EXECUTIVE SEMINAR REPORT

INTERNATIONAL ENVIRONMENTAL SECURITY: THE REGIONAL DIMENSION

12 - 13 NOVEMBER 1997

Arthur L. Bradshaw, Jr.

1998

Report Documentation Page

Form Approved
OMB No. 0704-0188

1. REPORT DATE	2. REPORT TYPE	3. DATES COVERED
JAN 1998	**N/A**	**-**

4. TITLE AND SUBTITLE	5a. CONTRACT NUMBER
International Environmental Security: The Regional Dimension	5b. GRANT NUMBER
	5c. PROGRAM ELEMENT NUMBER
6. AUTHOR(S)	5d. PROJECT NUMBER
Arthur L. Bradshaw	5e. TASK NUMBER
	5f. WORK UNIT NUMBER
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES)	8. PERFORMING ORGANIZATION REPORT NUMBER
U.S. Army War College 122 Forbes Avenue Carlisle, PA 17013-5234	
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)	10. SPONSOR/MONITOR'S ACRONYM(S)
	11. SPONSOR/MONITOR'S REPORT NUMBER(S)

12. DISTRIBUTION/AVAILABILITY STATEMENT

Approved for public release, distribution unlimited

13. SUPPLEMENTARY NOTES

14. ABSTRACT

This executive seminar furthered the international communitys understanding of environmental security, promote the Department of States Environmental Hub concept, and to provide federal agencies and CINCs with regional perspectives on how the United States could use the environment to promote regional security.

15. SUBJECT TERMS

16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT	18. NUMBER OF PAGES	19a. NAME OF RESPONSIBLE PERSON
a. REPORT	b. ABSTRACT	c. THIS PAGE			
unclassified	**unclassified**	**unclassified**	**UU**	**95**	

Author
Arthur L. Bradshaw, Jr.

Editor
Dr. Kent H. Butts

Composition
Mrs. Mary Jane Semple

*****

*****

Comments pertaining to this report or requests for additional copies are invited and should be forwarded to: Center for Strategic Leadership, U.S. Army War College, Carlisle Barracks, PA 17013-5049. Comments may also be conveyed by electronic mail to perryj@cls-emh1.army.mil or by calling (717) 245-3226 or DSN 242-3226.

Table of Contents

FOREWORD

As we prepare for the new opportunities and unique challenges of the 21st Century, we recognize that the United States must work closer with the global community of nations to find better, more efficient and cost effective ways to reduce the potential for instability and conflict. Under the leadership of the Vice President, the United States has begun to explore ways of using environmental issues to promote regional cooperation and enhance global security. In this spirit, the Center for Strategic Leadership of the United States Army War College hosted the fifth in a series of Environmental Security seminars, games and conferences. The purpose of this executive seminar was to further the international community's understanding of environmental security, promote the Department of State's Environmental Hub concept, and to provide federal agencies and CINCs with regional perspectives on how the United States could use the environment to promote regional security. In formulating this game we took full advantage of the perspectives and lessons learned from the *Environmental Security and Preventive Defense Game* conducted in conjunction with the *NATO Environmental Security Pilot Study* meetings at Carlisle, Pennsylvania, on May 21, 1997. We also drew upon the insights and knowledge from the *Environmental Change and Regional Security Conference* held in Honolulu, Hawaii, June 9-11, 1997, and sought the advice of the national security community.

We were fortunate to have the Environmental Protection Agency, the Department of Defense, and the Department of State as cosponsors for our International Environmental Security Seminar held 12-13 November 1997 at the Center for Strategic Leadership, Carlisle, Pennsylvania. Working closely with them, and with other federal agencies, we brought together military and civilian

representatives from over 40 countries and embassies. They included senior interagency policy makers from the Environmental Protection Agency, the Department of Defense, the Department of State, the Department of Energy, academics, representatives from NGOs, the United Nations, United States military CINCs, and the Joint and Army Staffs in a "non-attribution" environment.

This environmental security exercise specifically capitalized on the exceptional talents and perspectives of our senior International Fellows from this year's U.S. Army War College class, drawing upon their unique personal and professional experiences, and the national and regional perspectives that they bring from their countries.

I would like to commend all the players for their professionalism and dedication in examining the importance of environmental issues to regional stability. From a United States perspective, the interagency and regional CINC communities received tremendous exposure to the regional concerns of foreign militaries, diplomats, NGOs, and academics. Equally, the international participants came away with a solid understanding of United States interagency and regional CINC environmental security programs.

DOUGLAS B. CAMPBELL
Professor
Director, Center for Strategic Leadership
U.S. Army War College

Dedicated to the
U. S. Army War College
International Fellows Class of 1998

CHAPