Achaemenids – characteristics as appraised and judged by foreigners along a common historical journey through which we have all matured and become enriched:

- Tolerance towards other peoples and respect for their beliefs and creed;

- Embracing new – "non Iranian" – religions: Buddhism as far back as fifth Century B.C.; King Cyrus' liberation of Jews in 539 B.C. and their settlement in Iran is legendary; and Christianity in its very early days, hence, the establishment of the first Christian church in the Iranian plateau and naming of an Iranian territory Armenia. I have already mentioned the special relationship between Iranians and Islam.

- Hospitality towards foreigners – a hallmark of this land, people and society since times immemorial.

- Reverence for the four elements of soil, water, air and fire – which should be pure and be kept purified – as thought by Zoroastrianism and respected and cherished ever since, even during the Islamic era;

- Cherishing since ancient times of the three fundamental Zoroastrian injunctions – Good Thinking, Good Word, and Good Deed – which have also received the seal of approval and corroboration in the Islamic moral code.

In conclusion, I believe these qualities have played a very clear catalytic role in contributing to the development over time of the Iranian society as a multi-ethnic, multi-lingual and, in one sense, a multi-cultural entity as we find today. They have served to create an Iranian-style melting pot; a crossroad of cultures and civilizations, both Eastern and Western. These characteristics and qualities that have helped form the unique Iranian identity, have, moreover, resiliently endured over time, passed the test of times of hardship and crises of all sorts in the course of two long Millennia, and more importantly, have exhibited the requisite flexibility to move forward with times and change. Today, they are as time-honoured as modern, and can still serve the same purposes as in the past. They can function as potently as in the

past and contribute to facilitating and promoting the dialogue, and hence mutual understanding and empathy, among modern societies and nations. President Khatami's proposal for the Dialogue among Civilizations was, and continues to be, a true reflection of the deeply engrained values and characteristics of the Iranian society. Let us all endeavour, to the best of our respective abilities, towards realizing the cherished ideals of dialogue towards a better future. That is a common human responsibility we all share - an escapable moral calling, independent of creed or belief systems - and to which we should rise.

VIII

Peace and Conflict Prevention

Chairman: Simon Dalby*
Assistant: Nicky Davis**

Conflict Prevention and Dialogue of Civilizations and Cultures: a Strategic Imperative

Richard Falk

████████The theme of this conference draws necessary connections between environment, peace, and transnational communication that have been rarely explored. It is appropriately taking place in Tehran reflecting Iran's commitment to and leadership of efforts to encourage a dialogue of civilizations and cultures. This short paper will focus on the goal of conflict prevention as facilitated by such a dialogic orientation.

The approach is inspired by the remark made by President Khatami in his address to the General Assembly during the Millennial session of 2000: "I want to stress that in formulating this proposal [for a UN project on the dialogue of civilizations] the Government of Iran has attempted to present an alternate paradigm of international relations...It is incumbent upon us to radically examine the master paradigm and to expound the grounds for replacing it with a new one." It is this understanding of 'dialogue' as fundamental to the restructuring of international relations that is both challenging and promising. President Khatami contrasts the alternate paradigm of dialogue, calling forth "the will for empathy and compassion" with the prevailing master paradigm "of power and the glorification of might."

What seems to be implied by this call is the emergence of a 'nonviolent geopolitics.' This may appear to be a utopian conception

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given the degree of militarism and 'coercive geopolitics' currently dominating the global stage. But the argument on behalf of the paradigm of dialogue is the dangerous futility of seeking to solve the problems of human development by continuing to rely on the paradigm of power. To move in a dramatically new direction requires imagination and the courage to swim against the current of the familiar. The fact that a leader of an important country such as Iran recognizes the challenge confronting human society is itself a breakthrough. It is also consistent with associated breakthroughs associated with the rise of human rights as a universal discourse about right conduct and with the spread of democracy, that is, the spread and growth of nonviolent politics in state/society relations. It draws support and guidance from the teachings and exemplary lives of Gandhi, Nelson Mandela, and Martin Luther King, as well as the great movements of popular resistance in Eastern Europe during the Communist era, the struggles against dictatorial rule in Latin America, the movement against corrupt and absolutist rule in Iran, and the extraordinary transformation of apartheid South Africa by peaceful means. It is this counter-tradition of politics and conflict resolution that gives hope, and prefigures the emergence of world order resting upon the postulates of nonviolent geopolitics.

When it comes to the protection of the environment, sustainable human development, and an equitable world order, it has become evident that existing patterns of relations among states and peoples will not succeed: economic globalization premised on neoliberalism has accentuated disparities in wealth and income within and among societies, regions, and the world; shortages of critical resources, such as oil and water, in relation to the unevenness of state power is likely to produce destructive forms of violent conflict unless imaginative and transformative modes of behavior begin to take hold. It is important to realize that the persisting master paradigm of power (inequality, exploitation, war) became entrenched during a time when energy, food, environment, and water seemed present on the planet in abundant quantities. This meant that the powerful could turn their relative power to their advantage without imperiling their own security. Such circumstances no longer persist. It is now impossible for the powerful to protect their own future without a vast network of cooperative

arrangements that must accommodate the needs of the poor and weak if they are to work effectively. Global governance is needed for the sake of both environmental protection and human development, and can only be provided successfully to the extent that there is either established a centrally administered world empire that enforces its will by violent means or a voluntary association of peoples, governments, global civil society, market forces, and international institutions that works out common solutions to common problems. It is a strategic imperative in the sense that a continuing submission to the master paradigm means oppression, suffering, drastic insecurity, and intensifying environmental and ecological danger for the vast majority of the people on the planet.

To achieve such a global voluntary association will itself require dedication to a long and difficult process. There are elements of this process underway. At the same time, there are numerous instances of seeking solutions to current problems by reliance on the familiar old ways of reinforcing the uneven material and technological circumstances of states by reliance on military intervention, occupation, and control over critical resources of foreign countries, that is, the persistence of violent geopolitics that has dominated the history of the modern secular state system.

It is the thesis of this paper that the deepening and widening of dialogue between and within civilizations is the necessary precondition for the further emergence of the alternative paradigm along with the slow eclipse of a power-driven world order. Such a dialogue must penetrate as many arenas of policy formation as possible. The various arenas of environmental policy are among the most crucial. The large environmental issues of climate change, ocean pollution, ozone depletion, deforestation, and polluted aquaculture can only be solved if regional and global frameworks are relied upon and have the means to achieve compliance with agreed norms of behavior. It is through dialogue that a shared conception of problems is more likely to emerge, especially if the values of empathy and compassion infuse the dialogue with an ethos of deep listening, that is, the recognition and identification with the situation of 'the other,' especially the disadvantaged other. It is here that religion and the academic community can contribute,

exhibiting less exclusive ties to nation and state, and a more natural embrace of humanity as a whole, as well as affirming visions of its long-term sustainability. The more genuine transnational configurations of community and understanding, the more likely it is that voluntary associations will form to set norms and policy in a manner that benefits all who are affected. And the sooner this type of development occurs, the quicker will be built a momentum that changes the atmosphere of thought and expectation away from violence and toward consent and accommodation.

Such a direction of movement should not threaten genuine differences or entrenched pluralism of all kinds. In fact, as the 2004 UNDP Human Development Report eloquently demonstrates, it is the affirmation of respect for diversities of religion, language, ethnicity, and values that enables resilient political spaces based on what might be described as 'cultural liberty.' It is from this perspective that it is necessary to make the dialogue as inclusive as possible, remembering not to exclude indigenous or otherwise marginalized peoples. Indeed, as has been long observed, it is such peoples, with their thousands of years of sustainable development, that have much to contribute to dialogues with various modernist outlooks that base development on Faustian illusions of continuous and unimpeded economic growth, technological mastery that overcomes the constraints of scarcity, and an autonomous market that is heedless of limits. Dialogue is not only about the discovery of otherness and self, it is also about the rediscovery of limits and the translation of an ethic of humility in the practices of sharing, conservation, and self-restraint.

Finally, there is the obvious point that preserving peace is itself protective of a healthy environment. The destructiveness of war, including the devastation of native habitats and the littering of landscapes with dangerous materials (e.g. depleted uranium), is itself a major environmental hazard. Beyond this, the diversion of attention and resources in situations of war and its threat, tends to diminish greatly the priority accorded to environmental protection. Understanding this mutual benefit of peace for the whole of humanity is one dimension of discovery that might well emerge with greater vividness from a dialogue on the subject-matter of this conference theme.

Note:

Professor Falk did not not attend the Conference due to last minute unexpected change of schedule. However, he graciously sent the text of his presentation – which was presented, on his behalf, by Ambassador Bagher Asadi - and distributed at the Conference.

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A Geographic Perspective
on
Environment Preservation and Peace in a Changing World

Paul Claval

For geographers, the contemporary World is characterized by a double transformation of man/milieu relationships: (i) a new awareness of the environmental responsabilities of societies and States; (ii) an increased mobility of men, goods and information. Links exist between these two transformations: both of them result from the technical progress which allowed the use of concentrated forms of energy in a growing number of points and areas, and later, all over the earth. Technical progress facilitated at the same time transportation and communication. In order to measure the significance of these changes, and to propose strategies for environmental preservation and peace in the future, we shall start with a brief presentation of environmental awareness, cultures and civilizations (i) in traditional societies and (ii) at the time of the industrial revolution. (iii) We shall then cover the contemporary transformations and propose (iv) some reflections on the strategies to develop for the future.

I- Environment, culture and civilization in traditional societies.

(i) Most of the energy used in traditional societies came from the photosynthesis of plants: it provided food for human beings and their domesticated animals, and the wood they used for cooking, heating their homes or fabricating their tools and building their houses. Waterfalls were the only available source of concentrated energy: they were difficult to harness and existed only in a few places. It meant that traditional societies relied mainly on dispersed forms of energy. Since transportation was costly, much of what has been producted had to be consumed locally, or in the vicinity of the fields or forests which provided it.

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As soon as human societies mastered the fire, their impact on environments had been important: the parkland which covered the largest part of Australia at the time of its discovery by European navigators resulted from the action of groups which did not practice farming or stock rearing, but burnt every year large tracts of land. As soon as agriculture developed, soil erosion increased dramatically. The exportation of the elements insuring the fertility of soils occured very quickly. It took a long time – from five to twenty or more years - for fallow to restore the primitive fertility.

(ii) Human groups were generally well aware of the limitations of the environments in which they lived: most of them knew that it was dangerous to produce too much in the same area. They practiced shifting agriculture or invented complex crop rotation systems in order to reduce the length of fallows without impairing the natural possibilities of the area in which they lived.

In traditional societies, most of the productive techniques pertained to the low, vernacular forms of cultures. They were mainly passed down through imitation and by word of mouth. Since the impact of farming was mainly local, there was generally no feeling of global responsability towards nature : each group was in charge of the area in which he lived. It was not in charge of what occured elsewhere.

(iii) The traditional vernacular local cultures generally coexisted with forms of high cultures relying on the use of the written word. The fields covered by the low and high cultures differed: low cultures dealt with daily life attitudes and rules, productive techniques and what had to be done in order to preserve the local environment; high cultures were short on techniques – it was a field where the written word was for long relatively inefficient. They dealt mainly with moral codes and religious beliefs.

High cultures took sometimes the form of civilizations or "axial societies", to use the term coined by Eisenstadt: they were built on a solid core of ethics and religious beliefs. Eisenstadt have shown their role in the deep transformations which occured from the first Millenium B. C. – when civilizations began to sprawl over a good part

of the Ancient World.

In societies where transports were slow and often dangerous, it was difficult to communicate at a distance In order to pass on more easily messages to a faraway point, information was transmited upwards through relays to a central switching point and then downwards to the addressee; at each level of the network, information was processed to compress and simplify it: the only way to triumph over distance was to choose hierarchical structures of communication. They were materially expressed by hierarchies of urban places. Hierarchical communication paved the way for the building of centralized polities, mainly States.

High cultures did not ignore environmental problems, but since there were not responsible for production, they usually provided only a few general principles in this field: their awareness of environmental preservation was less acute than it was the case of local vernacular cultures.

2- Environment, culture and civilization at the time of the industrial revolution

(i) At the time of the industrial revolution, during the second half of the nineteenth century, the situation changed deeply thanks to the new possibilities to master concentrated forms of energy: the wheels equiping the waterfalls were much improved, and thanks to the Fulton's turbine, became more efficient. The steam machine offered a mean to transform the chemical energy included into wood or coal into mechanical energy: men ceased to depend exclusively on the energy resulting from vegetal photosynthesis. The production of manufactured goods resulted until then from the activity of dispersed craftmen. The new forms of concentrated energy allowed their replacement by industrial workers in big plants. Thanks to steamers and railroads, transportation became rapidly easier and cheaper, and communications more efficient. The use of concentrated forms of energy was responsible for the accumulation of a growing part of the population in cities, and in big cities.

(ii) The industrial revolution was responsible for a fundamental change in environmental problems: the main question had been, until then, to preserve the productivity of farming ecosystems. With the industrial revolution, the recycling of the air, waters and waste produced in industrial and urbanized areas became a difficult problem. During its first stages, the areas in which the use of concentrated forms of energy was possible was still mainly limited to coal basins, major industrial regions and big cities. In most rural areas, the ecological conditions have not changed radically: the improvement of yields was essentially sought through a better combination of crops, the use of legumes for instance, and a better association with animal husbandry. The use of chemical fertilizers was limited, and mainly concentrated in a few areas of Northwestern Europe. The energy used to plough the fields was still provided by horses, mules or oxen.

In order to deal with the environmental problems of the regions were populations and activities concentrated, the solution was a simple one: polluted water and waste were exported from these regions towards areas where densities were lower; they were in this way diluted. In most cases, they were easily recycled by local ecosystems.

Hence the environmental optimism characteristic of the industrial revolution: the industrialists were well aware of the dangers of the waste and polluted waters they threw out, but were convinced that a good sewage system and extensive areas to dispose of these dangerous products would solve the problem. The only unresolved question was the pollution of air: it was impossible to export the gases and fumes produced by the plants of industrial areas or the billions of households of major urban concentrations. Hence serious health problems and the higher incidence of pulmonry diseases. On the whole, however, exporting urban and indusrial waste and polluted waters was conducive to a spectacular decrease of death-rates in urban areas: by the end of the nineteenth century and for the first time in history, urban population could naturally reproduce. Until then, they had to rely on a permanent flow of rural migrants to compensate their excessive mortality.

(iii) Except in Britain and a few other North-Western European countries, rural areas still covered the major part of the Earth and

remained more populated than cities. There, the old dichotomy between low and high cultures subsisted. Most of the techniques were still passed down from generation to generation through imitation and oral explanations, even if the role of agronomists began to be significant in some parts of North-Western Europe.

Because of the generalization of primary education, however, the number of boys and girls who were only trained in the old vernacular style declined. It meant that the gap between high and low cultures tended to decrease.

In the urban areas, the evolution went deeper. For the first time in history, most of productive techniques were developed by well educated people: the engineers. They relied on science to rationalize the new forms of knowledge they invented.

On the whole, however, the opposition between low and high cultures remained significant in industrialized or urbanized areas. High cultures were still bearers of the attitudes and values of civilization. Their role was essential in providing populations with the sets of beliefs which gave a meaning to their individual or social life, legitimized the States and taught everybody the rules needed to build a social order. Because of the environmental opitimism of the engineers, the reflection on the dangers resulting from the increasing use of concentrated forms of energy was limited to a few scientists. They had not a big impact on public opinions. Civilizations remained relatively indifferent to environmental issues.

The industrial revolution had much improved the infrastructures of communications, but a hierarchical organization was still needed for relations at a distance: hence the increased role of urban hierarchies at that time; hence the prominent role of States in political life.

3- Environment, culture and civilization today

(i) Most of the techniques used today were already present in the 1920s or 1930s : the steam engine, the internal combustion engine, the electric motor, steam- or motorships, railroads, cars, telegraph, telephone, radio, even the TV, etc. Some important new innovations occured

during World War II: nuclear energy for military and later civil uses, more efficient forms of remote sensing thanks to the RADAR, the computer. During the last fifty years, innovations resulted more from the combination of already known techniques than from truly new inventions, as for the color TV, the cellular phone, etc. The major really new advances occured in chemistry and biotechnologies.

For a geographer, the most relevant aspect of contemporary changes is their universal distribution: thanks to the internal combustion engine, and to a lesser degree, to electric power, it is now possible to make use of concentrated forms of energy anywher on the earth: farmers use tractors to plough their fields or harverst their crops. They improve the yields of their fields through the use of chemical fertilizers, a part of which results from the use of concentrated forms of energy to treat natural phosphates or potash or produce ammonium nitrates. At home, it seems normal to maintain the rooms at a constant temperature through heating or air conditioning. The housewives use a wide array of domestic electrical appliances. When walking, it was difficult to live at more than three or four kilometers of one's workshop, plant, office, shop or school. Today and thanks to cars, people do not hesitate to live at 20, 30 or more kilometers from their jobs.

At the end of the nineteenth century or at the beginning of the twentieth, the areas which had access to concentrated forms of energy were still limited. Today, they cover practically all the Earth.

To dispose of polluted waters and waste, the solution used during the first phases of the industrial revolution was to export them into not overburdened ecosystems, which recycled them. Today the situation is totally different: pollutions have ceased to be circumscribed in a few industrial or urban areas. They become general because of urban sprawl, the rurbanization of many areas, with higher levels of consumption for the new settlers, and the intensification of farming. Hence the development of regional forms of pollution: whole rivers or inner seas are concerned; in the lee of huge cities or industrial concentrations, extensive areas are suffering from acid rains; in winter time, atmospheric pollution spread over millions of square kilometers to the North of the Indian Ocean. Global scale effects are taking momentum, with a noticeable warming of temperatures.

Environmental problems have changed of scale: they have ceased to be mainly local, as in traditional societies, or limited to a few human concentrations, which could rely on the neighbouring rural areas to recycle what they threw out. The impact of human societies on terrestrial environments is such that it has become impossible to rely on natural processes for maintaining alive a growing number of ecosystems. Men have to monitor them and take in charge their management.

(ii) The mobility has deeply changed the conditions which prevailed for the passing down of practices, know-hows, knowledge, moral attitudes and religious or ideological beliefs. The old opposition betweeen vernacular low cultures and learnt high cultures has been replaced by a new couple: mass cultures, and technical and scientific cultures.

At the end of the nineteenth century, with the generalization of education, many people were convinced that the democratization of the higher forms of culture would be achieved in a foreseeable future. What happened was different. Because of the radio, cinema and T.V., the diffusion of behaviour, attitudes and beliefs over wide areas may now be achieved through imitation and the use of word : vernacular cultures have ceased to be local ones, they are shared by all the people who listen to or look at the same programmes. Since mass medias are more adapted to the diffusion of attitudes and everyday behaviour than to the teaching of techniques, the vernacular cultures of today have ceased to deal with the productive aspect of life: they concern more the daily practices of sociability and forms of entertainment.

Because of the progress of science, the role of the written word has changed: the high cultures of today are more concerned than those of the past with techniques and production. The attention they give to values is sometimes lesser than in the past – in the Western World at least. It means that high cultures are often dissociated from civilization, specially in Western countries.

The new conditions of communication have triggered a deep transformation of the forms of low and high cultures. The former have ceased to offer a solid basis for the identities of the lower classes – mass cultures have erased most of the differences which were

significant in that field. The latter give information on the transforma-
tions which are going on in the World and highlight the necessity for
humanity to take in charge the management of nature, but since they
have ceased to be structured as civilizations, they lack the moral forces
which would help to materialize this new concern. Hence a central
problem for human societies today: how to give a new dynamism to the
systems of values vehicled by great civilizations?

(iii) The technical revolutions of the last fifty years have other
correlates. In the field of communication, they have deeply transformed
the structure of networks. Because movements are quicker and the
capacity of lines much greater than in the past, it is no more necessary
to process information at each stage of the communication system in
order to reduce the volume of messages. The advantage of the hierar-
chical systems of communication have disappeared: two levels are
enough. As a result, urban networks are experiencing a rapid reorgani-
zation, with the growing opposition between metropolises and all the
other urban centers.

The former pyramidal social structures which relied on the
existence of pyramidal systems of communication are weakened : it is
the case of States. Enterprises and NGOs (non governmental organiza-
tions) develop relations that ignore traditional boundaries.

IV- Strategies for environmental preservation and peace

In order to conceive strategies for environmental preservation and
peace, it is necessary to take in consideration all the transformations of
the contemporary scene.

(i)) The new possibilities offered by rapid transportation and
telecommunications have a deep impact on all contemporary societies.
Because of higher mobility, the globalization of economy, the develop-
ment of tourism, international migrations, people of different cultures
have more opportunities to meet or communicate. It means that news
are instantaneously broadcast all over the World, fashion and fads
travel quickly, imitation of attitudes and expectancies relative to daily

life is easy. We are living in a World of mass cultures.

During the last two centuries, the ideologies shared by Western peoples were based on the idea of Progress and the philosophies of history it had nurtured. Everyone is glad from the progress of medicine and the longer life expectancy it provides to people, but the threat of deadly nuclear, chemical or biologic weapons has deprived the philosophies of history of their credibility. It means that Western countries and westernized societies have lost a part of the beliefs upon which they were built.

The growing number of possibilities open to everyone may dream upon is at the same time as lived a threat over identities: in the past, most of them were built on the peculiarities of local vernacular cultures. The mass cultures which have displaced them are uniform: they do not offer niches to justify one's specificity. Hence reactions of refusal expressed in different ways: many people try to stick to the old local identities and struggle for the preservation of technical or land-scapce heritage to maintain a visible basis for such forms of differentiation; others explore the foundations of their religious beliefs to find solutions of their present anxiety; in some parts of the Worlds, sects prolifer; new ideologies progress, multiculturalism and different forms of ecologism for instance.

At a time when the new responsabilities humankind has to assume in the field of environmental preservation, it experiences a fragmentation which makes more difficult the definition and building of common strategies.

(ii) International life relied, since the seventeenth century and the rise of the modern State (the Westphalian one, as some political scientists name it), on States. The older forms of reticulated power systems which were so important in the past have disappeared. States controlled (with more or less efficiency) the networks of relations developed by private agents, either enterprises, churches or individuals.

In such a context, international cooperation had thus to rely on international negociations, the organizations from time to time of big diplomatic conferences and the creation, in some fields, of supra-national systems of arbitation – the International Tribunal in The Hague

from the end of the nineteenth century, the Society of Nations from 1919, and the Organization of United Nations from 1945.

These traditional forms of political organization and problem-settling have still to play an essential role in the world of today. There are the only forms of organizations able to control territories and inforce regulations on them. A good example of their efficiency is provided by the Law of the Sea: in order to improve the management of oceanic resources, the most efficient step was to enlarge to 200 miles the breadth of national territorial waters: every country is in charge to defend its own territorial waters and to avoid overfishing. Since most of the oceanic life is concentrated in the continental shelves, such a measure improved notably the management of fishing resources – at least on the coasts where nations are strong enough to control their territorial waters.

Nations are increasingly conscious of the necessity for them to unite their forces to organize more efficiently their econonies and many aspects of the life of their citizens: hence the development of Free Trade Areas or Economic Communities.

The definition of efficient strategies for environmental preservation and peace has mainly to rely on international relations, their traditional organizations, and the forms they have taken since fifty years. The responsability of the United Nations for the definition and implementation of policies of environmental preservation is essential.

(iii) Because of the changing forms of social networks and the growing efficiency of weakly organized structures, strategies have to rely on other means. Economic interests are often reluctant in accepting the regulations which are necessary to save the global environment. They know how to lobby the national or international institutions. Hence the fundamental role, to counter and control their action, of public opinions.

In this field, the existence of strong networks of independant non governmental organizations is an important guarantee: everyone is aware of the positive role of Greenpeace in the struggle for environmental preservation. Many governments try, however, to limit their actions. There is some justification in these policies, since non govern-

mental organizations often support opposition parties and groups. If they wish to strengthen their credibility in the field of environmental preservation, it would certainly be good fo r them to adopt more rigorous deontologies in the field of political interference with local or national authorities.

Strategies for a better environmental preservation and peace have certainly to rely on non-governmental organizations. Other lines have also to be developed.

(iv) We are living in a World where competition is harsh at all levels. As a result, States, enterprises and other forms of organizations develop power geopolitics in order to achieve a better share of the World resources.

One of the fundamental action to counter the dangerous effects of such rivalries is to define criteria for other types of geopolitics – geopolitics of power balance and shared-resources. Reflection has been very active in this field during the last decades. It is obvious that its results would remain inefficient if they are not supported by the great forms of civilizations based on religions and the respect of the human person.

(v) The international reflection on the limits of the Earth started in the 1970s, with the publications of the Club of Rome and the Stockholm Conference of 1972. Twenty years later, in Rio de Janeiro, an agreement was reached upon the idea sustainable growth: it was acceptable for the ecologists as well as for the developmentalists.

A major change has occured during the last ten years: a growing part of what was called the Third World in the 1950s enjoys today such an economic develpment that its consumption of energy and raw materials is quickly increasing. It means that the pressure over the global environment will increase quicker than was expected in the 1980s and 1990s. As a result, a new reflection on the meaning of "sustainable growth" is needed: how the responsabilities have to be shared between the different countries and social groups? How the restrictions over the use of resources have to be distributed?

From Threat to Opportunity: Exploiting Environmental Pathways to Peace

Geoffrey D. Dabelko1

██████████Recent reports direct the attention of policymakers and scholars to the links between environmental issues and security, promoting a new understanding of the 21st century's threats to peace. From UN reports, such as UN Secretary-General Kofi Annan's In Larger Freedom (2005) or the UN High-Level Panel on Threats, Challenges, and Changes - A More Secure World (2004), to NGO publications like Worldwatch Institute's State of the World 2005, these documents place environmental issues in the broader context of economic development, foreign policy, and security. In their view, these issues cannot be separated: sustainable development is critical to ensuring global security, and peace is required for effective development.[2]

In the response to these calls for action, policymakers and scholars have rushed to uncover and sever links between the environment and conflict or insecurity.3 In our haste, however, we have often failed to leverage opportunities to manage environmental problems in ways that build confidence, trust, and peace between parties in conflict.

Instead of focusing exclusively on the threats posed by environmental degradation or depletion, we should actively exploit the peacemaking potential of natural resource management.

What is environmental peacemaking?

At its most fundamental level, environmental peacemaking utilizes cooperative efforts to manage environmental resources as a way to transform insecurities and create more peaceful relations between parties in dispute. Environmental management may help overcome political tensions by promoting interaction, confidence building, and technical cooperation.

While there are opportunities at all levels, this paper focuses

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primarily on opportunities to make peace between nations or within regions. Such efforts attempt to capitalize on parties' environmental interdependence, which encourages them to communicate across contested borders or other lines of tension. These pathways to peace can be state-to-state interactions, civil society-to-civil society dialogue, or perhaps most importantly, the interplay between the two (Conca, 2002; Conca & Dabelko, 2002; Conca et al., 2005).

Building on the dynamics of environmental interdependence, we find at least four distinct environmental pathways to peace and confidence-building. They run along a conflict continuum that moves from conflict prevention, to conflict, to post-conflict reconciliation. They are:

1- Environment plays a role in preventing conflict;
2- Environment plays a role as a lifeline during conflict;
3- Environment plays a role in ending conflict; and
4- Environment plays a role in making peace sustainable and long-lasting.

Environmental issues have a number of characteristics that make them good candidates for bringing parties together:

●Many environmental issues ignore political boundaries, making it difficult—if not impossible—for countries or groups to address them unilaterally; instead, parties must work together to sustain and manage resources or mitigate negative impacts.This interdependence can drive parties to the table even when they are fighting over other issues.

●Environmental issues often require long-term cooperation, providing an opportunity to build up trust over time. Shared environmental challenges are rarely solved or managed in "one and done" agreements. More commonly, they require ongoing consultation to effectively address shared environmental conditions that can change rapidly with little warning.

●Environmental issues lend themselves to civil society-to-civil society interactions more than other bilateral issues, such as currency

trading or nuclear proliferation, which are more tightly controlled by elite financial institutions or the state. Civil society's ability to act on environmental issues enables cross-border linkages that may serve as precursors to state-to-state dialogue.

● At times, environmental issues constitute "high politics" and, at other times, "low politics." When environmental issues are a high political priority, parties are often compelled to come together and devote political attention, as environmental issues cannot be dismissed as insignificant. A groundwater aquifer shared by two or more states in a water-scarce region, for example, demands the highest level of political attention.

When environmental issues are a low political priority, they can offer an oasis of cooperation within a larger conflict. In this case, environmental issues do not threaten the most contentious issues in the relationship and thereby may provide a safe first step for dialogue. Given the diversity of potential environmental pathways to confidence-building, both high and low political circumstances can prove useful[3].

Four environmental pathways to peace: examples

1. The environment plays a role in preventing conflict

Environmental management and the sustainable use of a natural resource can undercut the grievances that exacerbate tensions. In this pathway, the parties are not engaged in outright hostilities, but their bilateral or multilateral relationships may be unsettled or tense. Grievances stemming from poverty or perceived inequalities in resource use may contribute to these tensions. Addressing these grievances, even when the efforts are couched officially as development activities or natural resource management, can constitute a peace-making strategy.

Transboundary river basin cooperation: Politicians frequently warn that water wars are imminent in the Nile River basin, where regional power Egypt is highly dependent on the water flowing downstream through

nine other countries. However, research indicates that nations do not go to war over water (Wolf et al., 2003, 2005). Since 1999, the Nile Basin Initiative (NBI), facilitated by the UN Development Programme, the World Bank, and the Canadian International Development Agency, has included all the Nile's riparians in ministerial-level negotiations to formulate a shared vision for sustainable development within the basin[4]. While not explicitly framed as a peacemaking effort, this cooperative program provides vital avenues for dialogue and promises tangible advances in development, which can reduce tensions along the river.

In the wake of the Angolan civil war, some have identified the Okavango River Basin as another "basin at risk" (Wolf et al., 2003). Angola, Namibia, and Botswana want to use the river's water in different and not necessarily compatible ways, which could reopen old wounds in this former war zone. Basin-wide institutions such as the Okavango River Commission, however, are actively fostering cooperation to meet the countries' changing needs and head off future conflict (Pinherio, 2003; Nicol, 2003; Earle & Mendez, 2004).

In part because the states and international institutions have limited resources, they are willing to collaborate with civil society groups to conduct monitoring, consultation, and assessment. This inclusive attitude could be a model for improving participation in international environmental management structures.

2. Environment plays a role as a lifeline during conflict

During active conflict, lines of communication are often scarce. Environmental issues can be a productive avenue for dialogue, a lifeline that allows warring parties to maintain contact when other avenues are unavailable. When environmental issues are considered low politics, they can be a safe area for dialogue. When environmental issues are high politics — critical to survival — they can be too important to fight over. In the case of water resources, for example, cooperation has persisted even in the face of bitter conflict.

Environmental cooperation as avenue for military-to-military dialogue: As the Cold War ended, the militaries of the United States, Norway, and the

Soviet Union (and later Russia) met to discuss the environmental threat posed by radioactive waste in Russia's Northwest. The military-to-military exchanges, formalized in the 1994 Arctic Military Environment Cooperation (AMEC) agreement among the three defense ministers, provided an opportunity for face-to-face confidence building that sought to ensure political stability and security. Radioactive waste disposal was a relatively safe topic for the two superpowers to discuss as they emerged from the tensions of the Cold War (Van Deveer & Dabelko, 1999).

Cooperative water management in times of conflict: Two hundred and sixty-three rivers are shared by two or more countries, providing ample opportunities for states in conflict to share water. With its high levels of variability, water is frequently used as a lifeline for dialogue and cooperation during conflict. The Indus Waters Treaty stayed in force despite three major wars between India and Pakistan since its signing in 1960.

Cambodia, Laos, Vietnam, and Thailand formed the Mekong Committee in 1957 and continued exchanging water data throughout the Southeast Asian wars of the 1950s, 1960s, and 1970s. And from the 1980s until the early 1990s, while both nations were formally at war, water managers for Israel and Jordan held secret "picnic table" talks to arrange sharing the water from the Jordan and Yarmuk rivers. These dialogues are not limited to states; the NGO Friends of the Earth Middle East, directed jointly by an Israeli, Jordanian, and Palestinian, has facilitated community-to-community dialogue throughout the second Intifada with its Good Water Makes Good Neighbors program[5].

3. Environment plays a role in ending conflict

Environmental degradation or depletion may not be a cause of conflict between parties in a given dispute. But innovative environmental management structures can sometimes help parties in conflict find ways to address unrelated causes of conflict, such as disputed borders. In other situations, even if the control of environmental assets was not the cause of the conflict, parties must negotiate the allocation and/or

management of transboundary natural resources in order to reach a lasting peace settlement.

Joint environmental management helps broker peace agreements: Integrated joint management of the remote rainforest shared by Peru and Ecuador helped settle an intermittently violent, decades-long dispute over the border between the two countries.

Adopting an ecosystem-level approach, the governments established joint management structures and the Cordillera del Condor Transboundary Park in this remote area. The 1998 peace agreement brokered by Brazil, Chile, and the United States specifically included these environmental management structures. Some observers have recommended the creation of peace parks in similarly contested border areas, such as the K2-Siachen region between India and Pakistan, to encourage a climate of cooperation (Ali, 2004).

Environmental agreements are required to reach peace: Neither the conflict between Israel and Palestine nor the conflict between India and Pakistan began as a water conflict. Water scarcity did not cause the wars these parties have fought. Nevertheless, water resources are key strategic assets that each party must agree how to share before conflict can end. By dedicating working groups to negotiating water issues, the respective peace processes have explicitly recognized the importance of shared water resources.

4. Environment plays a role in making peace sustainable and long-lasting

Recovering from war requires a safe and healthy environment, which—contrary to widely held perspectives on post-conflict reconstruction—are not "luxury items" that can be addressed after attending to immediate needs. As a critical tool to jump-start post-conflict development, natural resources offer a key avenue for dialogue and confidence building. Where peace has taken hold but relations remain unsettled, more ambitious efforts, such as joint management of border areas, may encourage economic development that benefits all the former adversaries.

Environmental assessment in post-conflict settings: The new UN Environment Programme's Post-Conflict Assessment Unit (PCAU) assesses much more than war's environmental damage. At a country's invitation, the PCAU conducts independent scientific assessments on environmental conditions that provide key information for supporting post-conflict development and reconstruction[6]. PCAU's activities are beginning to move into the domain of environmental peacemaking. By helping establish environmental management structures that promote dialogue and cooperation among former combatants, PCAU is taking steps to prevent the reemergence of conflict. As Pekka Haavisto, head of PCAU, writes in State of the World 2005, efforts to restore the transboundary Mesopotamian marshlands have brought Iraqi and Iranian scientists together for the first time in 29 years (Haavisto, 2005a, 2005b).

Peace parks: In post-apartheid southern Africa, peace parks (or transfrontier conservation areas) are literally tearing down the borders between former adversaries. This ecosystem approach seeks to encourage development and political peacemaking, as well as conservation. However, early attempts suffered from a lack of consultation with local groups. And, it is still uncertain whether increased tourism income can benefit local residents, not just elites. But by facilitating cooperation on water issues, conservation, local livelihood development, and eco-tourism, these transboundary mechanisms for peacemaking are worthy of further analysis[7].

Lessons learned, key questions, and next steps

The examples of environmental pathways to peace listed above are clearly illustrative and not exhaustive. A more complete list requires considerably more research and investigation. Until there is comprehensive accounting of the different roles the environment can play in confidence building, any conclusions or lessons learned will be preliminary. Similarly, many of the ad hoc efforts identified here have not been given enough time or resources for us to judge their efficacy.

With these caveats, we can identify some possible short-term and medium-term actions to remedy these shortfalls. It is also possible to suggest some lessons learned for the design of future environmental peacemaking programs.

1. Prioritize the natural resources most likely to provide successful environmental

Pathways to peace

The likelihood of various natural resources contributing to confidence building differs. Scholars should conduct systematic comparisons to identify the characteristics that make certain resources more likely to play positive environmental peacemaking roles than others. For example, water issues (particularly at the transboundary level) have demonstrated perhaps the greatest potential for environmental peacemaking (Conca & Dabelko, 2002). As noted earlier, despite the rhetoric regarding looming "water wars," interactions between states on water issues have historically been cooperative rather than conflictive (Wolf et al., 2003, 2005).

On the other hand, minerals and valuable stones—such as diamonds, gold, and coltan—could be at the opposite end of the spectrum. Their high level of fungibility, value, and ease of transport, combined with the diffuse nature of artisanal mining, make controlling these resources—and therefore, capturing their confidence-building benefits— particularly difficult. Natural resources like forests, land, and biodiversity fall somewhere in between water and minerals. The environmental peacemaking properties of environmental services, such as air quality, remain under-explored.

2. Find optimal mixes of transparency and participation in environmental

Peacemaking efforts

Conflict prevention and peacemaking have typically been the preserve of states, and civil society efforts have been perceived as secondary. Too little attention has been given to the interaction between these two levels. Can, for example, civil society pave the way for more productive state-to-state interactions? Will state-to-state agreements fail with-

out civil society participation throughout the process? Is there an optimal balance of transparency and secrecy that builds legitimacy while still enabling states to negotiate (Conca & Dabelko, 2002)?

The Nile Basin Initiative's experience shows that participation and transparency are critical issues for the long-term implementation and perceived legitimacy of regional development efforts with environmental peacemaking benefits. The adjustments made by the Nile Basin Initiative process, such as establishing the Nile Basin Discourse to ensure greater civil society participation, indicate that processes can adapt and become more inclusive (Kameri-Mbote, 2004).

3. Overcome barriers to collaboration among environment, development, and security

institutions

We must break through the barriers preventing collaboration among environment, development, peace, and security institutions, such as the United Nations, international6 financial institutions, regional organizations, states, NGOs, and academia (Carius & Dabelko, 2004). By its very definition, environmental peacemaking requires expertise across a range of portfolios and involves actors with little or no experience in cooperating. Often, institutions representing environment, development, and security compete for political attention and resources. To effectively exploit environmental pathways to peace, these fault lines must be crossed. To help achieve interdisciplinary and inter-agency cooperation, practitioners and scholars need training and capacity enhancement that gives them the necessary skills to undertake cross-cutting efforts.

The Environmental Security Initiative (ENVSEC) in Central Asia and the Southern Caucasus, for example, is such a nontraditional collaboration. A joint effort of UNDP, UNEP, and the Organization for Security and Co-operation in Europe, ENVSEC conducts regional environmental security assessments using the comparative advantages of the three institutions (UNEP et al., 2004). In light of the UN Secretary General's recent calls for greater collaboration and integration, political support for such innovative efforts may be more forthcoming than in the past (UN 2003, 2004; Annan, 2005).

4. Pursue environmental peacemaking without calling it peacemaking

In many cases, the goal — peacemaking — must be left unstated in order to move forward and to capitalize on the environment's cooperation-inducing characteristics. If explicitly deemed conflict prevention efforts, environmental peacemaking can be overwhelmed by more contentious issues central to the conflict. Representatives from the security sector — rather than development, environment, health, or energy sectors — are forced to the table if conflict is placed on it. If environmental issues are low politics, they can provide a non-threatening avenue for dialogue. The conflict prevention rationale must sometimes remain in the background to first help build a pattern of confidence and trust across lines of tension.

5. Emphasize multilateral institutions rather than bilateral arrangements

When donors or external facilitators try environmental peacemaking, they must devote great care and attention to the perceived neutrality of the parties involved. The peacemaking process may be impeded, for example, if an external actor favors one basin riparian over others. Hence, wherever possible, multilateral institutions — such as the UN, regional organizations, international financial institutions, or NGOs — should provide financial support and human capacity for these processes, thus balancing the large role bilateral aid agencies continue to play.

6. Share lessons learned

Attempts to collect lessons learned have been few and incomplete, largely because few policymakers or scholars have focused on the broad sweep of possible environmental pathways to peace. We have drawn lessons specific to certain projects, resources, or regions, but performed too little meta-analysis. Both scholars and policy analysts should pursue this analysis; currently, too much knowledge and experience is bottled up in 7 foreign assistance agencies, on-the-ground NGOs, or separate international agencies within the UN system (Carius & Dabelko, 2004)[8].

Conclusion

In conclusion, environmental peacemaking is not a magic bullet that will single-handedly solve conflicts. And in many settings, the environment and natural resources are contributing to conflict and insecurity, whether from their scarcity or their abundance. But practitioners must try to better utilize environmental pathways to peace rather than ignore this tool. Without systematic policy efforts to capitalize on these peacemaking opportunities (and better analysis of existing programs), states and societies may deny themselves a valuable tactic for achieving peace.

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Endnotes:

1-The author welcomes comments at dabelkog@si.edu. For more information on the Woodrow Wilson Center's Environmental Change and Security Project, visit <http://www.wilsoncenter.org/ecsp>

2- By awarding the 2004 prize to Kenya environmental activist Wangari Maathai, the Nobel Peace Prize committee also recognized the critical connections among environmental management, local livelihoods, governance, and conflict.

3- Since the mid-1980s, interest in environment and security linkages has grown, accelerating as the Cold War ended. The 10 annual issues (1995-2004) of the Environmental Change and Security Project Report reflect the evolution of this literature (available at <http://www.wilsoncenter.org/ecsp>, under Publications).

4- See the Nile Basin Initiative (NBI) Secretariat's website at http://www.nilebasin.org/. For lessons learned from NBI and its civil society counterpart, the Nile Basin Discourse, see Patricia Kameri-Mbote's 2004 Wilton Park presentation at <http://www.ielrc.org/activities/presentation_0409.htm>

5- For more on Friends of the Earth Middle East and its Good Water Makes Good Neighbors program, see <http://www.foeme.org>

6- For more information on the PCAU, see <http://postconflict.unep.ch> PCAU has conducted assessments and desk studies in Bosnia, Kosovo, Serbia and Montenegro, Macedonia, Iraq, Afghanistan, Albania, Liberia, and the Occupied Palestinian Territories.

7- See, for example, the South Africa-based Peace Parks Foundation at http://www.peaceparks.org/ and IUCN's World Commission on Protected Areas Task Force on Transboundary Protected Areas at <http://www.iucn.org/themes/wcpa/theme/parks/parks.html>. For a critical view of Southern Africa's peace
parks, see Swatuk (2002).

8- See, for example, the toolkits on conflict and natural resources produced by the U.S. Agency for International Development's Office of Conflict Management and Mitigation to share lessons across issueaeas. Selected toolkits are available at <http://www.usaid.gov/our_work/crosscutting_programs/conflict/publications/toolkits.html>.

Sustainable Development as a Strategy of Dialogue and Communication

Bahman Bakhtiari/Jean Fried

Introduction

Although regional conflicts and world tensions characterize the present international climate, the facts that all countries have managed to set aside their divergences, even for a short time, and attend the Rio and Johannesburg World Summits on Sustainable Development, respectively in 1992 and 2002, show that the international community has realized the vulnerability of our planet and started to understand the necessity of jointly managing the world resources in a United Nations framework.

The paradigm of sustainable development as a strategy for dialogue and communication is of growing interest for international affairs scholars and environmental activists and practitioners. Under the umbrella of this paradigm, a number of salient issues are covered, that have significant impact on how nations conduct dialogue on issues such as environmental stress, resource scarcity, poverty, population change, development crises and violent conflict.

To clarify this paradigm and to understand why and under what conditions cooperation on environmental issues can lead to greater cooperation on issues of peace and security[1], we will address the following questions in a series of theoretical considerations:

> What are the social and institutional capacities within specific regions that provide resilience to environmental change and/or an ability to adapt?

> To what extent is environmental change the outcome of external versus internal drivers?

> How can scientists, economists, legal experts, policy makers,

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and administrators of higher education exchange information and work cooperatively in a sustainable development process?

How can sustainability development methods and experiences be exchanged between different populations and cultures?

How can we most effectively enhance our sustainable development dialogue into a dialogue that leads to sustainable peace and reduction of conflict?

The link between the strategies that have proved successful and future challenges is obvious: if we can identify the factors that up until now have proved helpful as conflict resolution/transformation mechanisms we will have a clear advantage as we attempt to cope with the problems of today and tomorrow.

1. A methodological model

Our work is based on the analysis of a series of practical actions of institution building and creation of technical and management competences in the domains of water management and protection, sanitation, urban waste management, urban transport and land-use management.

These actions, placed within the context of the European Union sustainable development policy for the Mediterranean Basin, have been undertaken from 1989 to 1996 under the leadership of J. Fried in Mediterranean countries with the following objectives:

Solve daily problems of the populations concerned, by, on the one hand, identifying and promoting local methods and, on the other hand, adapting methods successfully used in the European Union to the characteristics, both scientific and social, of the populations concerned;

Raise the awareness of the local political and technical executives to, on the one hand, the already existing experience and competence of European Member States, and, on the other hand, the experience and competence of other countries of the Mediterranean Basin, stimulating a South-South exchange of technical and methodological skills;

Stimulate the dialogue on environmental problems between experts and professionals of Mediterranean countries not belonging to the European Union, especially those countries in conflict with each other, as confidence building measures to pave the way to political discussions on more general issues;

Promote communication and understanding between policy-makers and scientists both in given countries and at intramediterranean level as an instrument of better gover-nance.

These actions have been organized in the following way:

The Mediterranean Basin has been divided up into regions, using the European Commission administrative geographic departments but also according to geographic and geopolitical considerations: the Middle Eastern region comprised of Egypt, Jordan, Syria, Israel, the Palestinian Territories and Turkey; the Eastern Mediterranean region with Turkey, Iraq and Syria; the Northeastern Region, with Cyprus, Turkey, Malta, the former Yugoslavia; and the Maghreb, comprised of Morocco, Algeria and Tunisia.

A survey of problems and needs has been performed by a pilot group of experts under the direction of the author, traveling to the various countries region by region, meeting in Brussels with their representatives, closely working with the European Commission administrators in charge of the given region and with the European Commission delegations in the given countries. This preliminary work has allowed to already identify possible answers in terms of training and institution building.

Multidisciplinary training regional workshops have then been organized and implemented region by region, gathering between 50 to 70 participants from the various countries of the given region, mainly on institution building in the domains mentioned above. The partici-pants have been selected with the assistance of their own authorities and according to quota established by the Commission upon the recom-mendations of the pilot group of experts. The speakers and trainers

were issued both from the European Union and the region concerned, mainly from the country hosting the workshop: we have had workshops in Egypt, Jordan, Israel, Turkey, Malta, Algeria and Morocco, among others.

Task forces have then been established by the Commission, under the direction of the author, to analyze the workshops and prepare policy and methodological guidelines to be discussed by high level policy makers, in ministerial conferences, i.e. a conference gathering the ministers of the Mediterranean countries in charge of the domains covered by the workshops. A different task force has been set for each conference. These task forces have prepared the corresponding ministerial conference during about six months, using the conclusions of the workshops and also traveling when needed to some of the countries.

Two ministerial conferences on the sustainable development of the Mediterranean Basin have been organized between 1989 and 1995 by the European Commission, in Nicosia (Cyprus) in 1990, and Cairo (Egypt) in 1992. The European Union has cooperated in the organization of a third one, the Economic Summit of Amman (Jordan), in 1995, focusing on the management of urban wastes. Of course the European Union has taken part in or organized other high level meetings of the kind since then but we feel that these above mentioned conferences are good pedagogical examples.

Very briefly, it has been observed that the scientists and technicians participating in these various actions were not only ready to discuss together, even when they belonged to conflicting countries such as Israel and its Arab neighbors or Turkey and its Arab neighbors, but also to elaborate practical solutions together and make them feasible, at least on the technical aspects. Of course cultural differences and their influences on scientific and technical approaches and solutions would sometimes make the exchanges rather difficult but we always noticed a readiness in trying to adjust[2]. The presence of a neutral convener, here the European Commission, has proved beneficial in the research of solutions acceptable by all parties. But it should be stressed that these actions were made possible only when some understanding already existed at the political level and that clearly scientists and technicians, even with similar scientific approaches, would not have met

without at least a minimal political agreement of their authorities.

We have also observed that the preparation of the ministerial conferences involved significant exchanges between scientists and policy-makers, and the preparatory task forces had two sorts of work:

> facilitate the scientific exchanges between scientists and technicians of different cultures, trying to elaborate common approaches to similar problems;

> express the scientific problems and solutions in a language which could be understood by the policy-makers and, conversely, bring the political and economic preoccupations and constraints of the policy-makers to the scientists and technicians in order for them to include them in their assumptions and guide them in their proposals of guidelines for the policy document and the action plan which are part of the traditional conclusions of a ministerial conference.

2. Theoretical Considerations

2.1 Significance of the environment for a secure social development

As stated in the Conference Background paper, the Conference seeks "to underpin the imperative of genuine multilateralism in the course of the central and continuous collective quest on a global scale for finding common solutions for common problems of humanity." Put it differently, to understand the events of the next fifty years, then, one must understand environmental scarcity, cultural and racial clash, geographic destiny, and the transformation of war[3].

The relationships between the environment and human security are certainly close and complex. With the end of the Cold War, the pursuit of lasting peace and an end to conflict has become, together with sustainable development, a global imperative. A great deal of human security is tied to peoples' access to natural resources and vulnerabilities to environmental change — and a great deal of environmental change is directly and indirectly affected by human activities

and conflict[4].

During the 1990s, scholars throughout the world who were conducting research on the links between scarcity and conflict discovered an alarming pattern. Rather than starting interstate wars, as had been predicted by an earlier generation, the work of Thomas Homer-Dixon and others indicated that scarcity was a far more significant variable in triggering and amplifying violent civil conflict, especially within the developing world. Economic and population growth were overwhelming the supplies of water, forest, crop land, and other resources, leading to serious shortages in states that lacked the financial, technological, and institutional assets to manage these shortages through developing substitutions or expanding trade[5].

On the 'environment' side, the work in the field of 'sustainable development' has been fundamental in capturing the emergent scientific and social understandings of the intimate coupling of nature and society[6]. Although controversies abound, the fundamental insights that launched the idea of 'sustainable development' two decades ago are even more firmly established today: Efforts to protect the environment will fail unless they simultaneously advance the cause of human betterment; efforts to better the lives of people will fail if they fail to conserve, if not enhance, essential resources and life support systems[7].

It is therefore no surprise that increasing attention is being given to the importance of the world's environmental conditions. For example, the rising demand for water is due to a variety of factors, such as population growth and urbanization. The sustainable management of water resources is extremely important in the developing world, which is continually faced with a lack of the financial resources, infrastructure and human resources needed to improve water management. Today, more than 45 per cent of the world's population lives in internationally shared river basins. The increasing pressure on the limited freshwater resources in places such as the Middle East, Southern Africa and Southern Asia makes greater and deeper knowledge of how to manage transboundary waters essential.

2.2 What does sustainable development offer in terms of human security?

While the environmental security discourse does provide a point of departure for thinking about security in terms other than traditional military ones, the field of sustainable development offers much to human security:

The interdependencies of nature and society are interdependent: What happens within one affects the other in significant ways. This is not a normative statement, but rather an empirical finding about how the world works. Goals, policies, and activities based on this understanding are likely to be more successful that those that separate people from nature.

The interdependencies of nature and society generate not only threats to both, but also opportunities for positive change. The potential for mutually destructive degradation and for mutually supportive nurture exists. Research and action that focus largely on threats posed by appropriately disaggregated nature and society to one another will miss important opportunities for joint improvement and mutual benefit. Within this context, sustain development offers unique opportunities for increasing   communication between scientists and policy makers, experts and diplomats[8].

Sustainable development allows communities and people to articulate their own aspirations, have the appropriate means to make their voices heard and to participate effectively in decision-making about their security and development. Top-down, technocratic efforts, regardless of how well planned or well intentioned, have little chance of durability or success[9].

A just and sustainable agreement on important environmental issues is of the utmost importance since, quite apart from mitigating risks of conflict, it has the potential to affect the process of economic and social equalization between the entities as well as their social and economic development. Inherent in such an agreement would, ideally, be a high degree of cooperation since cooperation, besides reducing the risk of conflict, would create greater transparency in the economic sphere which would greatly benefit economic development and attraction of international investment.

Finally, there is a strong case to see nature as valuable in its own right, in addition to its instrumental value for human beings. Taking this last principle, and following the broader model of integra-

tion and linkages offered by sustainable development, perhaps it is 'sustainable security'. Sustainable security offers a more open space for deliberation, analysis, and action that could help connect analysts and practitioners of human and environmental security in common purpose to expand the narrow and problematic field of state security.

In sum, there are many ways in which sustainable development can lead to a situation of stability, security, and peace. Sustainable development, if comprehensive, represents a multi-disciplinary idea which acts not just economically, nor solely ecologically, not only politically, but on all of these fronts. Beyond this, sustainable development has implications for improvement of the institutional structure. The modification or reform of institutions for the purpose of resolving potentially contentious situations democratically lies at the heart of the idea of sustainability.

The environmental security and sustainable development perspectives challenge the dominant realist view of the state as a unitary actor. The perspectives points to the need for an analysis of international relations that is inclusive of other dynamics and determinants in interstate negotiation and dialogue. For example, governments often consult experts/scientific advisers to get advice on complex environmental issues as well as to legitimize political decisions. Diplomats cannot engage in negotiations over environmental issues without the advice experts and scientific advisers. In this process, experts are likely to assume an important role in the negotiation process because the complexity of environmental issue makes it hard for diplomats to negotiate. Consequently, examination of the influence that experts/advisers have on the negotiation process and its outcome is important[10]. This issue is even more important when we consider the findings of Tony Allan who argues that scientists are aware of the fact that the Middle East has run out of water while the public and the politicians do not perceive the water deficit[11]. This brings us to another important component of sustainable development perspective: The relationship between science and politics, scientific advice and policy formulation. Another important contribution sustainable development paradigm is how experts and policymakers interact when it comes to formulation of environmental policy. How and to what extent

are experts on water able to influence negotiations over environmental issues ?

2.3 Sustainable Development: Relationship Between Science and Policy

In today's society experts play an increasingly important role. We listen to experts who give advice, for example, on what we should or should not eat, how to exercise, how to invest our money and so on. It has been argued that 'experts play an ever more influential role in defining and controlling fundamental social problems[12]. In both the public and the private sector, experts give advice on policy issues[13]. Increasingly, scientific knowledge and scientific experts have become a vital component of the political policy process. This is particularly apparent when highly complex environmental problems are dealt with. Scientists who possess scientific knowledge are important not only in identifying policies of risk management but also in the process of identifying risks.

The contribution of science to policy-making is often assumed to be a relatively straightforward matter. In general, analysis of the role of science in the policy process has been based on the implicit assumption that scientific consensus leads to political consensus. That is, scientists first collect data and information as a basis for making assessments. The assessments are passed on to policy-makers who then consider these in making decisions.

However, practitioners of sustainable development strategy are aware of the fact that scientific consensus does not necessarily lead to political consensus, particularly when dealing with issues in a conflict, scientific provision of knowledge about those issues might be affected by other factors than the purely scientific. Thus, the scientific knowledge presented can hardly be labeled a fully "objective account"[14]. Hence, for a strategy of sustainable development to lead to sustainable dialogue, it is important to keep in mind that politics and ideology also matter for scientific experts. The experts do have their own interests – both self-interest and altruistic – but at the same time they are used as a legitimizing or de-legitimizing force by others (including politicians) to suit their own interests. Brante argues that

'the more important political consequences an issue has, the more likely it is that a polarization and controversies within the scientific expertise occurs[15].

One scholar has argued that scientific experts can reach very different results and conclusions on an issue but still maintain that they have scientific proof for their respective stands. Scholars argue that this is because scientific experts are part of and influenced by their cultural, social and political surroundings[16]. What seems to be a central problem in the theories of the relationship between science and politics discourse is whether scientific knowledge about an issue is a result of strategies used by the powerful or the result of objective research. It is indeed difficult to distinguish. However, one thing is clear: The relationship between scientific knowledge, which is provided by scientific experts, and politics (and politicians) is an issue that must also be incorporated into our framework of analysis.

Conclusion

To summarize, we should acknowledge the increasing interdependence between science and politics rather than looking at science and politics as operating in separate spheres. Science should not be regarded as an external factor that sometimes affects political decisions and thereby creates cooperative international regimes. Our case studies demonstrate the reciprocal relationship between scientific knowledge and politics, leading to the following theoretical observations:

Science and policy are co-produced (interdependent);

The value of science is the result of negotiations;

Scientific consensus on an issue is not enough for the creation of an environmental regime (at least if it is to be effective);

Agreements are shaped both by scientific knowledge and by political factors;

science has no strength in itself but is given strength by different institutions and actors, and this has to be explained by social scientists[17].

And by way of conclusion, scientific advice to negotiators and politicians is helpful since it enables them to reduce uncertainty. At the same time it is found that politicians and negotiators only take the advice of scientists as long as it fits their political agenda. Thus, scientific advice needs to be politically feasible in order to be incorporated into policy.

Endnotes:

1- Cooperation is by no means an uncontested term. Keohane has made a useful distinction in Keohane, Robert O., 'International institutions: two approaches', in Friedrich Kratochwill and Edward D. Mansfield (eds), International Organization: A Reader (New York: Harper Collins, 1994), pp. 44-57. Cooperation is sharply distinguished from both harmony and discord. Keohane argues that when there is harmony between two actors the policies pursued by each actor automatically facilitate the attainment of the goals of the other actor. When discord prevails, the actions taken by each actor effectively hinder the attainment of the other's goals. Regardless of whether harmony or discord characterizes relations between two actors, there is no incentive for either of them to change its behavior. Cooperation, as distinct from harmony (and definitely as distinct from discord), 'requires that the actions of separate individuals or organizations - which are not in pre-existent harmony - be brought into conformity with one another through a process of policy co-ordination'. Cooperation is, accordingly, dependent on each party changing his/her behavior as a reciprocal act. Using this definition we are able to measure the c? which would have been obtained in the absence of cooperation.

Wendt, Alexander, 'Anarchy is what makes states of it: the social construction of power politics', in Kratochwil and Mansfield (eds), International Organization: A Reader, pp. 77–94, furthermore, discusses the institutionalization of cooperation. He argues that: 'The process by which egoists learn to cooperate is at the same time a

process of reconstructing their interests in terms of shared commitments to social norms. Over time, this will tend to transform a positive interdependence of outcomes into a positive interdependence of utilities or collective interest organized around the norm in question'. Wendt argues that this constructivist approach to negotiation focuses on how the expectations that are produced by the behavior affect interests and identities. This process of institutionalization of cooperation is one in which actors internalize new understandings of self and other.

2- Janice Stein reminds us that "analyses that ignore the context in which negotiations take place, ...the impact of cultural, social, institutional, political and psychological factors or processes of communication and choice, are inadequate as explanations of international negotiations'.

3- Robert Kaplan, "The Coming Anarchy". In: Atlantic Monthly, February, 1994;

4- Ullman, Richard H., 'Redefining security', International Security, 8/1 (summer 1983); Tuchman Mathews, Jessica, 'Redefining security', Foreign Affairs, 68/2 (1989); Homer-Dixon, T., 'Environmental scarcities and violent conflict', International Security, 19/1 (1994); Dokken, K. and Graeger, N., 'The concept of environmental security: political slogan or analytical tool?', in PRIO Report, 2/95 (1995); Tickner, J. Ann, 'Re-visioning security', in Ken Booth and Steve Smith (eds), International Relations Theory Today (Cambridge: Polity Press, 1995); Elliot, Lorraine, The Global Politics of the Environment (Basingstoke: Macmillan, 1997); Lowi, Miriam R. and Shaw, Brian S., Environment and Security: Discourses and Practices, International Political Economy Series (New York: Macmillan Press and St Martin's Press, 2000); Levy, Marc A., 'Is the environment a national security issue?', International Security, 20/2 (1995); Deudney, Daniel, 'The case against linking environmental degradation and national security', Millenium, 19/3 (1990); Stern, Eric K., 'Bringing the environment in: the case for

comprehensive security', Cooperation and Conflict, 30/3 (1995); and Lowi, Miriam (1999), 'Water and conflict in the Middle East and South Asia: Are environmental issues and security issues linked?', Journal of Environment and Development, Vol. 8, No. 4.

5- Matthew and, Richard A., and Gaulin, Ted, " The Ecology of Peace", Peace Review 14:1 (2002), P. 35

6- There are presently over 100,000 non-governmental organizations (NGOs) working in some capacity for environmental protection and many of these are transnational groups. For example, the World Wildlife Fund—whose global membership exceeds 4 million—has national affliates in 27 countries. Many of these NGOs are linked through the International Union for the Conservation of Nature (IUCN), which meets every four years to establish a global agenda. See Ibid. P. 34.

7- Khagran, S. , Clark, W.C., and Raad, D.F. "From the Environment and Human Security to Sustainable Security and Development," Journal of Human Development Vol. 4, No. 2, July 2003 P. 289

8- Fritz, Jan-Stefan, Report on International Scientific Advisory Processes on the Environment and Sustainable Development, Commission on Sustainable Development, United Nations, Sixth Session, 20 April - 1 May 1998. As noted by this report: " A fundamental part of reconciling human development with environmental protection involves better understanding the relations between the two. Scientists have played an indispensable role in advising policy makers and managers on the most current state of knowledge regarding these issues. In fact, the role of international scientific advisory processes is increasing. However, as the importance of scientific advice grows, so too must some important questions be answered. For example, is the best advice available for each purpose and is it delivered as effectively as possible? Does this advice reflect the concerns and needs of policy-makers?"

9- As Buckles notes, "experience suggests that although consensus is not always possible, governance that is more inclusive, transparent, and efficient can help groups in conflict accommodate some differences, find common ground, and improve key decisions affecting their livelihoods". See Buckles, Daniel (Ed.) (1999) Cultivating Peace: Conflict and Collaboration in Natural Resource Management, a joint publication of the International Development Research Center and the World Bank, International Development Research Center, Ottowa.

10- The concept of influence is not a straightforward one or easy to define, partly because it is related to another concept that is also difficult to define, namely the concept of power. In the political science literature power is discussed first and foremost in terms of how states are able to influence each other. For example, Holsti defines power as the 'general capacity of a state to control the behavior' of other states. Holsti, Kalevi, J., International Politics: A Framework for Analysis (London and Toronto: Prentice-Hall International, 1988), p. 141. Moreover, he views influence as an aspect of power. Scruton sees influence as a form of power, although one distinct from control, coercion, force and interference. Scruton, R., A Dictionary of Political Thought (Basingstoke: Macmillan, 1996). Cox and Jacobson point out the importance of the context within which influence is exercised. Cox, R. W. and Jacobson, H. K., The Anatomy of Influence: Decision Making in International Organization (New Haven, Conn.: Yale University Press, 1973), p. 4.
        While most of the discussions and debates on influence deal with state-to-state interactions, it is also increasingly recognized that there are other levels of influence. The particular aspects of influence that will be investigated in this study involve the influence scientific experts have on a negotiation. Haas discusses the role of 'epistemic communities' on policy making and argues that scientific consensus on an issue can be a basis for influence on policy making. Haas, P., Saving the Mediterranean: The Politics of Environmental Cooperation (New York: Colombia University Press, 1990).

11-Allan, Tony [J. A.], The Middle East Water Question: Hydropolitics

and the Global Economy (London and New York: I. B. Tauris, 2001), p. 7

12- Jasanoff, S., 'Science and norms in global environmental regimes', in F. O. Hampson and J. Reppy (eds), Earthly Goods: Environmental Change and Social Justice (Ithaca, N.Y.: Cornell University Press, 1996), p. 173.

13- Jasanoff, S., 'Science and norms in global environmental regimes', p. 173.

14- See e.g. Latour, Bruno, Science in Action (Cambridge, Mass.: Harvard University Press, 1987); and Hacking, Ian, The Social Construction of What? (Cambridge, Mass.: Harvard University Press, 1999).

15- Ibid. Latour, Bruno, Science in Action.

16- Jagerskog, Anders, 'The power of the sanctioned discourse: a crucial factor in determining water policy', Water, Science and Technology, 47/6 (2003).

17- Lidskog, Rolf and Sundqvist, "The Role of Science in Environmental Regimes: The Case of Convention on Long-Range Transboundary Air Pollution (LRTAP)," European Journal of International Relations.2002; 8: 77-101.

IX

Dialogue:
What it Means; What it Entails

Chairman: Nay Htun*
Assistant: Noel Brown**

Ethics and Ecology:
A Primary Challenge of the Dialogue of
Civilizations

Mary Evelyn Tucker

> *"The 20th century will be chiefly remembered by*
> *future generations not as an era of political conflicts*
> *or technical innovations but as an age in which*
> *human society dared to think of the welfare of the*
> *whole human race as a practical objective."*

> **Arnold Toynbee**

Introduction: Our Current Global Challenges

██████████This is a powerful statement from one of the leading histo-
rians of world history. Yet we might expand Toynbee's statement to
suggest that the 21st century will be remembered by this extension of
our moral concerns not only to humans, but to other species and
ecosystems as well. From social justice to eco-justice, the movement of
human care and ethics is now part of ever widening concentric circles.
    Indeed, the 21st century may be remembered as the century in
which humans laid the foundations for the wellbeing of the planet as a
whole by embracing the entire Earth community. The future of life may
depend on the largeness of our embrace. For we are now challenged as

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never before to build a multi-form planetary civilization inclusive of both cultural and biological diversity. The call from President Khatami for a dialogue of civilizations is of singular importance in this regard. For without such a dialogue not only are humans put at risk, but entire ecosystems and life forms are being compromised.

Our particular challenge, then, in this emerging dialogue of civilizations is to identify the kind of global vision, values, and ethics that will help spark the transformation toward creating such a truly planetary civilization. Such a planetary civilization will rely on common purpose and shared vision while respecting differentiated cultural values and religious ethics. The values and ethics of all the world's religions can contribute to articulating such a sense of common destiny for the human community in the midst of a growing global ecological crisis. This was the intention of the Harvard project on World Religions and Ecology.

To create the foundations for a multiform planetary civilization we need to cherish the future of life and thus place the welfare of the Earth community as a primary aim. It is not simply sustainable development that we are focusing on here but a sustainable future for the planet. This requires not just managerial or legislative approaches, as important as these may be, but also a sustaining vision of that future. This vision of a common and achieveable future needs to evoke depths of empathy, compassion, and sacrifice that have the welfare of future generations in mind. We humans are called, for the first time in history, to a new intergenerational consciousness and conscience - and this extends to the entire Earth community.

This is a task of considerable urgency. As the world becomes warmer, as hurricanes increase, as species go extinct, as air and water pollution spreads, and as resource wars heat up, there is a disturbing sense among many environmentalists and ordinary citizens that the clock is ticking towards major disasters ahead. The looming ecological crisis, with its massive scale and increasing complexity, clearly defies easy solutions. Moreover, the heightened frenzy of the global war on terrorism creates blindness toward the widespread terror humans have unleashed on the planet – on its ecosystems on land and in the oceans and on all the species they contain. Blindness is combined with

enormous apathy or denial from various quarters regarding the scale of the problems we are facing. This is especially true of those living within the confines of high consumer societies. Our task in the dialogue of civilizations is to break through these blinders to create a comprehensive vision of an achieveable future grounded in shared yet differentiated ethical values. This requires awakening a sense of shared species identity that transcends yet respects our cultural and religious differences.

Humans as a Planetary Species:

The critical nature of our moment is described by Mihaly Csikszentmihalyi in his book The Evolving Self (Harper Collins, 1993). He highlights the enormous responsibility of our species at present:

> *"The time of innocence...is now past. It is no longer possible for mankind to blunder about self-indulgently. Our species has become too powerful to be led by instincts alone. Birds and lemmings cannot do much damage except to themselves, whereas we can destroy the entire matrix of life on the planet. The awesome powers we have stumbled into require a commensurate responsibility. As we become aware of the motives that shape our actions, as our place in the chain of evolution becomes clearer, we must find a meaningful and binding plan that will protect us and the rest of life from the consequences of what we have wrought." (p. 18)*

He goes on to acknowledge that the emerging consciousness of ourselves as a planetary species sharing in life's future is vital:

> *"The only value that all human beings can readily share is the continuation of life on earth. In this one goal all individual self-interests are united. Unless such a species identity takes precedence over the more particular identities of faith, nation, family, or person, it will be difficult to agree on the course that must be taken to guarantee our future..." (p19)*

To create such a species identity is precisely the challenge of ourselves as individuals as well as ourselves as an Earth community.

The future of evolution is at stake if we should fail:

"It is for this reason that the fate of humanity in the next millennium depends so closely on the kind of selves we will succeed in creating. Evolution is by no means guaranteed. We have a chance of being part of it only as long as we understand our place in that gigantic field of force we call nature." (p.25)

As Csikszentmihalyi suggests, one of the crucial areas we need to explore is the depths of our evolving selves that are part of the larger matrix of life. We can have a certain measure of confidence that we will find the next season of our evolution as humans as we come to *"understand our place within that vast field of force we call nature"*.

To find our way forward we need to rediscover the intertwined coding of ourselves as bio-cultural beings – filled with the mixed heritage of biological survival and cultural creativity. This is the imperative of our evolution as a species that will require a new ethical and cultural coding resonant with, but distinguished from, the genetic coding of evolution itself. In the light of modern science, we know ourselves to be imprinted with nature's complex coding and entwined within nature's rhythms. At the same time, our ethical and cultural coding needs to be brought into alignment with the forces and limits of nature. The heritage of the world's religions is being recovered and expanded to include an environmental ethics for a sustainable future. This was also the intention of the Harvard project on World religions and ecology.

Comprehensive Context of the Universe Story:

The comprehensive framework of evolution of the universe, of Earth, and of the human provides an expansive and shared context for recognizing our common past and making possible our common future. The

enlarged worldview of evolution affords a means of activating a comprehensive set of values and ethics that can point the way toward humans partnering with evolution,

This is the large-scale context that the Preamble of the Earth Charter offers. It states: *"Humanity is part of a vast evolving universe. Earth, our home, is alive with a unique community of life. The forces of nature make existence a demanding and uncertain adventure, but Earth has provided the conditions essential to life's evolution."* The Preamble thus affirms that the physical, chemical, and biological conditions for life are in delicate interaction over time to bring forth and sustain life. Our response to this awesome process is responsibility for its continuity. We need to become a life enhancing species not a life destroying one.

The significance of this evolutionary perspective should be underscored as it marks a watershed in our rethinking ethics within such a vast framework. The implications of the story of evolution that we are beginning to absorb are manifold. They include a new sense of orientation, belonging, and vitality. The universe story gives us an orientation toward the vastness of time and space that evokes wonder and awe. We begin to see into the macrophase of our own being as we embrace 13.7 billion y ears of universe unfolding through stars, galaxies, planets, and life forms. We recognize that the chemical components of our bodies came out of the formation of stars. We are stardust come to light in human form.

Along with such expansive orientation we are given a deepened sense of belonging to the universe and to the Earth. We are grounded and connected to the planet as we share in our dependence on the elements of air, water, and soil for our survival. The universe story thus decenters humans amidst the vastness of the universe and recenters humans as part of, not apart from, the great community of life. In particular, it highlights our role as a species among other species, all radically dependent on the Earth for our sustenance and well being. We are recognizing anew that we belong to the Earth community.

This perspective gives us a reinvigorated vitality for caring for and participating in Earth processes. Our partnering with evolution

becomes an expression of our comprehensive compassion for all life –
human and other species. To encourage the future flourishing of life is
the destiny of humans as they participate in what the Chinese
Confucians have called, *"the transforming and nourishing powers of
heaven and Earth."* A reawakened zest for life is what will carry us for-
ward as we align ourselves with these cosmological powers. With such
alignment and energy for the continuity of life we are able to create
new and sustainable forms of human-Earth relations. These are already
being expressed in diverse fields of education, religion, government,
economics, agriculture, medicine, law, technology, design, and archi-
tecture.

      With sustainable technologies and design, with ecological
economics and politics, with environmental education and ethics we
are learning how to assist evolution and to participate in the myriad
processes of universe powers. If human decisions have swamped
natural selection because of our planetary presence as a species, we can
learn how to become aligned again with evolutionary flourishing. In
what we protect, in what we build, in what we eat, in what we cherish,
we will find the animating principles of universe evolution that also
ground culture and guide humans in our creation of communities. We
will become partners once again with evolutionary processes. That is
the hope for a genuine dialogue of civilizations.

Revisioning and Expanding Enlightenment Values:

Within the framework of the universe story we are beginning to
acknowledge that our common ground is the common ground of the
Earth itself. Survival of species and the planet depends on this.
Adaptation for survival is necessary for all species and thus is
especially crucial now for humans. This adaptation will be less biolog-
ical than cultural. It involves a shift in vision and values from a west-
ern Enlightenment mentality emphasizing radical individualism to an
Earth community vision of environmental ethics for a shared future.

      This is a central challenge for the dialogue of civilizations and
will require an expansion of ethics. The Enlightenment values of *"life,
liberty and the pursuit of happiness"* need to be reframed not just to

suit the human person and individual property rights but to include the larger Earth community. Moving from anthropocentric values to bio-centered values is the challenge we are facing for enhancing human-Earth relations.

Thus in designating "life" as an important value we now use it to include all life - other species and ecosystems as well as people at a distance and future generations. Up to now we have developed ethics in the human community regarding life to address the problems of homicide and suicide and even genocide, but not biocide, ecocide, or geocide. This shifts us from viewing nature simply as a resource for human use to nature as source of life. In short, we are moving from viewing Earth as commodity to Earth as community.

"Liberty" can also be seen as not simply a matter of individual rights, but as including human responsibilities to the larger whole. We are called from personal freedom to communitarian care. From celebrating radical individualism we move toward kinship with all life ranging from local to global.

With regard to the "pursuit of happiness" we need to move away from individual acquisition and consumption as the highest good. Rather, we need to understand that as the Earth Charter says, *"when basic needs have been met, human development is primarily about being more, not having more."* This perspective calls us from private property as an exclusive right to embracing the public trust of land and water and air for future generations as a sacred trust.

Integrating Ethics and Practices: the Earth Charter

Such an expanded framework beyond western Enlightenment values provides a context for humans to see inter-linked problems along with interconnected solutions. This is what the Earth Charter aims to do as it delineates a simple but viable blueprint for a sustainable future. The Charter arose within the urgent and sometimes conflicting agendas of the United Nations regarding protecting the environment and assisting sustainable development It resulted in both a document and a move-ment that can be seen as a vital contribution to the international dialogue of civilizations.

The Earth Charter came into being over a decade and was officially drafted by an international drafting committee from 1997-2000. Since the United Nations Conference on Environment and Development (also known as the Earth Summit) was held in Rio in 1992, the UN has identified the socio-ecological crisis as a critical global challenge. A key document of this conference, Agenda 21, highlighted sustainable development as a central goal of the Earth community. Since that time the United Nations has held seven other major international conferences to analyze our global situation and devise strategies for ensuring a sustainable future. These include conferences on women, on population, on habitat, and on social issues. This has been supplemented by the work of literally thousands of non-governmental and environmental organizations around the world.

The Rio+5 conference in 1997 brought together 500 key stakeholders ranging from leaders in business, politics, health, environment, and education. A Benchmark Draft of the Earth Charter was issued there by Mikhail Gorbachev and Maurice Strong on behalf of an international group of two dozen Earth Commissioners. The Earth Charter, initiated in Rio in 1992, is intended to be a blueprint for sustainable development bringing together three areas: Ecological Integrity; Social and Economic Justice; and Democracy, Nonviolence, and Peace. It can be seen as part of a broader effort of individuals and organizations to formulate a global ethics within a context of a dialogue of civilizations that respects both diversity and commonality.

It was officially approved by the Earth Charter Commissioners at the UNESCO headquarters in Paris in March 2000 and launched as an international initiative at the Peace Palace in the Hague in June 2000. (See www.earthcharter.org) An Earth Charter +5 conference will take place in the Hague in November 2005. The Earth Charter can be seen as not only a document but also a process as it involved the most wide spread consultation ever to take place for an international document. It continues to inspire individuals and groups as they try to envision a sustainable and sustaining future for the planet.

The Charter highlights the interrelated issues of environment, justice, and peace as at the heart of our global challenges. Against the comprehensive background of universe evolution in the Preamble, the

main body of the Charter outlines an integrated set of ethics and practices to address these three interrelated issues. It aims to address the sometimes-competing areas of environment and development.

The Charter recognizes that the future of life is impossible without ecological integrity. Life and all economic development depend on the health of the biosphere. Thus the preservation of ecosystems and biodiversity are essential along with the careful use of nonrenewable resources and the exploration of renewable sources of energy.

To do this effectively requires social and economic equity and empowerment. The widening gaps between the rich and the poor in the developed and developing world are a cause for social unrest and can breed resentment and terrorism. How to close these gaps is of utmost importance. Poverty and environmental issues are closely linked in this framework. How to manage economic development for the improvement of standards of living without permanently degrading the environment is the ongoing challenge.

A third point in the main body of the Charter is democracy, non-violence, and peace. It is almost impossible to achieve the goals of a healthy environment and equitable societies without democratic institutions and legal structures that encourage participation and transparency. The aspirations of millions to live in democratic societies without human rights abuses is demonstrable throughout the world. Moreover, it is becoming increasingly clear that peace among nations and across cultures will not be achievable without addressing both environmental and social issues. Thus the Charter sees the importance of an empowering framework that identifies an integrated set of ethics linking healthy environment, principles of justice, and institutions of democracy. Here are the foundations for a genuine and ongoing dialogue of civilizations to ensure a sustainable future for the planet.
Conclusion: Challenge and Promise

The dialogue of civilizations is now linked to a sense of historic challenge, namely, as the Earth Charter states: *"The foundations of global security are threatened."* However, the Charter observes: *"These trends are perilous but not inevitable"* and goes on to suggest that: *"The choice is ours: form a global partnership to care for Earth and one another or risk the destruction of ourselves and the*

diversity of life." This is the ultimate challenge for an effective dialogue of civilizations.

The Charter concludes with a cautiously optimistic tone saying, *"As never before in history, common destiny beckons us to seek a new beginning."* It notes that *"This requires a change of mind and heart"* – of comprehensive vision and ethical values. The Charter, then, exemplifies a trend toward articulating an integrative global ethics. It highlights the importance of our moment in human history. It provides an empowering context of evolution and environmental values that will steer the human community forward toward the enhancement not the diminishment of life. Further reflection on the Earth Charter around the world in political gatherings, religious groups, academic settings, and environmental organizations is already beginning to foster a more unified basis for thought and action.

The Earth Charter, then, embodies the need for expanded vision and shared values for the larger Earth community as it seeks to build common ground for a sustainable future. The comprehensive framework of the story of evolution in the Preamble provides animating principles of orientation to the universe, belonging to the Earth community, and vitality in relation to life processes. These principles forge the bonds of human-Earth relations, thus sustaining the demands of relationality and restoring the wellsprings of zest. The Charter becomes an empowering framework to inspire engagement in and participation with mutually enhancing human-Earth relations. For humans to imagine and activate these relations is to bring into being the emerging contours of the future of the evolutionary process itself. This requires the participation of all cultures and religions in the dialogue of civilizations. With such a dialogue a sustainable future is possible.

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Peace and Dialog among Civilizations and Cultures: Towards Constructing a Global System of Sustainable Development

Hisae Nakanishi

Introduction

Environmental destruction is one of the most serious challenges that human beings have faced since the last century and will continue to be so in the 21st century. Thus, how to protect environment is an urgent task that we all have to perform individually, regionally and internationally.

There is a variety of causes for how environmental destruction can occur. Among them are war and conflict that bring about the destruction of both physical and social environment. War and conflict damage the quality of land, destroy houses, and other socio-economic infrastructure, and cause a great amount of loss of people. It is estimated that a hundred million people died in war and conflict over the last century. The loss of human beings is in itself a real sad fact. Yet, the past wars and conflicts left behind for us many challenges for peace and security of human beings.

One of the most unrecoverable environmental damages we have inherited from the past century is the presence of landmines. It is said that there are about 30 billion landmines in the world and that we can not imagine removing even the half of them within this century.

The post-Cold War era witnessed a new age of civil and intrastate conflicts and wars. On-going conflicts and wars have created dozens of millions of refugees and internally displaced people. There are innumerable tasks that the international community has to undertake?The tasks range from humanitarian emergency aid to post-conflict reconstruction and development assistance to the people who suffer in open and post conflict societies. What mission to prioritize is a difficult question: different answers may be given by different actors of aid for each post-conflict society.

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It goes without saying that conflict prevention in high potential conflict zones is mandatory to stop further destruction of physical and social environment. Yet, preventing the escalation of conflict and war as well as preventing post-conflict societies from turning back to conflict stage are crucial in order to reduce the absolute number of conflict and war zones on the earth at any given time in the future. The success of reconstruction in post-conflict societies is vital in this context.

Empowerment of women in Afghanistan: Universalism vs. Cultural Relativism

The present study examines an issue of gender equality which is often observed as a debate among various aid agencies and organizations in the post–conflict reconstruction processes. The paper focuses on the debate on women's empowerment and gender equality in the reconstruction of Afghanistan.

I consider that women's empowerment is key for creating a peaceful global community. First, more than t he half of the world population are women. Second, women have been playing significant roles in all societies as daughters, wives, mothers, community members, and as individuals even though women's contribution to the development of society has been generally neglected. Women are often victimized more in conflict and war, and, as we all know, are the target of political, economic, and individual violence even in peace time. At the same time, one should note that women are also major players in the reconstruction of the post-conflict societies.

Like any other case of reconstruction assistance to post-conflict states, innumerable local and international aid organizations and agencies have been involved in their assistance to post-war Afghanistan. International organizations such as UNEP, UNHCR, UNDP, UNICEF and World Bank have been active in Afghanistan. State based aid agencies such as JICA (Japan International Cooperation Agency), USAID, CIDA and representatives from the EU as well as different local and international NGOs have provided much aid to different sectors of political, economic and social institutions in Afghanistan. One can consider Afghanistan as a micro-cosm of international community where dialogue among civilizations and cultures

has taken place through in those actors' participation in formulating constitution and providing reconstruction programs. Interactions have occurred not only among international donors but among international aid workers and local people.

It seems that international aid organizations tend to employ the so-called universalist approach toward gender related projects. This approach supports the idea of universal human rights as defined by international laws and agreements and is assumed to be applicable to any society. Gender equality is often the key word: gender balance may come the second. For example, World Bank, UNDP, UNIFEM and OECD have both explicit and implicit guidelines to follow the concept of gender equality in planning, monitoring, implementing and evaluating their projects that have been considered as an approach of gender-mainstreaming. This approach has been employed not only to the projects in Afghanistan but also to almost all reconstruction and development assistance programs and projects in developing countries and/or post-conflict societies in the world.

In contrast, the so-called cultural relativist approach exists. This approach can be often seen when some degree of resistance to gender-mainstreaming policy emerges from local people as well as from some segments of aid programmers and workers. The cultural relativist approach asserts that local culture and social norms can define what human rights mean for a specific society. The following is the discussion regarding how the universalist and relativist approaches clashed and reconciled in the case of the formulation of Afghanistan's constitution and other gender related projects there.

There has been a continued debate on which of the above-mentioned approaches one should take in the discussion of legal provisions of the constitution as well as in the formulation of gender policies in post-Taliban Afghanistan. Those who took the position of the universalist approach maintained that gender equality should be implemented in all aspects of legal, political, economic and social policies and programs. Almost all aid workers representing various international donors and many women activists of Afghanistan took this position. These people suggested that equal rights between men and women should be clearly stated in the Constitution.

On the other hand, the cultural relativist approach has been taken by traditionalist religious leaders. They insisted that whatever policies and programs which are to be implemented should not neglect tradition and cultural norms of Afghanistan, and thus opposed the idea of equal rights of men and women in the new Constitution.

It has been pointed out by many scholars and local people that Afghan society has been traditionally controlled by politics of tribal groups, and thus fundamentally much patriarchal than many other societies in the Middle East. Women have been subjugated under male dominance and control in every aspect of their life: they do not usually own land and property under their name; women's opportunity for political participation was much limited at least through formal channels. Thus, the idea of egalitarian clause in the Afghan Constitution was not easily accepted by Afghan people, and has been said that it has not been fully accepted even now.

Yet, the pressure came to the interim government from various international aid organizations and Afghan women activists being backed by international and local NGOs. Many drafts appeared in the process and one of them close to the last, stated that all citizens in Afghanistan enjoy equal rights. Thus, it remained quite vague whether the word "citizen" could include women and whether the clause guaranteed women's equal rights with men. It is reported that such an ambiguity has itself become a source of another heated debate. Yet, there was some reconciliation between the two opposing camps and consequently, the Constitution declares Afghanistan an Islamic Republic in which men and women have equal rights. A question still remains ato what the Constitution means by "Islamic." If this "Islamic" connotes the role of Islamic law and "Islamic culture" - both of which I think leave much room for the problem of definition - a contention remains how Afghanistan's "Islam" can reconcile the issue of equal rights between men and women.

The above-mentioned debate reminds us of post-war Japan when Japan's Constitution was to be formulated with a strong leadership of the General Headquarter (GHQ) during the US occupation of Japan. The Meiji Constitution that existed before the current Constitution of Japan was far from egalitarian in nature. Women did

not have the right to vote, to say nothing of the right to be elected, nor have the equal right to inheritance.

There was a continuous debate over whether the Constitution should state that both men and women have equal rights or not. The representatives from political establishments in Japan did not support the idea of granting equal rights to women because it was just unthinkable from the Meiji Constitution that reflected Japanese traditional norms and culture at the time. Yet, the GHQ ultimately demanded that the new constitution should declare that women enjoy equal rights with men, and thus this became stipulated in the Constitution. It is to be noted that the US Constitution does not have such a specific clause to guarantee equal rights between men and women. This means that the US occupation force at the time succeeded in stipulating what the US could not achieve in its own Constitution.

It took Japan more than four decades before the law called "Equal Opportunity of Employment between Men and Women." could be promulgated. Moreover, it is difficult for us to say that equal rights between men and women as stipulated in the Constitution and the above-mentioned law have been fully implemented: there is much discrimination against women at home and workplace as well as in the community and society. Yet, one can not deny that political, economic, and social positions of women have greatly improved in sixty years since the New Constitution was drawn up and approved. There are, of course, a lot of differences in political, economic, social, geographical and environmental background between Afghanistan and Japan. However, it is predicted - and hoped - that the impact of an egalitarian constitution will be clearly visible and felt in Afghanistan in a few decades if one considered the fact that post-Taliban Afghanistan has already witnessed a phenomenon of wider women's participation in national elections.

This dichotomous relationship between the universalist and the cultural relativist viewpoints about women's rights is not only an issue of the provision in the Afghan Constitution. In my view, it also affects the way aid policies and programs can be prioritized, and therefore determines the sustainability of reconstruction assistance.

Among various reconstruction and development assistance programs that international donors and local people undertake, the question of how to generate income in the post-conflict society has been quite vital. One of the typical programs that many international donors implement under the scheme of gender equality are education programs for girls and women as well as vocational training programs for women including widows.

It is true that the literacy rate of women is usually much lower than that of men in post-conflict societies. That is the case in Afghanistan as well. Therefore, many programs targeting girls and women have been implemented by different organizations such as UNICEF, UNDP, and JICA. Many reports and documents published by these organizations often state that one of the major complaints from local people, particularly from men was why women are given priority in the programs. I heard myself in Kabul in October 2003 that international donors should prioritize vocational training programs more than any other education program for girls and women. The reason was that if a man gets a job, all of his family members can eat but that if a girl gets education and a woman learns how to write it does not directly lead to increasing income for her family.

In theory, one can state that vocational training programs and education programs for girls and women are important in the long term and the former is urgent in the short term and thus that different donors should coordinate their programs together based on their needs assessment. Much effort has been made among different aid organizations to exchange information about their projects to avoid duplication and to coordinate their programs. However, the reality on the ground is much more complex and substantially different from the theory and on paper. Therefore, it happens that more women beneficiaries exist than male counterparts when men need to earn money much more urgently to save their entire this is why aid programs havnot been/are not well accepted by locals. Such a grievance often reflects cultural norms. In the case of Afghanistan, there is a clear gender division of labor: men are expected to earn money and women stay home and/or women's productive work remains in the extended areas of their households.

Thus, there is always a dilemma for international donors who

are engaged in any reconstruction projects whether they should follow gender equality approach as a universal principle or they should respect the recipients' cultural norms. If we stick to the gender equality principle, much criticism may occur among local people. Yet, if we value the cultural relativist approach, that is, Afghan people decide what they want to do for themselves; discrimination against women will be likely to continue.

Conclusion:
Toward constructing a global system of sustainable development

It requires a balance between the two approaches in order to pursue the sustainability of reconstruction and development programs. The universalist approach such as the promotion of gender equality, is, in principle, vital as a catalyst for change in social environment in post-conflict societies. On the other hand, actual real implementation of any aid programs based on gender equality requires certain degree of sensitivity and concern for for cultural norms and tradition of the society.

As is usually conceived, gender is socially and culturally constructed. Therefore, the concept of gender equality should be culturally and socially bound. What is understood as gender equality in Sweden may differ from what Muslims living in Sri Lanka consider as gender equality. To make every single right equal has been often interpreted as a major method to achieve gender equality in the history of Western European states and in the United States. Yet, such an egalitarian concept is not necessarily interpreted as fair and just in some Muslim societies and in some African states.

It is rather imperative that a nuanced mix of both conflicting and cooperative relationship of different approaches (universalist and relativist) will have to be adhered in the reconstruction process of post-conflict societies. This approach will be closer to reality. And it is inevitable as long as "dialogue among civilizations and cultures" continues towards a more peaceful coexistence among human beings. What is important is that the difference in each person's capability - regardless of sex- should not be interpreted in the spectrum of superiority and inferiority even though gendered men's roles and capacities are often conceived superior, and thus t he gender gap tended to be

recognized as a superior vs. inferior dichotomy.

Just like there are many democracies, there should be many gender equalities. What is needed most in the age of globalization and in the age of dialogue among civilizations and cultures is to tolerate differences in customs, traditions, ways of thinking and in life, religion, culture, and to work together in the construction of a peaceful world.

Whithin this context, UNEP's "Gender Sensitivity Guidelines" is important and can be a cornerstone for those who plan, implement, monitor, and evaluate environment related projects. Moreover, "Women as the Voice for the Environment" (WAVE), the first Global Women's Assembly theme should be developed further and strengthened with the collaboration of other UN organizations and NGOs. Once actual collaboration is takes place, "cultural sensitivity for gender equalities" should be added to "Gender Sensitivity Guidelines." This is because gender equality (or equalities) is already imbedded in the concept of gender sensitivity as a universal value. Thus, the real localization of the concept of gender equalities in each society or community requires, in my opinion, a comprehensive understanding of cultural norms and traditions. The scheme with the combination of both "gender sensitivity" and "cultural sensitivity," will, I believe, lead to the construction of a global system for sustainable development.

Dialogue among Civilizations and Cultures: The Quest for Mutual Understanding

Hans Koechler

Abstract

The basic elements of civilizational dialogue in the present world order
Civilizational hermeneutics versus political hegemony
The dialogue of civilizations and the true meaning of "globality"

████████████The paper analyzes the hermeneutical structure of the dia-
logue of cultures and civilizations and places it in the context of a uni-
versal philosophy of the "life-world." Dialogue is described in the
categories of philosophical hermeneutics (Gadamer) and the "circle of
civilizational dialogue" is construed in analogy to what has been called
the "hermeneutical circle." The paper further explains the basic norma-
tive requirements of mutual understanding and describes the inter-
dependence between a peaceful world order and harmony among cul-
tures and civilizations – within and between states. The paper further
identifies the obstacles to comprehensive dialogue in the context of a
unilateral international system and juxtaposes the unifying tendency of
globalization with the civilizational commitment to "unity in diver-
sity." The paper relates the philosophical issues to the ongoing debates
in the fora of the United Nations and exemplifies the challenges by
reference to issues of the relations between the Muslim world and the
West in particular.

The essential conditions of a sustainable dialogue are defined
in reference to its inclusive and multidimensional nature. Dialogue can-
not be conducted in a vacuum; while in and of itself being a condition
for global justice, it must, in order to succeed, be embedded in a fair
and balanced world order. It is explained that the challenge of civiliza-
tional dialogue under the conditions of the present unipolar environ-
ment lies exactly in this interdependent relationship.

The paper finally explains that a culture or civilization can only

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fully develop if it is able to relate to others – in a kind of relationship similar to the dialectical structure of self-reflexion (consciousness) – within the universal framework of humanity. On this basis alone will it be possible to agree on a system of meta-values that are shared by all cultures and civilizations and make the mutual acceptance of the diversity of cultural and civilizational values possible at first hand. Only such an approach will prevent the doctrine of the "clash of civilizations" from becoming a self-fulfilling prophecy.

(1)
The basic elements of civilizational dialogue in the present world order

In our era of globalization and unipolarity in terms of the international balance of power, the "dialogue of civilizations" has become a rather fragile, though indispensable, project. Under the circumstances of globalization, the encounter of cultures and civilizations[1] – on the basis of a trans-cultural philosophical awareness of the origins of our "life-world"[2] – is one of the main fundaments of peace. Dialogue alone ensures the preservation of peace on a sustainable basis (internally as well as externally);[3] because of the dangers of environmental degradation and the global arms race, it has become the essential precondition for the survival of humankind. Only an attitude of dialogue will enable the peoples of the world to reach the compromises on issues of the environment and disarmament that are necessary to prevent a global catastrophe.

In view of the unequal international power balance – whether in military, economic, political or social terms –, it is of special importance to highlight the basic principle of a sustainable dialogue among cultures and civilizations, namely that it can only be conducted on an equal level. The tendency, observed with increasing frequency, of using the issue of civilizational dialogue in order to impose one culture or civilization upon the other – such as has been the legacy e. g. of Eurocentrism and Western "Orientalism" – is in no way compatible with this principle; to the contrary, it represents a neo-colonial agenda, indeed a "policy of double standards" in terms of civilization.[4] Cultural hermeneutics, understood as antidote to this tendency, must be

based on a non-discriminatory approach according to which cultures and civilizations, though not factually identical, are treated as equal in the normative sense, as manifestations of the universal spirit of humanity[5].

Under the conditions of an almost total absence of a balance of power – such as those of the unipolar world order of today – the project of civilizational dialogue, in itself an important civilizational achievement, will not only be severely undermined, but gradually rendered obsolete unless measures are taken at the international level to "stem the tide" of unipolarity in all areas of global interaction.

The process of dialogue – as a basic feature of man's intellectual self-realization, individually as well as collectively – must be seen in a comprehensive and multidimensional framework; it can in no way be abstracted from the realities of the life-world (including its political and socio-economic dimensions). At the same time, dialogue will not be credible – and thus will not succeed in terms of realpolitik – if one party tries to exploit its supremacy in economic, social, military, or information terms[6] Dialogue, in order to be sustainable, must be embedded in a balanced international order in a multidimensional sense – something which cannot be achieved through proclamations or wishful thinking alone.

In terms of global order, there exists a complex relationship, indeed interdependence, which the philosophy of civilization, and in particular philosophical hermeneutics, has to be aware of:

On the one hand, the dialogue of civilizations is a basic requirement for global peace and stability because it contributes to the building of a just world order, i. e. a world order perceived as just by the world's peoples;

On the other hand, a just and balanced world order is, in turn, a fundamental prerequisite of dialogue since an encounter among civilizations does not proceed in a political and socio-economic vacuum.

This "circle of civilizational dialogue," as we would like to call it, is not resulting from or indicative of a logical contradiction, it

merely reflects the comprehensive, and at the same time inclusive, nature of dialogue; it is structurally similar to the interdependent relationship in the process of human understanding (Verstehen) which Hans-Georg Gadamer in his "Truth and Method" described as the "hermeneutic circle."[7] Any form of cultural or civilizational hermeneutics has to take stock of this interdependence.

(II)
Civilizational hermeneutics versus political hegemony

Mutual understanding is indeed rooted in a kind of dialectical relationship according to which cultural – or more generally civilizational – self-comprehension is achieved by means of defining the limits and specific features of one's life-world through knowledge of and encounter with another culture or civilization. In essence, this corresponds to the structure of self-consciousness as it has been elucidated in the transcendental-philosophical dialectic of "subject" and "object" or "I and non-I" ("Ich und Nicht-Ich")[8]. Again, we note the interdependent relationship in this process: the "other" – whether as the individual or collective subject – is indispensable for a full understanding of myself[9].

The project of dialogue has reached a critical stage at the beginning of the 21st century. The tensions resulting from political and economic conflicts of interest between the industrialized world, in particular the West, and the developing world are mirrored by profound cultural and civilizational misunderstandings – mutually reinforcing each other. The examples are numerous. The "dialectic of mutual understanding," enabling a better self-comprehension of each civilization, is being made dysfunctional, for instance, by a gradually intensifying alienation between the Western world on the one hand and the Muslim as well as Sino-Asian civilizations on the other[10]. To a considerable extent, this process has been resulting from the imbalance in global power relations triggered by the replacement of the post-World War II order of bipolarity by a unipolar structure. In the era of one global superpower, there appears to be little room for civilizational encounters on the basis of dignity, mutual respect and equal rights for

all (cultures as well as civilizations).

 This state of affairs is evidenced not only in hegemonial tendencies in political and military matters, but in cultural and ideological matters as well. The latter serve to justify the political-military hegemony on a global scale, further strengthening it indirectly. The grand strategic design of a "Greater Middle East," including the imposition of a settlement in Palestine, is just one of the many regional examples of this tendency that is threatening civilizational dialogue and may finally render it without object. This particular development affects not only Palestinians and Arabs in the respective region, but concerns the entire Muslim world, thus jeopardizing the efforts of regional and international organizations towards preventing a permanent confrontation between civilizations.

 Against this background, Western-Muslim relations have indeed become the testing ground of the project of civilizational dialogue as to its credibility and sustainability under the conditions of global unipolarity.

 The recent decision by governments of Western countries to ban an Arab-Muslim TV station from using satellite frequencies is a clear case in point[11]. The apparent strategy of preventing an independent Arab and Muslim position from being heard in the West is running counter to all proclamations of democracy and human rights made by the propagators of a "just new world order."[12] This denial of access to information is directed against the basic principle of dialogue, undermining efforts at improving Western-Muslim relations in general[13]. Dialogue is a basic human right. The denial of dialogue is indeed a denial of human rights.

 Apart from having violated the basic human right of freedom of information, this decision has documented the Western tendency of making a supposed "partner" in dialogue mirror Western positions in order to become acceptable as a partner[14]. Of course, it is a truism to state that there exists no dialogue in whatever sense if one party expects the other to simply adopt the former's positions, values and world view in general. Such an attitude will only produce highly sterile soliloquia. Those advocating such a hegemonial approach have got entangled in a circulus vitiosus of intellectual self-betrayal in which they mistakenly

claim conducting a "dialogue" with the "other" while in actual fact they are talking only to themselves.

However, a strategy depicting and propagating the "denial" of dialogue as a new form of civilizational enrichment for all involved in the process, whether voluntarily or not, will only intensify the rejection of a civilization perceived as "dominationist" by those targeted by this policy. One should in no way be surprised if this approach is perceived as part of a neo-imperial project of reshaping an entire civilization according to the values of another[15].

The quest for mutual understanding will be without foundation if there is no honesty as to the strategic goal behind the proclaimed effort. Any form of self-comprehension, including the understanding of one's own civilization, will become impossible if one civilizational community allows the "other" only to mirror – or "endorse" – the former's positions and values. Such is the predicament of the project of civilizational dialogue in the 21st century that it has become entangled in a global struggle for hegemony. It will be of utmost importance to dissect the underlying ideology so as to distance the inter-civilizational agenda from that of power politics.

What is needed, under the present circumstances, is a consistent and persistent policy of global dialogue between cultures and civilizations such as it has been advocated by the United Nations and its affiliate organizations, in particular Unesco and the United Nations Environment Programme[16] The importance of such initiatives has been particularly highlighted in the UN General Assembly's Global Agenda for Dialogue among Civilizations[17]. Notwithstanding this broad international consensus, the policies of major member states have been out of tune with the principles outlined in the various declarations and resolutions.

A comprehensive dialogue has to be based on genuine respect for each other's value system – an attitude which in itself is rooted in basic human rights (individual as well as collective) which the community of nations has solemnly confirmed on repeated occasions since 1948. In distinction from – though not in contradiction to – the specific values inherent in each civilization, these basic rights form a system of meta-values which are the common ground for dialogue. The

fundamental values of freedom, tolerance, etc., expressing the essence of human dignity, are all norms on the basis of mutuality;[18] they are the conditio sine qua non for the enjoyment of the distinct and specific rights represented – and advocated for – by different cultures and civilizations. In this sense, they are not "exclusive" norms imposed by one side upon the other on a discriminatory basis. In their normative structure, they are "formal" – in the sense of their being meta-values shared by all – as distinct from the "material" norms which may be different as to their content and/or the hierarchical order in which they are placed, in each and every civilization.[19] As rightly stated by the participants of the Kyoto Dialogue of 2001, in order to develop a global ethos – as basis for peaceful co-existence – "it is necessary to reach consensus on which norms are universal and which norms are cultural and specific."[20]

In conformity with this normative approach – highlighting common norms of second order (so-called meta-norms) as condition for accepting different systems of norms of the first order – the practice of civilizational dialogue must be comprehensive (in regard to its global outreach towards all civilizations) and inclusive (in so far as it integrates the economic, social and political levels) at the same time. If these basic conditions are met, the dialogue of cultures and civilizations may become an integral part of conflict prevention on a global scale. Vice-versa, the denial of dialogue and the provoking of conflicts between civilizations, or reinforcing existing ones, will have to be considered as a serious, though often hidden or undeclared, threat to international peace and security. The political dimension of dialogue – as foundation of global peace – goes well beyond the mere "educational" aspects, mainly related to the history and comparative (in fact often normative) theory of civilizations, to which the apologists of a neo-imperial order would like to confine it. If these political implications are overlooked, intentionally or not, i. e. if the dialogue of civilizations is "disengaged" from the overriding goal of peaceful co-existence among nations, it will become a mere academic exercise and may easily be instrumentalized for purposes of power politics and for the ex post facto legitimation of the hegemonial civilization's privileged position.

It is exactly because of these far-reaching implications for global peace that the multidimensional and comprehensive approach advocated by us is the only viable and sustainable strategy in terms of civilizational dialogue. This is also where the environmental aspect comes in: The protection of natural resources and the preservation of the environment is an essential element of a policy of respect towards the rights of others – contemporary communities and future genera- tions as well. Koïchiro Matsuura, Director-General of UNESCO, has rightly emphasized the need "of adopting an intercultural approach to environment that takes into account the different perceptions of creation that societies have constructed over time."[21] The environ- mental approach documents a non-violent attitude towards the "other" – political community as well as culture or civilization – based on the understanding that peace can only be preserved if each community sees itself as part of the larger human family. According to this approach, individuals and peoples of all civilizations share the same habitat – or "life-world" – and are under the obligation of respecting and preserving it as the common heritage of mankind. As aptly stated by the participants of the 2001 Tehran Seminar, "lasting international peace and security calls for an attitude of reverence for all kinds of life on Earth and respect for the environment for the benefit of present and future generations."[22] Such a "universalist" approach is diamet- rically opposed to dominationist strategies that use the "other" – including nature – as mere object for one's self-realization in a form of extreme voluntarism[23].

(III)
The dialogue of civilizations and the true meaning of globality

In the context of economic, social and cultural "globalization" – which has been further accelerated as a result of the collapse of the bi-polar world order – the dominationist attitude, described by us in its antago- nism to civilizational dialogue, is further being aggravated. In its actual form, the process of globalization – or "globality" as it is being referred to by those who would like to portray it as irreversible – has reinforced the previously existing economic and social imbalances,

particularly between the countries of the North and the South[24]. Because of the unipolarity in terms of global power relations, these imbalances have become even more acute. One civilization's claim to supremacy in virtually all fields – technology, culture, military, etc. – has overshadowed all efforts at restructuring the international system along the lines of equal rights of nations as to the sharing of man's cultural and scientific heritage. Globalization has effectively brought about a tendency towards "civilizational uniformity," i.e. a pressure upon virtually all communities to conform to the standards set by the dominating civilization.

Non-Western civilizations are increasingly "absorbed" by what is called the "dynamic" of globalization, and "assimilated" according to the norms and principles set by the West as self-declared standard-bearer of civilizational values (such as those of democracy, human rights, in general: the essence of a meaningful life). Under the banner of "universal values" – which are in fact those of a particular civiliza-tion – other civilizations are gradually forced to "redefine" – or "rein-vent" – themselves and restructure their value systems according to the internal standards of the very civilization that benefits from the present unipolar order[25]. This missionary approach has to be exposed as what it really is: namely a false universalism – indeed particularism – abusing the idea of the dialogue among cultures and civilizations for political and material gain, i.e. for furthering the particular interests of only one side[26]. The 2001 Conference on the Dialogue of Civilizations in Kyoto stressed the need of "carefully containing attempts at 'globalizing' the specific value systems of those currently in power politically or economically."[27] In this regard, the Conference called for a "respectful dialogue between members of different civilizations," emphasizing that "no judgment should be made about the norms of other cultures unless one has first critically examined similar norms within one's own culture."[28]

In sharp distinction from the tendency of economic globaliza-tion, or the globalization of an economically-driven "information society," namely of imposing its imperatives upon all fields of life and in all geographical regions, a dialogue among civilizations, if con-ceived in its genuine hermeneutical meaning – and not as a cover for

an agenda of power politics –, may bring out the true meaning of "globality." By its very nature, the quest for mutual understanding is nurtured by an attitude of openness towards different expressions of humanity – synchronically as well as diachronically. In all historical periods mankind has expressed itself in a variety of life-worlds29 and distinct horizons of understanding[30] – a process which is still continuing in our era of supposed "globality." Unlike as proclaimed by an apologist of Western supremacy in the post-Cold War environment, history has not come to an end yet[31].

In view of the universal history of civilizations[32] and the simultaneity of a multitude of civilizational horizons, dialogue requires a genuine cosmopolitan attitude. This implies the awareness that preserving one's cultural and civilizational identity is not only possible without excluding the "other," but one's identity is conditioned by a universal awareness of and tolerance towards other civilizations. Cultural and – in the wider context – civilizational self-comprehension can only be developed against the universal background of humanity[33].

The essence of globality lies in positioning one's own cultural and civilizational awareness as member of a distinct community while at the same time defining one's specific life-world in the framework of universal culture – by interacting with other civilizations on the basis of equality and mutual respect. This attitude, out of hermeneutical necessity, lets each member of a civilization appreciate the common spiritual heritage of mankind and accept other civilizational expressions as different forms of perception of the one world shared by all. Knowledge of these expressions – or different "life-worlds" – will thus be seen as enrichment of one's civilizational identity.

Globality, understood in this sense, is not to be confused with economic globalization (also including social, cultural and political processes). The latter tends to impose "commercial" values upon virtually all fields of life; it is characterized by a drive towards uniformity, subordinating all spheres of life to the economic domain and in particular to the supposed necessity of exploiting all available resources – material as well as human – for material gain. Although this tendency is described as almost irresistible by the apologists of global-

ization, the underlying argument is philosophically not convincing.

The rationale of this process is based on the (wrong) assumption that only unhindered economic and technological development, not restrained by ethical considerations or cultural differences, will bring out the full potential of the human race and thus guarantee prosperity to all on a long-term basis.

In sharp distinction from this position – with its "particularist" outlook, based on the supremacy of the economy over all other spheres of life –, the project of a dialogue of civilizations is in and of itself universalist and, therefore, represents globality in its original meaning: as virtually "borderless" interaction, on the basis of mutual respect, between distinct expressions of humanity in each and every culture and civilization. This form of universalism is not be confused with cultural or ethical relativism because it is based on the commitment to common cultural and civilizational values shared by all members of the human race.

By definition, this attitude precludes any form of exclusivism and unilateralism – and in particular all forms of hegemonial policies whether in the social, political or military areas. The ethos of civilizational dialogue is only compatible with a multilateral approach in the cultural as well as the political field.

In the coming decades, a genuine and sustainable dialogue among cultures and civilizations may prove to be the only viable alternative not only to the essentially divisive forces of globalization, but to permanent confrontation on a global scale, including major war. We must do everything within our means to prevent the t?pos of the "clash of civilizations" from becoming a self-fulfilling prophecy[34].

Endnotes:

1- For the purposes of this article, we understand "civilization" as general and "culture" as specific term related to man's perception of the world ("life-world"). In this sense, a civilization may have distinct cultural expressions in different historical periods and within a variety of linguistic, ethnic and political settings. For the conceptual distinction between "culture" and "civilization" see also Samuel P. Huntington,

"The Clash of Civilizations?" in: Foreign Affairs, Vol. 72/3 (Summer 1993), p. 24.

2- The term is understood here in the phenomenological-hermeneutical sense. See e. g. the Chapter "Phenomenology of the Life-World," in: Hans Koechler, Phenomenological Realism. Selected Essays. Frankfurt a. M.: Peter Lang, 1986, pp. 42ff.

3- Particularly in large multi-cultural states or groupings of states (such as the European Union) cultural and civilizational dialogue has become an essential element of social and political cohesion and stability.

4- This Eurocentric attitude is particularly obvious in the recent discourse on a so-called "Euro-Islam" (in fact a hybrid form of Islam) which is driven by a non-Muslim (mainly Western) desire of reshaping the Islamic civilization according to the secular value system of the West. See e. g. Bassam Tibi (Islam between Culture and Politics. New York, N.Y.: Palgrave, 2002), who invented the term of "Euro-Islam" in a normative sense and whose work has further reinforced the typical bias of Western intellectuals vis-à-vis Islam. His Eurocentric approach is plagued by the same conceptual weakness as traditional "Orientalism" (as described by Edward Said: Orientalism. [Repr. ed.] New York: Vintage Books, 1979); it is essentially a-historical and a-hermeneutical and only aggravates existing civilizational conflicts instead of helping to understand their causes. See Muqtedar Khan's pertinent critique (http://www.ijtihad.org/tibi.htm) according to whom Tibi's Euro-Islam "is essentially a thin shell with European values at its core" and his call for a Euro-Islam "accepts uncritically the intolerance and inhospitality of Europe to cultural and religious diversity that Islam brings."

5- Cf. Hans Koechler, "The Clash of Civilizations Revisited," in: Hans Koechler and Gudrun Grabher (eds.), Civilizations – Conflict or Dialogue? Studies in International Relations, XXIV. Vienna: International Progress Organization, 1999, pp. 15-24.

6- On the importance of information for a just global order see Hans Koechler (ed.), The New International Information and Communication Order. Basis for Cultural Dialogue and Peaceful Coexistence among Nations. Studies in International Relations, X. Vienna: Braumüller, 1985.

7- Hans-Georg Gadamer, Hermeneutik I: Wahrheit und Methode. Grundzüge einer philosophischen Hermeneutik. Tübingen: J.C.B. Mohr (Paul Siebeck), 5th ed. 1986. (English version: Truth and Method. Trans. by Garrett Barden and John Cumming. London: Sheed and Ward, 1975.) See also Hans Koechler, "Zum Gegenstandsbereich der Hermeneutik," in: Perspektiven der Philosophie, Vol. 9 (1983), pp. 331-341.

8- On the dialectic nature of self-consciousness see Hans Koechler, Die Subjekt-Objekt-Dialektik in der transzendentalen Phenomenologie. Das Seinsproblem zwischen Idealismus und Realismus. Meisenheim a. G.: Peter Hain, 1974.

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10- Concerning the state of Christian-Muslim relations in particular see the author's article "Muslim-Christian Ties in Europe: Past, Present and Future," in: IKIM Journal, vol. 7, No. 1 (January-June 1999), pp. 97-107.

11- On the international debate related to this case see, inter alia, the declaration of the International Federation of Journalists: IFJ Condemns French Ban on Arab Television Channel, News Release, 15 December 2004, www.ifj.org, and Alan Balboni, "Al-Manar TV News: No Terrorism Here." Al-Jazeerah, 16 January 2005,

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12- For an analysis of the paradigm of the so-called "New World Order" see Hans Koechler, Democracy and the New World Order. Studies in International Relations, XIX. Vienna: International Progress Organization, 1993.

13- On the need of a balanced flow of information in international relations and of fair and objective reporting see Hans Koechler (ed.), The New International Information and Communication Order: Basis for Cultural Dialogue and Peaceful Coexistence among Nations, Studies in International Relations, X. Vienna: Braumüller, 1985.

14- On attempts at "Westernizing" other civilizations, including the Muslim world, see also Arnold Toynbee, Civilization on Trial. Meridian Books: New York, 1958.

15- A drastic example of this strategy – and of the cultural arrogance and total lack of a hermeneutical approach associated with it – is Bassam Tibi's discourse on Islam. See e. g. The Crisis of Modern Islam. A Preindustrial Culture in the Scientific-Technological Age. Trans. by Judith von Sivers. Salt Lake City: University of Utah Press, 1988.

16- The discussion paper presented by the Executive Director of the United Nations Environment Programme (UNEP) for the Seventh Special Session of the Global Ministerial Environment Forum in Cartagena, Colombia (13–15 February 2002) specifically calls "for the integration of ethical and spiritual values considerations into sustainable development policies" and for the "[r]espect for ethical and spiritual values, reflected in cultural diversity, human rights and protection of indigenous knowledge ..." (Par. 125). Doc. UNEP/GCSS.VII/3, 24 December 2001.

17- United Nations, General Assembly, resolution 56/6 of 9 November 2001.

18- As regards Western civilization, those norms may be derived from Kant's transcendental philosophy, in particular his notion of the autonomous subject, and explained by means of his Categorical Imperative ("Handle so, daß die Maxime deines Willens jederzeit zugleich als Prinzip einer allgemeinen Gesetzgebung gelten konne." Immanuel Kant, Kritik der praktischen Vernunft. Ed. Joachim Kopper. Stuttgart: Philipp Reclam Jun., 1966, § 7, p. 53).

19- For details of the relationship between values of the first order and meta-values see the author's lecture "Philosophical Foundations of Civilizational Dialogue" delivered at the World Congress on Transcendent Philosophy and Mulla Sadra, Tehran, 23 May 2004.

20- United Nations University in cooperation with UNESCO, International Conference on the Dialogue of Civilizations. Tokyo and Kyoto, 31 July – 3 August 2001. Conference Report, Par. 32, p. 8.

21- Address by Mr Koïchiro Matsuura, Director-General of the United Nations Educational, Scientific and Cultural Organization (UNESCO), at the Working Dinner on Dialogue Among Civilizations at the UNEP Global Ministerial Environment Forum. Nairobi, 8 February 2001. UNESCO, Doc. DG/2001/20.

22- Tehran Declaration on Environment, Religion and Culture. Tehran, 20 June 2001. United Nations, General Assembly, Doc. A/56/458, 11 October 2001, Annex.

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24- On the multidimensional aspect of globalization see Hans Koechler (ed.), Globality versus Democracy? The Changing Nature of International Relations in the Era of Globalization. Studies in

International Relations, XXV. Vienna: International Progress Organization, 2000.

25- Samuel P. Huntington, albeit for different reasons which are not related to the dialogue among civilizations but mainly to the preservation of Western interests, has characterized the belief in the universality of Western civilization as arrogant and insisted that the "West" must abandon the pretense of universality: "The West: Unique, not Universal," in: Foreign Affairs, Vol. 75/6 (November/December 1996), pp. 28-46.

26- Richard Falk has characterized this attitude in regard to the West's dealing with the Muslim world and has related it to a larger geopolitical strategy. See his article False Universalism and the Geopolitics of Exclusion: The Case of Islam, published on the web site of Princeton University (1997), http://www.princeton.edu/~adickins/islamic.html.

27- United Nations University in cooperation with UNESCO, International Conference on the Dialogue of Civilizations. Tokyo and Kyoto, 31 July – 3 August 2001. Conference Report, Par. 32, p. 8, http://www.unu.edu/dialogue.

28- Loc. cit., Par. 33.

29- In the context of this analysis, we understand the term in the meaning described by Edmund Husserl in his phenomenology of "Lebenswelt" (life-world). See his Die Krisis der europaischen Wissenschaften und die transzendentale Phenomenologie. Eine Einleitung in die phenomenologische Philosophie. (Ed. Walter Biemel) Husserliana, Vol. VI. Den Haag: Martinus Nijhoff, 2nd ed. 1962.

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What Does Dialogue Entail
The Broad Perspective

Ali Paya

Abstract

The main thesis of this paper is an unorthodox one: if language is amongst the most important achievements/inventions of Nature, then 'dialogue' similarly ranks amongst the most important achievements/inventions of mankind.

To demonstrate the significance of dialogue, I shall explore some the focal and non-focal functions of this social construct and examine several aspects of the sphere of meaning in which the concept of dialogue occupies a prominent major node in a rich network of inter-related concepts.

I shall next consider dialogue as an emergent property in the evolutionary course of the history of the universe and would produce a bifurcated argument in defence of the main thesis of the paper. On the one hand, I would argue that the emergence of a property like dialogue could only be possible if the natural as well as the social environments have obtained high degrees of complexity and sophistication. On the other, I would argue that 'dialogue', as the interplay between communication and cooperation, could facilitate the emergence of a new mode of evolution in the human species.

In the last section of the paper, I shall turn to some real-life examples of the ways in which 'dialogue' has played a decisive role in managing the affairs of various societies. Most of the examples cited in this section deal with the notion of 'conflict resolution' in the broadest sense of the term.

The upshot of the arguments of the paper is that in the modern world where mankind, more than any time else in his history, has obtained the power and ability to obliterate life on the planet, 'dialogue' is the most effective way to avert man-made catastrophes and pave the way for the creation of a more just and caring global civilisation.

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Dialogue: A Human Invention

Dialogue is a human invention, a social construct. It is one among the myriad of human inventions. And yet, I would like to argue that, this particular invention, occupies a special place among all those institutions, machines, methods, contrivances, and innovations created by mankind. It is, in other words, in comparison with many other first rank human constructs, first amongst the equals.

From an etymological point of view, the word 'dialogue' comes from the Greek dia-logos. Dia usually means "through" but in connection with dialogue it is the same as the Latin "inter"; it means "between or among". Logos means "the word" which implies a very general notion of reasoning of any kind expressed through speaking or writing and retained in the form of a concept or a theory. In this sense dialogue is, therefore, an interplay of words, i.e. a flow of meaning, between or among a number of people. (Heuvel,1999) Out of this stream of meaning may emerge some new understanding, something new, which may have not been in the starting point. (Bohm, 1996)

Etymologically, dialogue is different from communication, conversation, negotiation, and discussion. And while in a dialogue, all these elements may appear, the dialogue itself cannot be uniquely identified with any of these other concepts. I shall come back to this point later on in the paper.

Like all social inventions which have been in constant use since their debut, e.g. lamps, weapons, means of transport, institutions for social and political governance, dialogue has undergone many changes throughout the history and has benefited from mankind's rich cognitive experiences in the course of their existence on the planet. In modern parlance, dialogue is the end result of a number of changes in man's epistemological outlook. Socrates, the father of dialogue in the ancient world, maintained that when one realises that one knows nothing one will be better inclined to make use of dialogue. This Socratic point has obtained further clarity in modern times. Modern man, among other things, has realised that there is no such a thing as absolute and certain communicable knowledge; the thing which is called 'knowledge' is in fact a never-ending series of conjectures and

refutations for understanding reality; progress in knowledge depends on continuous criticism and critical appraisal; and more importantly, knowledge, is not the exclusive preserve of any one individual or groups of individuals. (Popper, 1963)

As a social construct or invention, dialogue shares a number of general characteristics with all other human constructs. Social constructs, in the first instance, are instruments or tools. Every social construct is created to respond to some particular human needs. As such, each social construct, be it a car or a key, a medical tablet or a model of democracy, a pen or a pendulum, a bank or a bed, has a number of focal functions. That is to say, the original functions combination of which have given rise to the invention in question. However, apart from the original functions, new functions could be added to or may be 'discovered' for the existing functions of any social construct while some older functions may be axed. Thus for example, a modern Mercedes Benz has many more functions/features in comparison to the first car built by Ford. Marx, famously, declared that he has 'discovered' the real function of money: to maintain a system of oppression. And modern ocean-liners do not need sails or rows of oar-men for propelling the ship in the midst of the sea. (Paya, 2002, 2004)

Social constructs are powerful entities. They exert causal power. They can bring about changes to the environment in which they are functioning. The causal power of the social constructs is of two types. We can dub them the hard and the soft causal powers for the want of a better terminology. The first type of the causal power is what obtains from the natural material or elements used in making the construct in question. A mechanical digger, for example, can make a hole in the ground by making use of the oil (or some other type of) energy. A computer can process information in the forms of series of 1s and 0s by using electric energy. The soft power, however, is based on the collective intentionalities of the social actors. It is related to the universe of meaning possessed and/or shared by these actors.

Intentionalities are the characteristic feature of cognitive and volitive states of mind: they invariably represent or are about something beyond themselves. The task of cognitive sates like beliefs, hypotheses, perceptions, and memories is to match an independently

existing reality or environment. The aim of the volitive states like desires and intentions, on the other hand, is not to represent how things are but how the social actor would like them to be or plans to make them be. (Searle, 1995, 1999; Paya, 2002)

Apart from the two general categories of cognitive and volitive states, intentional states in the mind of each individual fall into another two basic categories, namely, "individual intentionality" and "collective intentionality". Collective intentionalities, as their name imply, are the products of coming together of social animals. Contrary to the individual intentionalities, they cannot be formed in isolation. Thus for example, while Robinson Crusoe can have various individual intentionalities, he will not be able to acquire collective intentionality.

Collective intentionalities, in turn, are responsible for creating social facts and socially constructed entities or institutional facts. Social facts pertain to two or more actors who have collective intentionality. Animals hunting together or birds building nests or ants gathering food are examples of this type of facts. Male chimpanzees that live in a group every now and then embark on a hunting spree. According to anthropologists, this form of hunting is not just for calories or for enticing female chimpanzees by offering them the meat of the hunted monkeys. It is rather a way for strengthening the fraternity bond in the old-boy network. (Small, 2001)

Socially constructed entities or institutional facts are also the product of collective intentionality. Human beings construct these social entities or institutional facts by means of collective imposition of functions on (or ascription of functions to) physical objects or already existing institutional facts. Marriage, money, government, war, university, court, rent, football match, academic conference, and the like are examples of such social entities. Socially constructed entities are ontologically subjective and epistemologically objective. In the case of money, for instance, a function is being imposed on pieces of paper or plastic cards. There is no money independent of human actors/agents, hence money is ontologically subjective. At the same time, within human communities, money plays a significant role, which is due to its epistemological objectivity. (Searle, ibid)

An important feature of the institutional facts or socially

constructed entities is that, contrary to the social facts, they belong only to those beings that are capable of using language and invoking symbols to create meaning. It is on the basis of such shared meaning and/or collective intentionalities that these institutional facts can take shape.

Language and other Emergent Properties

Language seems to be the ultimate evolutionary innovation. Evolution's great inventions can be identified as innovations in the way information was organised and transmitted from one generation to the next. Life's great leaps forward can be listed in a table in ascending order of complexity and sophistication, starting with the origin of life itself and ending with language. (Maynard Smith & Szathamary, 1993)

Language is central to most of what makes human beings special, from consciousness, empathy and mental time travel to symbolism, spirituality and morality. (Douglas, 2005) Moreover, it is infinitely more sophisticated than the communicative abilities of all other animals. What is special about human language is that it is endowed with syntax whose essence is recursion: the possibility of including one sentence inside another ad-infinitum. Human beings are equipped, in a hard-wired fashion, with a universal, deep grammar, which enables them to apply syntactical rules and make combination of words to convey meaning. (Anderson, 2004) Such a complex language system with syntax and grammar, which builds up meaning through a hierarchical arrangement of subordinate clauses – is unique to the humans and it has evolved just once.

In a sense, such a complex language is the last word in biological evolution. That's because this particular evolutionary innovation allows those who possess it to move beyond the realms of the purely biological. With language, our ancestors were able to create their own environment - we now call it culture - and adapt to it without the need for genetic changes. It is in the realm of culture that dialogue plays a decisive role.

Dialogue, as a powerful social construct which commands soft-power, is based on language, though is not an exclusive product of it. There is more to dialogue than it is to language. The power of

dialogue, therefore, is only partially derived from the power of language.

A necessary and sufficient condition for creation of any institutional fact / social construct, including dialogue, is the existence of a relatively high degree of "coherence" among the collective intentionality of the individuals. The notion of coherence has been borrowed from physics. In physics ordinary light is called "incoherent," which means that its photons are dispersing in all directions. The waves in the ordinary light are not in phase with each other. That is to say, in their oscillation they do not maintain a fixed relationship to each other and therefore do not build up constructively. As a result their interaction is destructive, in that they cancel each other out. There is however another type of light that is known as laser, which is "coherent". In a laser beam all the light waves are moving in one direction and they are all in phase. This would help the waves to build up constructively and become capable of doing all sorts of things which ordinary light cannot do. (Bohm, 1996; Paya, 2002)

In a proper dialogue, in which the flow of a shared meaning has been established, like a coherent light, the contribution of each component would fortify and strengthen the positive effect of the final outcome. The power of dialogue, therefore, is also related to the degree of coherence obtained among those who are participating in it.

Dialogue, as a powerful social construct, acquires further strength from other sources. To appreciate the contribution of these other sources in increasing the power of dialogue we should take a detour and look at the twin notions of 'weak and strong emergence' and examine two particular emergent properties, namely the phenomenon of co-operation among human beings and the notion of rationality and one of its by-products namely, that of collective reason.

The notion of weak emergence is a relatively new conceptual invention devised to describe the behaviour of systems which are, contrary to the reductionist view of scientific laws, computationally intractable. Although the behaviour of such systems can be predicted by the behaviour of their components, but predictive calculations are exponentionally hard. Strong emergence, on the other hand, is used to describe those systems whose behaviour can only be understood by

taking into account additional laws or 'organising principles' that emerge at various levels of complexity. (Davis, 2005)

The emergence of life itself is an example of such a phenomenon. Some two hundred years ago Pierre Laplace, the French mathematician and physicist had claimed that if a superintellegent demon knew at one instance the motion of every particle in the universe, and the forces acting between them, the demon could do a massive calculation and predict the future in every detail, including the emergence of life and the behaviour of every human being.

However, scientists and philosophers have now realised that Laplace's materialistic model was based on a questionable assumption: the demon must have unlimited computational power at his disposal. This assumption, in the light of new understanding of the limitations of the physical basis of digital computation, has become untenable. The first limitation is imposed by Heisenberg's uncertainty principle of quantum mechanics, which defines a minimum time needed to process a given amount of energy. The second is the finite speed of light, which restricts the rate at which information can be shunted from place to place.

The third limit comes from thermodynamics, which treats entropy as the flip side of information. This means a physical system cannot store more bits of information in its memory than is allowed by its total entropy. (Davis, ibid)

Taking the effects of these three restrictions into account, the result is that even if Laplace demon had the whole universe as a vast computing machine at his disposal, and assuming that the universe is, according the currently accepted cosmological models, 13.7 billion years old, then the demon would be able to process only 10120 bits of information. This is in fact, the maximum computing power of the universe given the above limitations. This fact must be contrasted with the fact that the calculation of even the simplest components of living organisms requires a much more powerful computer. Take for example, a typical protein in a chain molecule which is made up of about 100 amino acids of 20 varieties. The total number of possible combinations for such a molecule is about 10130, and we must multiply this by the number of possible shapes the molecule can take, because its shape

affects its function. This boosts the answer to about 10200, already far in excess of the calculation power available to Laplace's demon.

Phenomena such as proteins are abound in the Kingdome of living organisms. For example, in our DNA molecules, prediction of the properties of strings of more than about 200 base pairs, a characteristic of many of our genes, requires computing powers well beyond what is available to a reductionist scientist.

The implication of the above considerations is clear: purely reductionist approach cannot account for many important phenomena in the universe. To be able to explain these extra features we need a new concept of natural laws. These laws are, by definition, higher-level, emergent laws which appear when the system obtains a certain degree of complexity. At each stage of complexity, new laws which would correspond to those levels would emerge. However, below these levels, there would be no trace of such higher laws.

Another factor, apart from the notion of laws, emergent or otherwise, which is related to the description of the behaviour of systems, is the notion of the 'state'. States of the systems are not fixed in time. All the states of a system, whether we are talking about a hydrogen atom, the recorded prices on the stock market, or the mood of the participants in a conference, are continually changing in a variety of ways. (Davis, ibid)

Laws act on the states to predict how the systems will behave. A law without a state is like the rules of a football match with no players: it does not have any application. Changes in the states of the systems would pave the way, or hinder, as the case may be, the emergence of new laws, and this in turn would facilitate (suppress) new patterns for the future states of the system.

Dialogue: A cut above the rest

But how all of these would apply to dialogue? My main thesis, as stated above, is to argue for the unique status of dialogue among all human inventions. I noticed that dialogue is directly related to language which is itself the supreme invention of the nature. I also noticed that dialogue is a powerful construct whose power can be increased by the

increase in its degree of 'coherence'.

My further claim now is that dialogue, as an emergent property, can only appear on the scene, when social actors acquire a certain degree of complexity and sophistication. Their state of behaviour and interaction with each other must pass a certain threshold for 'dialogue' to get a chance to emerge. The so-called 'Turing test' devised by the British mathematician, Alan Turing (1950), shows this point rather nicely: while it is in principle possible to have self-replicating machines which are capable to carry out many different tasks, the threshold for these machines to pass the intelligence test is pretty high; they must be able to hold a meaningful dialogue with a human being.

To further highlight dialogue's unique position, it is useful to compare it with some of the concepts which seem to be conceptually close to it. Earlier in the paper, it was pointed out that 'dialogue' is different from communication, conversation, negotiation and discussion. In what follows the differences between these various concepts will be spelled out in further detail. Here, I have benefited from Bohm's On Dialogue (1996).

Etymologically, communication, based on the Latin communicatio means "to share or to make common." One meaning of "to communicate" in the sense of "to make something common" is to convey information or knowledge from one person to another in as accurate a way as possible. In contrast, in a dialogue, each person does not attempt to make common certain ideas or items of information already known to him. Rather, it may be said that the people who are engaged in a dialogue are making something in common, i.e., creating something together.

Conversation is from the root word "converse" which means, "live among" or "be familiar with". It has originated from the Latin conversari, which means, "keeping company". Conversation therefore, indicates communing or talking familiarly whereas dialogue can be held among those who do not form a commune or do not engage in familiar intercourse. In fact, in a dialogue -at least in its initial stages- the flow of thought of each of the participant may be miles away from the other interlocutors.

Negotiation, from Latin negotiat, which means, "do in the course of business", is mostly concerned with finding a way over or through some specific obstacle. In this sense, it has only a pragmatic goal and thus has a far more limited scope than dialogue.

As for discussion, it derives from the same root word as "percussion" and "concussion," a root that connotes striking and shaking. It really means to break things up. It emphasises the idea of analysing, which obviously has its values but it is somewhat limited in its scope. Dialogue, in contrast, involves joining our thinking and feeling into a shared pool of meaning which continually flows and evolves, carrying the interlocutors into new, deeper levels of understanding. The

Dialogue:	Discussion:
Seeing the whole among the parts	Breaking issues/problems into parts
Seeing the connnections between the parts	Seeing distinctions between the parts
Inquiring into assumptions	Justifying/defending assumptions
Learning through inquiry and disclosure	Persuading, selling, telling
Creating shared meaning among many	Gaining agreement on one meaning

differences between dialogue and discussion can be better seen from the following table: (Ellinor & Gerard, 1998)

In dialogue, as is clear from the above, the emphasis is on the creation of shared meaning, to enlarge the common universe of meaning among a number of interlocutors. And this feat requires co-operation between the social actors.

Cooperation itself is an emergent property which confutes simple natural selection or survival of the fittest models. As evolutionary theorists have shown, patterns of cooperation emerge in many complex situations, for example, cooperation between single cells gives rise to the creation of multiple cells and cooperation between bacteria produces eukaryotes. But in all such cases mechanisms like kin-selection are at work which can be traced back to the notion of selfish genes. It is only among humans that cooperation between total strangers can be observed. (Nowak, 2005)

In their efforts to explain the phenomenon of cooperation among human beings, especially in those cases were favours are bestowed upon strangers, some evolutionary psychologists have claimed that 'preserving and enhancing one's own reputation' can play a part in people's altruistic behaviour. Yet, even here, the situation, as most recent research have revealed, is not as straightforward as it might seem in the first place. (Fehr, 2004)

Here, the social actors display an advanced sense of fairness, and a high degree of rationality and sophistication. (Sigmund, et.al. 2002) In other words, this type of cooperation requires a good deal of complexity and maturity on the part of the social actors. It relies on the foresight and rationality of these actors. The fact that this type of altruistic cooperation is only seen amongst the humans and not other animals is a clear evidence for the fact that, it is only us, the humans, who have passed the required threshold for the emergence of this particular phenomenon.

This pattern of impersonal fellowship, which is unique among human beings, can be actively promoted by dialogue. Thus for example, Patrick de Maré and his colleagues in their book, Koinonia, report they have used dialogue as an operational tool for group-analytic approach to larger groups comprising of twenty to one hundred people. The main aim of group-analytic approach is to link the inner world of each member of the group with the socio-cultural environment in which the interpersonal relationships between the group members take place. The result of this type of study of the large group is that:

"... [T]he group micro-culture emerges, as the initial frustrations of the group find their expression through hate; as hate initiates, and is transformed by, dialogue; and as dialogue ultimately establishes what the Greeks knew as 'koinonia' or the state of impersonal fellowship."

Another feature, which gives a rather special status to dialogue, is that it alone, among the other socially constructed facts, has the unique characteristic of being capable of using a bootstrap method of enhancing itself: we can use dialogue to promote dialogue and enhance its influence.

Dialogue also has, inter alia, the function of facilitating the process of creating other new institutional facts. It can, likewise, lead to the 'discovery' of new functions for existing social entities or to help the social actors correct some of the defects of such entities and bodies.

As indicated earlier the meaning of dialogue as a social construct and therefore its functions are not fixed. Dialogue's rich network of meaning is of the type known as scale-free networks. (Barabasi and Bonabeau, 2003) These networks have ever-changing structures consisting of sets of relations among various nodes some of which are more prominent than the rest, in that the number of connections reaching them is much higher than other nodes. In the case of dialogue and its network of meaning, all the nodes, including the node for the concept of dialogue itself which is the most prominent one in the network, are the outcome of intricate and complex interactions between the social actors and their surroundings. This means that the social actors can add new meanings to or discover new functions for dialogue. This in turn, would enlarge dialogue's network of meaning and enhance the status of this institutional fact in ways which are beneficial for the society at large.

Like all other socially constructed entities and institutional facts, dialogue is sensitive to the contexts in which it is being used. (Paya, 2004). The more amenable the context to this invention, the more effective the dialogue. This means, among other things, that in an environment that the social actors have acquired a greater degree of rationality, the dynamic architecture of the dialogue can be used much more effectively. This is because, a rational actor, by definition, avoids contradiction in thought and tries not to follow contradictory leads in action. (Taylor, 1982) He/she is also open to criticism and in developing optimum solutions for the problems at hand, tries to make the best use of his/her own past mistakes as well as the experiences of the other actors/agents. (Popper, 1994, 1999)

A rational actor is therefore someone who is more likely to realise the significance of 'the other' for one's own well being. Such an actor/agent would view 'the other' as a potential source of knowledge, as somebody who has a unique window on reality and is capable of

offering views, opinions, and ideas which will be of value to one's own understanding and well-being. Such an actor/agent is therefore more likely to fulfil the minimum condition for an authentic dialogue, namely, respect for the 'other'. That is to say, to regard 'the other' as equal in humanity and exercise tolerance towards their views. (Popper, 1997)

This minimum requirement for dialogue which also comprises dialogue's normative, deontic dimension boils down to what Kant had instructed centuries ago: to regard humanity, either of oneself or the other, as an end in itself and not just as a means. (Kant, 1957)

A rational actor is also more likely to be aware of, or more easily to be converted to the view that, in order to start a successful dialogue, there is no need that all the participants share similar views, be in either full or even partial agreement with each other, or even entertain a set of basic assumptions or a common background. Such an actor/agent would realise that to insist upon these types of demands would prepare the way for debilitating epistemic as well as value relativism, which in turn, and respectively, give rise to nihilism and would breed hatred and violence. (Trigg, 1989; Paya, 2001)

Last, but not least, rational actors/agents are more likely to cooperate and make use of the power of their collective reason. This in turn, would greatly increases the chances of dialogue to be invoked in managing the social/communal affairs of the agents.

Dialogue: Some Tangible Results

Dialogue, as a powerful tool for making positive change in the society, has been used in a number of cases with remarkable success. A number of researchers have carried out experiments of holding dialogue among groups of strangers with up to 100 participants. David Bohm and his colleagues, for instance, have reported that the outcomes of these experiments have been so outstanding that many of those who have participated in these sessions have come to the conclusion that:

"...a form of free dialogue may well be one of the most effective ways of investigating the crisis which faces society, and indeed the whole of human nature and consciousness today. Moreover, it may turn out that

such a form of free exchange of ideas and information is of fundamental relevance to transforming culture and freeing it of destructive misinformation, so that creativity can be liberated." (Bohm, 1999)

The power of dialogue has also increasingly been used for 'conflict resolution' in recent times. One prime example in this respect is Cupertino Community Project. The project, as is documented by Shawn Spano (2001), was the brainchild of a non-profit organization called the Public Dialogue Consortium (PDC). Although the scope of the project was confined to the borders of one particular city, the concern it was addressing was one which was shared by many multi-cultural communities across the globe. In all such communities people are struggling to find ways to respond to rapid social change, to find ways for citizens with different backgrounds, belief-systems, and abilities, to live together peacefully and productively.

During the 1980s the city of Cupretino in California witnessed a growing increase in the flux of newcomers, from various ethnic backgrounds, who had been attracted to the city because of its valued educational system and high quality life. Within the span of few years the 'minority cultures' approached 40% of the total population of the community. This radical demographic change increased the sense of uncertainty among the 'traditional' inhabitants.

In the absence of any constructive action on the part of the city officials who have not been trained to deal with this sort of situation, the Consortium's members launched their project to avert an eminent crisis by means of the power of dialogue. The project was launched in March 1996 and in February 1999 the League of California Cities recognized the success of the project with the 1999 advancement of Diversity award which was given to the Cupertino City Manager.

The project consisted of three levels, each comprising of a number of phases, as shown in the following tables. The success of the project, to a large extent, depended on working simultaneously on all three levels.

Level 1: Strategic Process Design

Phase 1	Phase 2	Phase 3	Phase 4
Voicing concerns, surfacing issues, identifying special problems	Eliciting community visions and action plans	Responding to the community (from city authorities)	Sustaining the public dialogue process (implementing action plans; public dialogue training)

Level 2: Event Design

Phase 1	Phase 2	Phase 3	Phase 4
Focus group interviews. community-wide meetings, concerns. visions, actions (CVA) model	Dialogue group discussions. intergovernmental interview. community-wide meetings. CVA model.	Small group discussions, training & team building programmes. community-wide meetings. CVA model	Project team meetings. training programmes. community-wide meetings.

Level 3: Communication Facilitation Skills

The Cupertino Community Project succeeded in fulfilling all the promises of dialogue at the scale of a city with 2500 inhabitants, thus demonstrating the potential of this social construct for making real change at truly large scales. Those involved in this project success-fully achieved the integration of the three ingredients or phases of what Stephen Littlejohn, himself an associate of PDC, calls 'transcendent communication' namely, 1) experiencing the tension and difference, 2) moving beyond the tension to a place of constructive conversation, and 3) creating a context for shared meaning and action. (Littlejohn, 2004)

Another typical example of successful use of dialogue in con-flict resolution is the case of Catron County in souhtwestern New Mexico. Melinda Smith (1998) reports that this county has been supported primarily by ranching and trade in timber. But in 1990, due to the listing of Mexican spotted owl as an endangered species, both of these main sources of income were badly affected. The County Commission tried to retaliate by passing anti-federal laws, preparing to arrest federal officials, and registering environmentalists. The tension increased to such a degree that many feared violence could break out at any moment.

Interestingly enough, around this time the only physician in the County was retired and his successor noticing a high percentage of stress-related illnesses among the citizens, decided to resort to dialogue as a means of conflict resolution. Through his initiative the New

Mexico Centre for Dispute Resolution got involved. The representatives of the Centre invited twenty people whose name had been supplied by the physician for a series of face-to-face and frank dialogues. In a number of sessions in which gradually the number of the participants grew, the parties to the dispute, in the span of a year, and with the help of the facilitators from the Centre, went through the three phases of expressing differences, moving beyond the tension, and creating a context for shared meaning and action.

As a result of a better understanding of various aspects of the situation and getting acquainted with the view-points, concerns and aspirations of each other, the Catron Community, slowly but surely, moved from the state of eminent confrontation to a situation in which not only many of the bones of contention, like lack of cooperation between communities and divergent groups, were resolved, but also work committees were established to deal with five areas of concern, namely, education, dispute resolution, land stewardship, economic development and youth development.

What is to be done?

The above examples, which can be multiplied with other success stories from different parts of the world, clearly show that by educating the wider public about the merits of dialogue, the chances of dialogue to take a firm root in our societies increase considerably. This is because subsequent generations will be brought up in an atmosphere in which dialogue has been accepted as an integral part of the social environment and therefore it will become almost their second nature to resort to it in conducting their affairs.

Since the modern man is increasingly living in a habitat which is of his own creation, and since cultural evolution can take place on a much shorter scale than natural evolution, and since dialogue, as was discussed in this paper, is a powerful tool for bringing about positive cultural changes, by making dialogue part of the well-entrenched furniture of man's modern habitat, it is quite possible to lay the sound foundations of a new civilisation which is based on fairness, justice and rationality.

The stark reality before us is that the above option is not a luxury which we can conveniently ignore. Modern man has lived on the planet in such an extravagant way that has not only established an endemic trend of crises in his relation with other fellow human beings, but also has brought the natural ecosystem to point of total breakdown. Industrial humans are the most voracious predators in the world's oceans and, simultaneously, the most successful terrestrial carnivore ever to have walked the Earth. We are also the dominant herbivore in grasslands and forests all over the planet. In short humans are the most ecologically significant macro-consumer in every major ecosystem type on Earth and we are literally consuming ecosystems from within. Human activity is also the most powerful ecological force altering the face of the planet, and the erosive pace is accelerating. (Rees, 2005)

In his book, Collapse: How Societies Choose to Fail or Succeed, Jared Diamond (2005) defines collapse as "a drastic decrease in human population size and/or political/economic/social complexity, over a considerable area for an extended time". He lists five sets of causal factors which play major roles in bringing about or speeding up the process of collapse. These factors are: damage that people inflict on their ecosystems, climate change, the actions of hostile neighbours, loss of contact with trading partners, and the way a society responds to the problems caused by the first four factors.

Interestingly enough, in a way which is quite in tune with the theme of the present conference, Diamond, after a series of studies of historical as well as contemporary cases, and following thorough assessments of the impact of each of the first four above factors, comes to the conclusion that although the implosion of a vulnerable society might be triggered by an overstretched economy, dissolute leadership or enemy invasion, the ultimate cause is usually fragility caused by ecological degradation.

What Diamond says about individual societies is now a fate which awaits the planet as a whole. It seems to avoid the catastrophe, what is needed, at both national and international levels, is a close cooperation between an informed public, which is organised in NGO's and civil society agencies; an inspired and responsible political leadership; a private sector which is genuinely committed to fulfil its

social and moral responsibilities, and the community of the experts.

Not surprisingly, dialogue can serve as the best instrument of choice for facilitating the cooperation between these four main institutions at all levels, local, national, regional and international. To paraphrase Rosa Luxemburg (1915), the choice facing humanity is one of 'dialogue' or barbarism: "We stand today ... before the awful proposition: either the triumph of 'modern barbarism' and the destruction of all culture, and depopulation, desolation, degeneration, a vast cemetery; or, the victory of 'dialogue."

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X

Interactive discussion
on the
synopsis of Working Sessions

Chairman: Professor Hans Van Ginkel
Assistant: Professor Kevin Clements

In the course of this interactive session Chairmen/Assistants of various Working Sessions made a five-minute brief presentation on the major themes and findings of their respective sessions. A lively discussion ensued subsequently, whereby participants in the Conference further reflected on the discussions and expressed their expectations for future follow-up of the Conference and its recommendations. In the pages that follow, under the section on the Closing Session, two reports are included; one by Professor Hans Van Ginkel, entitled "Report of the Conference" and another by Professor Kevin Clements entitled "A Bird's Eys Reflection on the Tehran Conference – Key Themes". The first submission essentially represents a factual report on the organization and discussions of the meeting, inclusive also of highlighting a number of key areas in need of particular attention and further follow-up. The second text, as indicated by the title, represents more of an overall reflection on the Conference and its discussions, nevertheless, containing also a number of more specific themes and areas for future consideration and possible pursual. Taken in tandem, they do indeed complement each other and provide a good, concise window onto the Tehran Conference.

Part Three: Closing Session

Report of the Conference

Hans Van Ginkel

Vice-President and Conference Chair Ebtekar,
Ambassador Bagher Asadi,
Excellencies.
Colleagues,
Ladies and Gentlemen,

██████████ We have witnessed and participated in two exciting days of true dialogue. The initiative to focus this dialogue on issues as crucial for the future of humankind as environment and peace, has proven to be extremely fruitful. The rich results of these two days are most enlightening and do fully support the view that continuation of focused dialogues, will be of great importance to help secure a peaceful, sustainable future for all humankind. I would like, therefore, on behalf of all participants, to thank the initiators and organizers of this conference, for their vision, commitment and hard work, which were crucial for its success. A Global Forum for the Promotion of Dialogue among Civilizations and Cultures as proposed by President Khatami, might provide the appropriate framework for the successful continuation of this important work.There is a great need to deepen and broaden the process of dialogue among civilizations and cultures,for which practical mechanisms and arrangements must be developed and devised.

We did receive in the Inaugural Session our assignment and in the Introductory Session our briefing. After the Special High-level Interactive Ministerial Round-table "Why the Tehran Conference: the way forward", we could start our discussions and dialogue in seven different, focused working sessions. In the Interactive Discussion on Conclusions we shared the perspectives and ideas discussed in the working sessions and tried to come to some conclusions. It is my honor and privilege to be able to report on our work, here, in the Closing Session.

Assignment

Our assignment was given by you Madam Chair, as well as by UN Secretary-General Kofi Annan and Executive Director Dr. Klaus Toepfer of UNEP and in his Inaugural Statement by H.E.Mr. Seyed Mohammad Khatami, the President of the Islamic Republic of Iran.

In your opening statement Madam Chair you reminded us, that: "Civilization is rooted in nature,which has shaped human culture and influenced all artistic and scientific achievement. Being in harmony with nature allows humankind the best opportunity for the development of his innate,creative faculties.It also provides our species optimal conditions for health,rest and recreation. Dialogue among civilizations has opened new vistas for a global interface.It underpins new horizons for international decision making and conflict resolution. These horizons are not set merely upon diplomatic,political and military frameworks, but consider culture, art and spiritual enlightenment as major undertakings and catalysts for positive change."

UN Secretary-General Kofi Annan, likewise welcomed the initiative to highlight the link between environment and peace, and the importance of dialogue among civilizations and cultures: *"Allthough often divided by faith,culture or history, we are bound by our common humanity and, like all species on Earth, by our common dependence on the environment. We need clean water,fertile soils and pure air if we are to build a world of peace, freedom and dignity for all."*

UNEP's Executive Director Dr.Klaus Toepfer stressed in his own statement, the need for common security through peace, erviron- ment, social justice and sustainable development and reminded us that sustainable development policy is akin to a peace policy for the future. In line with this, the President of Iran, Seyed Mahammad Khatami focused on the potential for international environmental cooperation to increase peace, stability and friendship. Now, more than ever, humanity needs a mutual understanding based on intellectual reflection to create a culture of peace and cooperation and a healthy environment for the future generations. President Khatami underlined that the dialogue of cultures and civilizations can lay the foundations for this and expressed his hope that the Conference would also provide an opportu-

nity to evaluate the environmental effects of conflict.

Briefing

The introductory Session focused on the problematique of the issue of environment, peace and dialogue among civilizations and cultures. Oliver Brown (IISD) focused on the discussions and progress made since Stockholm. Hans d'Orville (UNESCO) stressed the importance of moving from a dialogue among nations and governments to a dialogue among peoples and communities, on the regional and sub-regional levels, in order to make a concrete and tangible impact through dialogue based efforts and initiatives. On the basis of his wide experience he called attention for the need to involve a range of actors and different stakeholders and to concentrate on select thematic issues, where dialogue could yield practical results. This conference, focusing on environment and peace is a good example.

Our work

In the Special High-Level Interactive Ministerial Round-table "Why the Tehran Conference: the Way Forward", both Vice-President Dr. Massoumeh Ebtekar and UNEP's Executive Director Dr Klaus Toepfer mentioned the good cooperation between Iran and UNEP. Early-on UNEP has supported activities contributing to Dialogue among Civilizations and Cultures. In particular noteworthy was the jointly organized *"International Conference on Environment, Religion and Culture" held successfully in Tehran, in the year 2001. This conference was attended by leaders of the world's major religions. In their declaration they stated among others: "Lasting international peace and security call for an attitude of reverence for the benefit of present and future generations."*

     Vice-President Ebtekar suggested that existing mechanisms to govern conflict should be revisited and strengthened to include environmental protection. A "dialogue mentality" has major advantages over an adversarial "dogmatic mentality" and should therefore, be integrated into a new environmental institutional order.

Executive Director Toepfer stressed that spiritual and cultural values should inform the choice of national indicators and questioned strongly the universal utility of (the growth of) the GNP as an overarching national goal, referring to experiments with "green" GNP's and Bhutan's "gross national happiness" index as alternatives. Maybe, we should go beyond indicators and start to think about sustainable development, which focuses on all three elements we discussed during these two days in Teheran : the environment, peace and security. In this manner "environmental impact assessment" should give way to a much more wholistic approach, which includes these three elements and could be called "green planning".

Working Sessions

Throughout the working sessions were characterized by lively discussions and a diversity of dialogues, often amounting to multi-logues. A strong tendency became clear, that we should move well beyond tolerance toward a new model of dialogue among civilizations and cultures based on mutual respect and recognition. While tolerance implies not interfering with other people's way of living or thinking, "respect" attaches a positive value to what one is or does - respect thus goes beyond more tolerance. There is only one nature, one planet Earth. We do not only share the Earth as our common home, we also share a common destiny and there exists an urgent need to develop a shared vision on our common destiny. The "Peace Building Commission" as proposed in his proposal for UN Reform, by Secretary-General Kofi Annan, might provide the most appropriate framework for dialogue which can lead to such a shared vision.

Many, however, expressed the view that the dialogue in the "Peace Building Commission" could benefit from annual dialogues, throughout the world. As a practical follow-up to the Tehran Conferences, UNEP could help deepen the initiative on environment, peace and dialogue by holding focused meetings in different places around the world to advance the dialogue on these interlinked issues.

In the work of the different sessions, a grouping around *three main lines of discussion* can be made:

Line 1: "Environment, Conflict, Environmental Law", bringing together the work of three Working Sessions: "Environment and Conflict"; "Impact of the Second Persian Gulf War (1990-1991) on the Marine Environment"; and "Protection of Environment and International Law".

Line 2: "Environment, Human Security and Peace", bringing together the work of two Working Sessions: "Environment and Human Security"; and "Peace and Conflict Prevention".

Line 3: "On Dialogue", bringing together the work of two Working Sessions: "Special Panel on Dialogue among Civilizations"; and "Dialogue: what it means; what it entails".

Observations/ Suggestions

In this Closing Session there is no time to mention all the valuable observations and suggestions that were made during two days of intensive dialogue. I would, however, like to highlight a few.

- It is important for the lasting success of UN Reform that it is based on sincere dialogue.

- Peace must be based on Justice, and should not be just peace.

- Civilizations must determine their own positions, before dialogue between civilizations begins, or understanding of other people can only be achieved on the basis of a good understanding of one's self. Such understanding is based on knowledge: knowledge of the different values, norms, historical experience and cultural reality underlying the words and actions of people. Once knowledge takes the place of preconceived opinions, stereotypes and prejudices about others, "otherness" will be less perceived as a threat and rather as an enrichment.

- It is important to move beyond tolerance towards respect: while tolerance means to let others do as they please, living apart together ,

"respect" attaches a positive value to what one is or does. This makes a crucial difference. Of course does respect for the other, include respect for one-self! It is often a combination of a lack of self-respect and not being respected by others that leads to conflicts and/or crisis. Respect includes preparedness to change one's own views.

- Many speaking about the (coming) World Civilization do so indicating their fears for globalization and homogenization, loss of cultural diversity. However, President Khatami already compared the development of World Civilization as a way to mainstream other cultures not being part of it at present. He used the analogy with a river system, in which small side rivers join the main river. Let us just elaborate this analogy and acknowledge that the water of the side-rivers, because of their different temperature and chemical composition, will remain visible also within the main river. Downstream, towards the river delta, many smaller streams split off: new cultures are continuously formed. We might end up with more, rather than less diversity.

- Binding international agreements with clear compliance- enforcement and compensation mechanisms must be established to protect the environment and health of civilian populations in times of armed conflict.

- There is a need to (re-)define sustainable development for different, specific conditions, taking into account that the context is changing over time. The Millennium Ecosystem Assessment may provide the information needed to do so.

- For Dialogue to be sustained and to transcend theory, concept and philosophy, there needs to be balance in the international order. Dominant systems need to be willing to move beyond their confines and be sensitive to and consider the views and positions of others. If not, the ensuing process would be more of a monologue than a dialogue.

-The role of gender, specifically women in development, environment, conflict, peace and the dialogue among civilizations and cultures needs to be increased and enhanced. More needs to be done by bilateral and multilateral organizations to strengthen the role of women in protecting the environment, preventing conflicts and fostering peace.

- Dialogue is seen as a social construct with unique characteristics which are constantly changing. Dialogue creates new meanings and understandings and is a process of cooperation. Words and language are important means for dialogue and language is dynamic, evolving and changing with time and location, acquiring new definition, explanation, elucidation and implications. Often the wrong use of a word or the incorrect interpretation can lead to serious misunderstanding and conflicts.

Madam Chair,

It is impossible to summarize in a few, short minutes all the important ideas, observations and suggestions. What is quite clear, however, is that we have started an important activity and that there is still much to be done. Annual meetings and a Global Forum, as proposed by President Khatami,will have many important topics to address, including the relation between environment and peace, environment and human security, preventive dialogue and conflict building, as well as dialogue for conflict resolution. To be successful, it will be necessary to further open up the dialogue to include broader constituencies, including the world of business, civil society and parliamentarians as well as those working in public administration, such as mayors.

A Bird's Eye Reflection on the Tehran Conference – Key Themes

Kevin P. Clements

████████████The Conference addressed some complex but important conceptual issues around human and national security, sustainable development, the integrity of the environment and the prospects for dialogue across cultural division. These concepts were introduced well in the opening sessions. There was widespread agreement on the essential integrity of creation and the importance of all people's having access to this creation and its benefits. Using UN Secretary-General Kofi Annan's comments in his Interim Report of September 2003 on the prevention of armed conflict, the conference organisers drew the attention of participants to *"...the implications of the scarcity of certain natural resources, of the mismanagement or depletion of natural resources and of the unequal access to natural resources as potential causes of conflicts [which] need to be more systematically addressed by the United Nations system."*

It was widely accepted that *"The United Nations system should consider ways to build additional capacity to analyze and address potential threats of conflicts emanating from international natural resource disparities"*.

These ideas of resource scarcity, unequal access to these resources and the conflicts that flowed from them provided the context for a variety of generative discussions that took place throughout the meeting. It was strongly felt that the integrity of creation was easily subverted by the assertion of narrow self interest. The concept of global civilisation on the other hand represents a celebration of the essential unity of humanity and a willingness to acknowledge others while sharing resources with them. This humanity has to be grasped in both its unity and diversity.

In a world radically divided between East and West, North and South, Islamic and Christian there was strong support for the idea of reinvigorating the concept of a global civilisation . This concept not

only provides a useful lens on humanity but forces people to move beyond a simple tolerance of difference to an active celebration of such difference as a part of a wider species identity. Transcending narrow concepts of nationalism, opposing hegemonic impulse and generating a deep capacity for empathy with people of other cultures are all important dimensions of civilisation and pre-requisites for both justice and peace. In all of this it is important to move beyond a simple tolerance of difference towards developing processes to celebrate that difference.

Acknowledging and celebrating the integrity and preservation of creation and a human impulse towards global civilisation are both important dimensions of peacebuilding. The Forum felt that both should be acknowledged in the development of a Peacebuilding Commission within the United Nations . There should also be more explicit links between such a Commission and the United Nations Environment Programme. What binds both of these enterprises together is a willingness to engage in deep dialogue across cultures and traditions around matters which lie at the heart of continued human existence.

In advancing both these objectives - environmental sustainability and sustainable peace - there is a need for more clarity about what constitutes success. There is, therefore, a need for closer attention to outputs, outcomes and impacts. These in turn will only make real sense if we have better "green" indicators and better "happiness" quality of life or well being indicators. In relation to growing scarcity , for example, it is important also to generate a different view of natural resources. They should be seen primarily as a means of satisfying human needs not as a means of satisfying human greed. We need indicators that help us understand when such needs have been met and when they have not.

There can be no peace without justice and no justice without peace. Both of these concepts are dense and need to be unpacked a good deal so that they make sense to people. They have to be understood not as objectives that are ever finally attained but as processes that always require attention, energy and commitment. What is becoming clear, however, is that modern civilised societies will be judged not by how well they treat the dominant elites but by how these

elites treat their weakest citizens. It is important in all discussions of peacebuilding, therefore to ask questions about how well minorities are treated by the majority. The Marsh Arabs, for example, represent a minority that was treated appallingly by Saddam Hussein but how well are they being treated in the new Iraq that is emerging. Peacebuilders and those concerned about peaceful relationships constantly need to keep a weather eye on the weakest, the poor, the vulnerable and ask how they are being treated by the rich, the powerful and the dominant. As Mahatma Gandhi put it " At the end of each day recall the face of the poorest, the weakest person you can remember and ask yourself how your actions have helped that person". This is a test that applies equally to state systems as well as individuals.

Narrow concepts of national security make it difficult to generate Environmental Sustainability, Sustainable Development, and Peace. This requires a much more holistic approach to challenges to the environment, inequitable unsustainable consumption patterns and violent relationships. It is important that academics and policy makers identify perspectives that facilitate a more systemic analysis and more holistic policy prescription. The Human Security framework requires much more holistic analysis since it is aimed as generating both "Freedom from Fear " and "Freedom from Want" . At minimum this agenda certainly requires strong linkages between the development and security communities. Koffi Annan in his 2005 Report In Larger Freedom puts it like this. "In the 21st century,all states and their collective institutions must advance the cause of larger freedom-by ensuring freedom from want, freedom from fear and freedom to live in dignity. In an increasingly interconnected world progress in the areas of development, security and human rights must go hand in hand. There will be no development without security and no security without development. And both development and security also depend on respect for human rights and the rule of law". It might also be added that all of these processes depend on a healthy environment and a clear commitment to non-violent behaviour.

In relation to the Persian Gulf region, for example, an inability to view political and economic dynamics holistically, coupled with the promotion of narrow "realist based" concepts of national

security and an unwillingness or inability to cost the consequences of violent strategies, have generated three devastating wars. These have resulted in widespread environmental pollution, loss of life, disrupted development, and extensive individual and collective trauma. There are few well developed political or legal instruments, compensatory mechanisms or resources available for dealing with the direct, indirect consequences of the violence in the Gulf. This fuels deep discontent within Iraq, the Gulf States and Iran. It was suggested that in the absence of effective international mechanisms policy makers should consider national and regional instruments for dealing with the consequences of war. These instruments would supplement or substitute for ineffective or non existent international regimes until such times as these could be developed. Considerable attention was devoted to the question of what constituted an appropriate liability mechanism. In all of this discussion the central importance of solid research and analysis was highlighted.

The costing of war and its consequences requires considerable skill if the evaluations are to result in productive policy debates and compensation agreements. The intertwined and complex nature of environmental, developmental and security variables was noted. Human security, for example , was complex . It was an indivisible concept which required the promotion of effective and equitable development strategies, the growth of state systems capable of generating security for citizens rather than insecurity and mutually beneficial relationships between the state and community. Conflict sensitive development strategies are essential to all these processes as are developmentally sensitive security strategies. Both should be aimed at enhancing the security of both individuals and communities since this too is an indivisible process. Considerable time was spent in some working groups on the ways in which "livelihood problems" fed insecurity and vice versa.

Another emergent theme had to do with the ways in which state systems mobilized citizens behind these diverse activities. The mobilization of an active citizenry with positive rather than negative or demoralising incentives was noted. Wherever possible it was important to apply moral and material incentives rather than legalistic proscriptions in order to build strong connections across divided communities.

Special attention was paid to the positive role of women in peace-building and in holding families and communities together in time of violence and war. Security Council Resolution 1325 was an important milestone in relation to the important role of women in peacebuilding, peacekeeping and peace maintaining. This resolution urges higher representations of women in Ministries of Foreign Affairs, Defence and in regional and multilateral organizations.

Dilaogue and appreciative listening were identified as important keys to the building of a non-violent geopolitics. Far too many national and international conflicts flow from misunderstanding, misperception and the application of national stereotypes. It was also considered important to focus attention on "superordinate goals" that might unite potential enemies in the solution of common problems. In that regard, common environmental problems (e.g the management of shared water resources, dealing with industrial pollution etc) could lead to cooperative behaviour both before, during and after conflict. To advance these kinds of superordinate goals it was vital that there be dialogue between social and natural scientists . If it were possible to get technical agreements about ways of dealing with these and related problems this was a powerful inducement to political leaders to pursue cooperative strategies as well.

In all of this work it is important to harness behaviour to specific visions of a peaceful and just world. It is important , for example to remember the pacifist as well as the warrior traditions that lie within the Abrahamic and some polytheistic religions as well. The tension between these two concepts needs to be held so that there is a concept of a peaceful order that can be appealed to as people descend into the chaos of violence.

The concept of the "Elysian Fields" and notions of paradise are also important inducements to working on ways of ensuring environmental integrity as well. A strong , integrated concept of nature/paradise within these religions can be called upon when advancing the concept of the essential integrity of creation.

Indigenous peoples all around the world –some of whom have resisted incorporation into the global economy—tend also to have strong views on the integrity of creation, sustainable development and

co-operative processes critical to resilient community. They certainly have a much more highly developed appreciation of the close links between human survival and nature and the symbiosis that has to be maintained if individual communities are to survive through time. It is imperative, therefore, that modern policy makers take account of the ways in which indigenous communities often in quite adverse circumstances relate to the biosphere, satisfy their basic human needs within strong customary frameworks.

Finally, it is important that we revitalize the concept of dialogue between peoples and between civilizations. Nothing is permanent, neither material objects, political systems or economies. Social systems are always in a state of permanent evolution. So too language and culture is not standing still. Dialogue presupposes a meeting of equals /or unequals willing to work on building a mutuality of respect across the boundaries of difference, inequality and violence. True dialogue requires deep and appreciative listening to the deepest concerns of the other. It invites a conversation that builds relationships between peoples rather than divisions. If the participants to a dialogue wish to assert their power, dominance and hegemony they will not be heard. It will be a monologue rather than a dialogue. True dialogue is characterized by a variety of perspectives, a radical search for truth within each, inclusion rather than exclusion and some sense of a common future. There are some gendered differences in relation to dialogue. Women tend to view their security relationally rather than through the assertion of individual power. They know that their safety depends on the quality of the relationships that they can forge with other women and with men. That is why women are so important to dialogical processes, to the building of sustainable peace and to the integrity of all creation. They understand much more intuitively than men that real peacebuilding requires considerable moral imagination, it is an art as much as a science which is why we need to harness the best efforts of poets, writers, musicians and artists in building peace and in preserving the environment.

Recommendations:

- The world community needs to move beyond a simple tolerance of difference towards the development of socio-political processes to celebrate the differences between cultures and peoples.

- Celebrating the integrity and preservation of creation and the idea of global civilisation are both important dimensions of peace-building. Both these aspirations should be acknowledged in the development of a Peacebuilding Commission within the United Nations . There should also be more explicit links between such a Commission and the United Nations Environment Programme.

- In order to determine whether progress is being made in relation to sustainable development and higher levels of harmony we need better "green" indicators and better "happiness", quality of life or well being indicators.

- The Human Security framework requires a much more holistic analysis than do old ideas of national and collective security since it is aimed as generating both "Freedom from Fear " and "Freedom from Want"

- In the absence of effective international mechanisms policy makers should consider national and regional instruments for dealing with the consequences of war, e.g establishing truth and reconciliation commissions, liability and reparation arrangements etc. These instruments should supplement or substitute for ineffective or non existent international regimes until such times as these can be negotiated .

- All participants should support the implementation of Security Council Resolution 1325 which urges higher representations of women in Ministries of Foreign Affairs, Defence and in regional and multilateral organizations. More women should be involved in the negotiation of peace agreements as well.

- Modern policy makers need to pay more attention to the ways in which indigenous communities relate to the biosphere and satisfy their basic human needs within strong customary frameworks. They have much to teach those who wrap themselves in the illusions of sustainability within modernity.

- Superordinate goals are important for building bridges

between divided communities. To advance the development of these goals in relation to the environment and the pursuit of social harmony it is vital that there be more dialogue between social and natural scientists and the development of objectives which advance higher levels of cooperation.

      - Nothing is permanent, neither material objects, political systems nor economies. Social systems are always in a state of permanent evolution as are language and culture. In this context a dialogue between civilizations is not an optional extra it is vital to generating a shared understanding of social and political. Dialogue presupposes a meeting of equals /or unequals willing to work on building a mutuality of respect across the boundaries of difference, inequality and violence.

Note:

This essay was not presented at the Closing Session, rather prepared and submitted by Professor Clements - graciously, of course - for inclusion in the volume.

Adoption of the final outcome

Following an oral presentation by Professor Hans Van Ginkel, Chairman of the Interactive Concluding Session, on the work of the Conference, Chair of the Conference, H.E. Dr. Massoumeh Ebtekar, introduced the draft final outcome of the Conference – Tehran Communique - which had already been distributed among the participants. In her introduction, she drew attention to the process pursued in the preparation of the draft and emphasized that discussions and deliberations in various Working Sessions, inclusive of the High-level Ministrial Roundtable as well as the Interactive Concluding Session, had been considered and utilized- even if thre dearth of the rich material could hardly be captured in a 4-page document. It was also reckoned that Professors Ginkel and Clements – Chair and Assistant respectively of the Interactive Concluding Session – will subsequently submit a written report, to be included in the Conference Proceedings - the first two items above.

Having presented the draft for the consideration of the participants, and also emphasizing the non-negotiated character of the outcome, the Chair of the Conference recommended the adoption of the draft outcome – Tehran Communique – by acclamation. The draft was subsequently adopted by the participants by acclamation (Annex I).

Words of Wisdom

1- Wolfgang Burhenne

Madam Chair,

■■■■■■■Thank you very much for calling me first Dr. Wolfgang Burhenne, and also thank you very much for calling me first.

Excellencies, Madam Chair,

If you ask "brothers" to speak they should have the privilege to decide on what order they want to speak and academic authority should always have the last word - Professor Kiss will speak after me.

I have six thoughts and you can judge for yourself if they are "wise."

1. Normally decision makers are too rarely involved in dialogues of a general nature and we are obliged to focus on specific objectives geared to particular results. The sort of dialogue we are carrying out here should not be an exception.

2. We are still hearing too many generalizations about developed and developing countries, which inhibit effective dialogue, especially when it concerns cultural diversity, historical roots, religion and traditions.

3. Dialogue requires listening and learning so we have to cultivate these qualities, which are at the heart of respect and tolerance.

4. The issue of shared resources is once again gaining prominence and attention, but in some cases it is point of controversy, creating conflict. There is therefore a need for further dialogue and solutions. I refer in this context to the task assigned to the International Law Commission by the UN General Assembly, but we cannot wait forever.

5. The Security Council decisions on safe havens, which is used to pro-

tect certain historic monuments and structures, should also apply to certain vital areas of our natural environment. Dialogue should be encouraged to determine the scope of such protection in advance.

6. It should be noted again and again that the Millennium Development Goals are based on a set of principles and values, which include equity, solidarity, respect and tolerance. In this regard, world leaders should urge the promotion of dialogue amongst all civilizations and strive for a culture of peace.

Having made these brief six points, let me add, I presume with everybody's concurrence, that we commend the government of the Islamic Republic of Iran for its leadership in this respect, and we hope that the UN General Assembly will take this into account at the upcoming Review Millennium Summit.

Everything else I could have said has already been expressed in a wise way by previous speakers and the Communiqué.

Dr. Wolfgang E. Burhenne, a veteran activist in the field of international law and environment, is Editor-in-Chief of Environmental Policy and Law.

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2- Alexandre Kiss

██████████At the end of this important conference I would like to express my gratitude to the Iranian Government for having given me the opportunity to attend it and to congratulate the organizers and in particular Ambassador Bagher Asadi for its remarkable organization. We are thankful to UNEP which supported the project, to the United Nations University and to UNESCO which co-sponsored the initiative.

In his inaugural address, His Excellency, Mr. Seyed Mohammad Khatami, President of the Islamic Republic of Iran, stated that *"There is no doubt that environmental collaboration can contribute to the expansion of ties and promotion of peace, stability and friendship among nations."*

In his message to the present Conference, delivered by Mr. Klaus Topfer, Executive Director of the UN Environment Programme, the Secretary General of the United Nations stressed that although environmental degradation and competition for scarce resources are potential flashpoints for conflicts, they may be often catalysts for co-operation, producing shared solutions.

The emphasis put on the importance of the environment by both eminent personalities shows that the safeguarding of the environment of our biosphere, the only place of the Universe where life and in any case where human life is possible, is a central problem. Studying our environment is an essential tool for understanding a world characterized by growing complexity. It necessarily leads to a holistic approach, the only method to understand the fundamental problems of the present world.

How should the environment be protected? I always think of an old Roman saying: *"whatever you do, do it with prudence and consider the outcome."* This is particularly true for the environment: damage to it should be avoided as far as possible, since too often the consequences cannot be repaired at all or only in the very long term. One may think of the extinction of an animal or plant species or the pollution of an important underground water resource. The requirement to prevent environmental deterioration is formulated in many international instruments. The Declaration of the 1992 Conference of Rio

de Janeiro on Environment and Development even took a step forward by introducing the precautionary approach. It can be estimated that 90 % at least of the international environmental agreements aim at the prevention of damage to the environment.

Prevention needs to take into account the time factor: it has to consider the possible effects of human acts in the mid-term or even in the long or very long term. Problems such as deforestation, the exhaustion of marine living resources and global warming illustrate the necessity to anticipate the long-term effects of human activities. Such obligation is, however, not always easy to respect in the present society, which too often wants to reach rapid outcome and success. In political life, decision-makers often have their eyes fixed on the next elections, due generally in a time lag not longer than four or five years. In economy, the heads of enterprises must regularly produce for the shareholders a balance which is positive as far as possible. How can such situation be changed or at least modified?

Law is traditionally considered as a system intended to safeguard existing situations: property, family relations, and legal status in general. The necessity to protect the environment introduced, however, a major change. During the last forty years legal mechanisms appeared aiming at preventing harm to the environment. They are largely used in domestic law systems as well as by certain international agreements: while the objective of the environmental impact assessment is to evaluate the impact of given projects on the environment, another method, risk assessment, can either have a larger scope or be focused on single operations. A new procedure, the strategic environmental evaluation may target a whole sector of activities such as energy, transport, agriculture and can result in the developing of general guidelines for that sector or concern a large territory. This leads to a wider approach which integrates major human activities and concerns necessarily development and imposes its sustainability.

Such mechanisms and concepts inevitably involve the responsibility for environment which is incumbent upon the authorities of all levels, but also on the individuals. It must be understood that the requirement of common but differentiated responsibilities corresponds to the very nature of the need to conserve the environment. Such

responsibility does not only concern inter-state relations, it should be understood as submitted to the subsidiarity principle, well known in the law of the European Union, according to which each problem should be solved at the most appropriate level, starting at the lowest one - the individual- and arriving at the highest, the global level - when the intervention of the whole international community is the only way to find a solution.

This means that individuals should have a say in situations which concern their environment. It is important to recognize for them a procedural "right to environment" or put it in a more correct expression, a "right to the protection of the environment" including their information of plans and projects which concerns their environment, their participation in the decision-making process and their access to remedies, administrative or judiciary, when their environment suffered damage or when their right to be informed or to participate was not respected. Such requirements have been recognized by Principle 10 of the Declaration of Rio de Janeiro and the right to information itself is confirmed by most international environmental agreements adopted during the last years.

The very basis of such rights is ethical and spiritual: the recognition of the value of the environment and the respect of peace as well as the dialogue among cultures and civilizations it imposes are indispensable components of the solidarity which should prevail among all human beings. It may be added that here again the time factor must be included in our thinking: we should never forget the conditions in which the future humankind will live, the future humankind which includes not only the generations who will arrive in a far away future, but also those who share the present world with us and who will be here in a half a century or more.

Alexandre Kiss, Professor Emeritus, University of Strasbourg, France, is one of the early pioneers of world renown - as early as 1950s - championing the protection of environment.

Closing Statement

Dr. Kamal Kharrazi

In the name of God, the Compassionate, the Merciful

Madam Chair,
Distinguished Colleagues,
Ladies and Gentlemen,

It is indeed an honour for me to join you at the Closing Session of the International Conference on "Environment, Peace and the Dialogue among Civilizations and Cultures". I thank you all very much for what you have done during the past two days, and congratulate you for what you have achieved. I am really pleased to see the final outcome of this important gathering and what you have arrived at. I am particularly thankful to you, Madame Chair, and also to my dear colleague Ambassador Bagher Asadi, whom I designated to assist with the process and whom I haven't practically seen for so many months now.

I wish Dr. Topfer, the distinguished Executive Director of UNEP, were with us here, for whom I have special respect and whose kind and generous support for this valuable Initiative is deeply appreciated. What has transpired in the course of this joint endeavour between the two partners – apart from its own accomplishments – will hopefully further strengthen an already excellent relationship between the two sides. Co-sponsorship of the Conference, by UNU and UNESCO, has been welcomed and equally appreciated. I am aware of – and pleased with - the bilateral exchanges underway with different divisions and departments of the Ministry to further promote and expand the existing blossoming cooperation with these two respected institutions as well.

As the Foreign Minister, I may be thought to be more concerned – if not preoccupied - with hot and burning political issues of the moment. Well, that could be true for some measure. But, let me be very frank and forthright with all of you in this brief statement at this

rather advanced stage of your work. I am here to add my voice and words of support – full support, in fact – for the essence of your two-day enterprise. I have been briefed on the rich array of presentations made at your Working Sessions since yesterday morning and the very creative, proactive exchanges that have taken place. The kind and degree of interest exhibited for your two-day meeting - in our academic circles, among university students in related fields, and no less important, in the media - is indicative of the importance of your Conference and also its appreciation here in Iran. And this is encouraging.

What the Tehran Conference signifies, beyond any shade of doubt, is that the dynamic interaction between environment and peace and security is coming to be appreciated better and better everywhere – in both developing and developed societies. And also that it is receiving requisite attention at various levels – both in public sector as well as among non-state actors, not to mention among relevant international organizations and institutions. UNEP's partnership with Iran for organizing the Conference – and its co-sponsorship – makes this point quite clear. All of us, wherever we find ourselves – on both sides of the development divide – have come to the realization – well, perhaps at long last – that environment, critical as it is to our own life and to that of our future generations, is in real jeopardy. That realization seems to be spreading, including at the level of the United Nations, the Secretary-General himself as reflected in the message to the Conference, and needless to say, at UNEP – the most relevant body in the Organization to address and deal with it. And this is a very positive development; which needs to be taken serious, and to be pursued in earnest, however we can – as you have done over the past two days.

The second important aspect of your Conference here concerns dialogue – in the broadest sense of the word – inclusive, of course, of dialogue among civilizations and cultures. All of us are deeply indebted to President Khatami for his proposal back in 1998, the dynamism it has created at various levels, particularly at the international level, and the still unfolding process associated with it. The recent meeting in Paris and the decision to establish a Global Forum for the Promotion of the Dialogue among Civilizations and Cultures –

thanks to the valuable support and cooperation of the Institution, the Director-General and our dear friend here, Hans D'Orville – is another positive development and a step in the right direction. In a world gripped by rampant violence and reliance on and resort to sheer force and military might – whether unleashed by the sole hegemonic power or its nemesis, intractable terrorism of individuals and groups, both of which are evil and deserve to be condemned – there is only one way left for all of us to trek if we entertain the hope for a better, more humane future.

The international community is – and quite rightly and legitimately, I am sure you agree – tired of the seemingly endless continuation of the vicious circle of violence and what it means to the daily life of millions and millions of the hapless inhabitants of this Planet. And here comes the other critical concept that figures so prominently in your meeting and discussions – human security. What is at stake – and seriously, let me underline - is the very human security of a whole lot of us in the world, and should I just say the obvious, in the bigger part of the international community - the developing world? Again we have come to the collective realization that we really need to look at it anew and with clear eyes, free from illusion or delusion. A better future, however we define it within our respective societies and with due consideration for our peculiar diversity – does not but point in the direction of securing and ensuring human security in the broadest sense of the word.

And this brings me back to the concept of dialogue and understanding, across the board. The meaningful continuation of our collective life on this Planet – our common home and refuge – depends, first and foremost and in the final analysis, on our collective endeavours towards finding collective solutions to our common and collective problems – existing and emerging. Hence, the Dialogue among Civilizations and Cultures.

Madam Chair,
Dear Colleagues,

In closing, let me thank you all for the valuable contribution

you have made in this regard in Tehran. Let me wish all of you every success in continuing your individual and collective efforts along this path. And let me express the hope that you will, in your collective discretion and wisdom, continue along this welcome path with determination, vigour and well-defined, concrete plans and activities. Every good idea needs a clear, well-defined project for actual, effective follow-up and implementation. The valuable outcome of the Tehran Conference is no exception.

Part Four: Annexes

I

The Outcome – Tehran Communique

The International Conference on Environment, Peace and the Dialogue among Civilizations and Cultures

Tehran, 10 May 2005

The International Conference on Environment, Peace and the Dialogue among Civilizations and Cultures, organized jointly by the Department of Environment of the Islamic Republic of Iran and the United Nations Environment Programme (UNEP), and co-sponsored by the United Nations University (UNU) and United Nations Educational, Scientific and Cultural Organization (UNESCO), was held in Tehran from 9-10 May 2005. It was opened by His Excellency Mr. Seyed Mohammad Khatami, President of the Islamic Republic of Iran on Monday, 9 May 2005. Dr. Klaus Toepfer, Under-Secretary-General and Executive Director of UNEP, delivered the message of Mr. Kofi Annan, United Nations Secretary-General, to the Conference, and made a keynote statement.

Following the Opening Plenary, nine working sessions were held, in the course of which representatives of academia, expertise and civil society met to discuss responses to the challenges facing the international community at a time of global uncertainty and increasing trends of conflict and environmental degradation that combine in a vicious circle to undermine the continued viability of an inclusive and peaceful global society and civilization living in harmony with nature. High-level Government representatives attending the meeting participated in a Special Ministerial Round-table consecrated to the exchange of views on the problematique of the Tehran Conference. The discussion at the Conference took as its fundamental premise the oneness of Creation, a common humanity, a common destiny and a common global environment.

The Conference met under the Chairmanship of Her Excellency Mrs. Massoumeh Ebtekar, Vice President and Head of the Department of Environment of the Islamic Republic of Iran and undertook an extensive and rich discussion on a variety of themes related to environment, peace and dialogue.

His Excellency Dr. Kamal Kharrazi, Minister of Foreign Affairs of the Islamic Republic of Iran, made a statement at the Closing Session of the Conference on 10 May 2005.

TEHRAN COMMUNIQUE

Participants at the Conference underscored their central conviction of the common brotherhood of all peoples and a vision of a global civilization enriched by the peaceful interaction among individuals, cultures, religions, perspectives and States. In this respect, the increasingly fragmented nature of global discourse characterized by underdevelopment, poverty, insecurity and alienation in large parts of the world and increasing concentration of wealth linked to excessive consumption and trends of global environmental degradation have contributed to increasing global tensions and insecurity. The continued centrality of Principle 25 of the Rio Declaration that states "Peace, development and environmental protection are interdependent and indivisible" was recognized.

The concept of a new model of dialogue among civilizations and cultures based on mutual respect and recognition must be put in place. The Environment presents an important aspect of a holistic dialogue. Such a concept can contribute to enhancing understanding by: developing win-win solutions to problems, supporting a revitalized framework for effective multilateralism, developing effective confidence building approaches, developing strategies for conflict avoidance and effective decision making based on collective approaches with effective implementation and recognition of ethical and spiritual values.

The need for a new model of dialogue is particularly relevant in the context of new and devastating environmental threats at a planetary level. These include climate change, ozone depletion, chemicals issues and loss of Biodiversity. Effective dialogue would lead to more effective international strategies to address these problems in an integrated way and mobilize political will.

Accelerating trends of environmental degradation and poverty at local, national and global levels lead to increased competition for scarce resources such as land and water, and can be potential flashpoints for violent conflict. Rapid environmental change associated with insecurity and loss of livelihoods undermine the resilience of societies and increase their vulnerability. An inclusive approach based on dialogue can be a catalyst for cooperation to ensure that problems of shared resources can produce effective shared solutions. Such dialogue contains seeds of reconciliation, mutual understanding, peace and sustainable development.

As demonstrated by many recent conflicts, the environment and human health are increasingly victims of violent conflict that does not respect established international conventions and norms of behaviour. Binding international agreements with clear compliance, enforcement, and compensation mechanisms must be established to protect natural resources, including freshwater, the environment and the health of civilian populations in times of armed conflict, given the immense destructive potential of modern weapons. Such an initiative should be linked to increased efforts for disarmament and demilitarization at regional and global levels.

Effective environmental assessment of the effects of conflict must be utilized more consistently. Post conflict strategies for environmental recovery should benefit from clear implementation strategies that take into account social, economic and political factors. These assessments and new environmental structures can also build confidence among parties formerly in conflict.

There is an urgent need to recall, reevaluate, and reconstitute the vital ethical and spiritual messages, that are common to all faiths concerning the protection of the environment as God's creation and the central message of peace, tolerance and harmony. Such a process should develop the notion of global ethics and the spiritual traditions that are essential to environmental stewardship.

A vibrant, inclusive and democratic multilateralism, directly linked with and reinforced by democracy at national level, provides the best hope for a future for the international community based on respect, tolerance, accountable governance, human rights and inclusiveness. The trends of fragmentation along sectoral lines that characterizes current institutional frameworks must be addressed as a cross cutting issue of relevance to all sectors, as well as financial decision making.

The process of reflection and dialogue should eventually yield more perspectives and develop stronger decision making frameworks in international institutions that can integrate all aspects of environment, peace, security and development.

The reform process taking place within the United Nations should remain faithful to the spirit of the Charter and genuine multilateralism and provide hope to the international community for a future of effective multilateralism based on mutual understanding, mutual respect, and the principle of dialogue. This process should reinforce its principal objectives of promoting peace, security, freedom, democracy, respect for human dignity and respect for creation. To be meaningful, the reform process must be democratic and accommodate all views and respect the rights of all peoples and nations – big and small.

Intersectoral coordination within the United Nations must be made more effective and a dialogue within the United Nations framework is required to this end. Such a dialogue should lead to development of common goals and meaningful governance processes supported by countries honoring commitments made.

Conclusions/Recommendations

●Human beings as a collective entity are only beginning to become aware of the Earth as our common home, but we have not yet begun to realize that we also have a common destiny.

●Humanity is in need of a new shared vision of a common destiny to create a culture of universal peace and solidarity that can create an environment free from poverty, war, fear, violence, and insecurity. The recognition of the environment as our common heritage, underpinned by a dialogue among civilizations and cultures can pave the way.

●It is essential to continue to deepen and broaden the process of dialogue among civilizations and cultures, for which practical mechanisms and arrangements need to be developed and devised. This includes proposals such as that made by President Khatami at the recent UNESCO meeting for the establishment of a Global Forum for the Promotion of Dialogue among Civilizations and Cultures.

●UNEP should continue to deepen the initiative on environment, peace and dialogue and consider holding international meetings, pcssibly on an annual basis as a practical follow-up to the Tehran Conference and in different regions of the world to advance this dialogue.

●Efforts should be made to develop better understanding on the issues of security and environment and to link such an understanding to broader discussions on security. Assessments that incorporate broader issues bringing together environment, development and security factors should be developed.

●Greater efforts must be made to include broader constituencies including civil society, academics, researchers and scientists, and mayors and parliamentarians in this process. In this

regard, a more effective programme of education for sustainable development at all levels is essential.

●The proposed peace building commission that is contained in the reform process of the United Nations can potentially contribute to meeting the objectives of this Conference. Such a
●Commission should include in its terms of reference, from inception, peace building in the nexus of environment, poverty, development and security.

●Consideration should be given to the development of forums for:

> ●Preventive dialogue and confidence building
> ●Conflict resolution
> ●Post conflict restitution

●Cultural, ethical and spiritual values must once again be fully integrated into strategies of dialogue for peace, security and development.

We live today in a world fragmented by misunderstandings, suspicion and distrust among peoples, nations and States. We have the responsibility and duty to develop a dialogue that can once again bring hope and optimism based on mutual understanding and respect. This is the commitment of us all gathered here in Tehran on the 10 May 2005.We resolve that the Tehran Communiqué be formally submitted by the Government of the Islamic Republic of Iran to the United Nations Secretary-General as a message to the Millennium Review Summit, to be held in September 2005 in New York

II

Letter from President Khatami to UN Secretary-General

In the name of God, the Compassionate, the Merciful

27 May 2005

Excellency,

███████████I have the honour of writing this to express my deep grati-
tude and appreciation for your kind and thoughtful message to the
Tehran International Conference on "Environment, Peace and the
Dialogue among Civilizations and Cultures", a joint initiative of Iran
and the United Nations Environment Programme (UNEP) and also
supported by the United Nations University and the United Nations
Educational, Scientific and Cultural Organization (UNESCO). We in
Iran are indeed very pleased with the process, participation, substantive
discussion, and finally, the outcome – Tehran Communique.

The Tehran Conference, a highly analytical gathering of a good
number of prominent and well-known academics and experts in the
field, and a number of high-level government officials, succeeded in
taking a step further towards exploring the nexus between environment
and peace and security. It also addressed the issue of post-conflict
reconstruction of environmental damages, and stressed the imperative
of development of binding new international legal instruments to
ensure environmental integrity during armed conflict.

The Conference also looked into the contribution dialogue proper – hence, dialogue among civilizations and cultures - can and should make towards the promotion of peace and security – as the essential and irreplaceable prerequisite for the effective and meaningful preservation, protection and long-term management of environment. It took as its premise the fundamental concept that genuine dialogue on a global scale, involving all stakeholders and across the board, provides the only way forward towards ensuring meaningful and effective international cooperation, in all fields, including in the field of environment..

Dear Secretary-General,

I am sure you will note that the participants at the Conference paid due heed to what we all share and cherish with regard to genuine multilateralism and democratic global governance. I fully concur with the their assertion that "A vibrant inclusive and democratic multilateralism, directly linked with and reinforced by democracy at national level, provides the best hope for a future for the international community based on respect, tolerance, accountable governance, human rights and inclusiveness". Equally important, in this regard, is their due emphasis on the imperative of effective consideration of the democratic principle in the pursual of the process of reform of the United Nations – a principle I rest assured you are personally committed to.

The Tehran Conference concluded with a number of practical Conclusions and Recommendations, including at the United Nations and its extended family – which I believe deserve commensurate attention at various levels. It also lent support to one of the proposals, which happens to be closer to my heart - the proposal I made back in April at UNESCO for the establishment of a "Global Forum for the Promotion of Dialogue among Civilizations and Cultures". This is one particular area of work I will be personally pursuing once out of office a few months down the line.

Acting on the explicit recommendation of the participants at the Tehran Conference, I have the pleasure of forwarding the text of the Tehran Communique, for your Excellency's kind information, and as an input to the Millennium Review Summit in September 2005 in New York.

Let me wish you continued health and utmost success in all stages of your life.

Seyed Mohammad Khatami
President of the
Islamic Republic of Iran

H.E. Mr. Kofi Annan
Secretary-General
United Nations
New York

Note:

The letter and its enclosure - Tehran Communique – has been issued under A/59/825, dated 2 June 2005, as a document of the Fifty-ninth Session of the United Nations General Assembly under Agenda items 45 and 55 – "Integrated and coordinated implementation of and follow-up to the outcome of the major United Nations conferences and summits in the economic, social and related fields"

III

Invitation Letter to the Tehran Conference

It gives us great pleasure to invite you to participate in the International Conference on "Environment, Peace and the Dialogue among Civilizations and Cultures". The two-day Conference, to be held in Tehran from 9-10 May 2005, will be jointly prepared and organized by the Government of the Islamic Republic of Iran (Department of Environment) and the United Nations Environment Programme (UNEP).

The Conference, a multilateral exercise, is expected to bring together around 50 high-level government representatives from both developed and developing countries, international experts, and academics and known figures in the areas of environment and peace and activists in the fields of dialogue and inter-faith exchanges. The meeting is a follow-up to President Khatami's proposal on the Dialogue among Civilizations and, in a concrete sense, a follow-up to the international seminar organized jointly by Iran and UNEP in the year 2001.

Recent years have witnessed increasing attention, at both international and regional levels, to the importance of the nexus at issue. Political and military developments in recent years, particularly at regional level in some critical areas, have manifested more clearly than in the past that environmental challenges and problems could serve as a potential source of conflict. And a wide gamut of environmental challenges, both old and new, have driven home the bitter yet sobering message that effective preservation and protection of environment depends, inter alia, on peace and security. Simultaneously, the ever-expanding

repertory of research and studies in recent years on the interaction between environment and peace is in itself a reflection of the rising interest and sharpening focus. UNEP's recent and on-going post-conflict studies have also shed further light on some of the critical aspects involved. The Nobel Peace Prize of 2004 has also served to give the nexus, the international profile and attention it deserves.
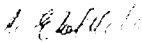
The Tehran Conference will endeavour to introduce a new perspective into this unfolding nexus. It is expected to address the particular contribution dialogue can – and should – make towards ensuring long-term, sustainable peace and security as the most fundamental prerequisite for the preservation and protection of environment. Conceived and defined within the framework of multilateral work, the Conference will seek to underpin the imperative of genuine multilateralism in the course of on-going, never-ending collective quest on a global scale for finding common solutions for common problems of humanity. Hence, the desirability and inevitability of dialogue and discourse in a world gripped by dehumanizing poverty, rampant violence, unbridled reliance on military might and continued erosion of democratic practice, both at national and international levels. The Conference is, in a sense, a tribute to a legacy of proactive approach and policy towards both the Dialogue among Civilizations and the imperative of the protection and preservation of environment. The very thrust of the initiative, equally its ultimate aspiration, is to further buttress message that genuine dialogue on a global scale, involving all stakeholders and across the board, offers the only way forward towards realization of meaningful, proactive and effective international cooperation.

Following the official inauguration, the Conference will then continue in the form of a number of working sessions, each addressing various aspects of the interaction at issue. An additional interactive session is also envisaged for the presentation and discussion of the respective reports of the panel discussions. The meeting is expected to adopt, at its closing session, a final statement/communiqué, reflecting the crux of the discussions as well as the conclusions reached.
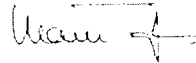
Your participation will contribute to further enrich the deliberations of the Conference and ensure a better final outcome.

We look forward to be advised, at your earliest discretion, of your positive response.

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IV

Briefing Paper of the Tehran Conference

Background

The Government of the Islamic Republic of Iran (Department of Environment) and the United Nations Environment Programme (UNEP) are jointly organizing an International Conference entitled "Environment, Peace and the Dialogue among Civilizations and Cultures". The two-day event will be held at the conference facilities of Pardisan Eco Park, Tehran, Iran, from 9 to 10 May 2005. The Conference will examine the interaction between environment, peace and security from the perspective of the dialogue among civilizations and cultures, and is supported by a number of relevant international organizations and interested national Governments, which will be taking part.

The Conference will undertake a broad process of discussion and consultation that will be of great relevance to multilateral cooperation in the international context. It is expected to bring together around 50-60 international experts, academics and known figures in the areas of environment and peace and activists in the fields of dialogue and inter-faith exchanges, as well as a number of high-level government representatives from both developed and developing countries. The meeting is a logical follow-up to President Khatami's proposal in 1998, on the Dialogue among Civilizations and, in a concrete sense, a follow-up to the international seminar organized jointly

by Iran and UNEP in 2001. While that meeting addressed the environ-
mental aspects of the Dialogue among Civilizations, the proposed
Conference takes this one step further to look into the nexus of
environment, peace and security from the vantage point of dialogue
among civilizations and cultures.

The Problematique

Recent years have witnessed increasing attention at both inter-
national and regional levels to the importance of this nexus. On the one
hand, political and security developments in recent years, particularly
at regional level in some critical areas, have highlighted more clearly
than in the past that the environmental degradation and the environ-
mental challenges and problems that result could be the cause of con-
flict, an issue underlined by UN Secretary-General Kofi Annan in his
Interim Report of September 2003 on the prevention of armed conflict,
in which he notes "…the implications of the scarcity of certain natural
resources, of the mismanagement or depletion of natural resources and
of the unequal access to natural resources as potential causes of con-
flicts need to be more systematically addressed by the United Nations
system. The United Nations system should consider ways to build addi-
tional capacity to analyze and address potential threats of conflicts
emanating from international natural resource disparities". A wide
range of current and emerging environmental challenges have further
buttressed the fundamental message that effective preservation, protec-
tion and management of environment depend, first and foremost, on
peace and security. It is, however, encouraging that the international
community is also coming to appreciate the enormous potentials of
environment towards promoting and enhancing cross-border coopera-
tion on environmental issues, most notably on such critical issues as
water and air pollution.

On the other hand, the ever-expanding repertory of research
and studies in recent years on the interaction between environment and
peace is in itself a reflection of the rising interest and sharpening focus.
UNEP's work on Environment and Security and its post-conflict

studies provide a timely and valuable response to the growing aware-
ness at the international level of the significance of the nexus, and have
shed further light on some of the critical aspects involved. The award
of the Nobel Peace Prize of 2004 to a notable environmental activist
has drawn attention, at the highest possible level, to the changing per-
ceptions of security, sources of threat and also potential areas for coop-
eration. It has as well given the nexus between environment and peace
and security the international profile and status it deserves.

More recently, the report of the UN Secretary-General's High-
level Panel on Threats, Challenges and Change identified continued
poverty and environmental degradation as being one of the six areas
posing the greatest threats to worldwide security in the 21st century.

The Objectives

The Tehran Conference will endeavour to introduce a new
perspective into this unfolding nexus. The objective will be, firstly, to
take stock of the process and outcome of the 2001 seminar on the
environmental aspects of the Dialogue among Civilizations and on that
basis to address the particular contribution Dialogue can – and should
– make towards ensuring long-term, sustainable peace and security as
the most fundamental prerequisite for the preservation and protection
of environment. Conceived and defined within the framework of
multilateral work, the Conference will seek to underpin the imperative
of genuine multilateralism in the course of the central and continuous
collective quest on a global scale for finding common solutions for
common problems of humanity. Hence, the Conference will focus on
the fundamental centrality of dialogue and discourse in a world gripped
by dehumanizing poverty, rampant violence, increasing reliance on
military might and continued erosion of democratic practice, both at
national and international levels.

The Conference is, in a sense, a tribute to a legacy of proactive
approach and policy towards both the Dialogue among Civilizations

and the imperative of the protection and preservation of the environment. The thrust of the initiative, and ultimate aspiration, is an appeal to human understanding and to further buttress and convey the message that genuine dialogue on a global scale, involving all stakeholders across the board, offers the only practical way forward towards ensuring meaningful and effective international cooperation. From this perspective, the Conference can provide a useful input to the 5-Year Review of the Millennium Declaration, scheduled for September 2005 in New York. It can make a substantive contribution by way of lending conceptual and strategic support to the norms and values promulgated by the 2000 Millennium Summit and its follow-up process. The final outcome of the Tehran Conference will be formally presented to the Review Summit in New York.

Organization

The two-day Conference will consist of an inaugural session on the morning of the first day, where a number of keynote speakers will address the Conference. In the first working session of the Conference, an initial layout of the problematique would be presented; that is, how the nexus is understood, the challenges ahead and what needs to be done. The meeting will subsequently discuss the major themes in the course of three consecutive working sessions. The first working session will take stock of prevalent views on environment and peace since the 1972 Stockholm Conference on the Human Environment, as well undertake an analysis of the relationship between environment and resources and civilization in history.

The parameters for a strategic approach will be discussed in the next session. The urgent need for a holistic approach to the preservation and protection of environment in the context of globalization and the imperative of conflict prevention through recourse to and reliance on dialogue among civilizations and cultures will be discussed.

The last working session will address the overall framework of a future-looking approach (strategy) towards the preservation and

protection of the environment, promotion of peace as the essential pre-requisite for stability and long-term sustainable development, and finally, pursuit of dialogue among civilizations and cultures as an imperative for the establishment and maintenance of lasting peace and security. This session will also endeavour to look into what dialogue – a global, collective enterprise - entails in actuality. A preliminary out-line will be established to further explore the major constituent elements of such a dialogue.

An additional interactive session is also envisaged on the after-noon of the second day for the presentation and discussion of the respective reports of the panel discussions. Participants will be chal-lenged to come up with a set of practical suggestions to chart the way forward. The meeting is also expected to adopt, at its closing session, a final statement/communiqué, reflecting the crux of the discussions as well as the conclusions reached.

The official languages of the Conference are English and Farsi.

Networking of Support

The Government of the Islamic Republic of Iran and UNEP, cognizant of the importance of the issues to be addressed by the Conference, and also heartened by the interest exhibited thus far from various quarters, governmental and otherwise, welcome any assistance towards the preparation and holding of the meeting. They are dedi-cated to broaden as far as possible the network of support and cooper-ation. They believe that a broad participation by interested Governments and international organizations and institutions, inclusive of think-tanks and civil society actors, towards the preparation and exe-cution of the Tehran Conference will undoubtedly contribute to a rich-er exchange of views and a higher substantive outcome.

The Secretariat of the Conference is situated at the Department of Environment, Tehran, Islamic Republic of Iran. All individuals, institutions, international agencies and Governments interested in

engagement in and contributing to this process are cordially invited to communicate with the Secretariat.

All messages, queries and requests for information should be addressed to:

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for the Tehran International Conference
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Participants at the Conference:

- Underscored their central conviction of the common brotherhood of all peoples and a vision of a global civilization enriched by the peaceful interaction among individuals, cultures, religions, perspectives and States;
- The need for a new model of dialogue is particularly relevant in the context of new and devastating environmental threats at a planetary level;
- A vibrant, inclusive and democratic multilateralism, directly linked with and reinforced by democracy at national level, provides the best hope for a future for the international community based on respect, tolerance, accountable governance, human rights and inclusiveness;
- The process of reflection and dialogue should eventually yield more perspectives and develop stronger decision making frameworks in international institutions that can integrate all aspects of environment, peace, security and development.

Tehran Communique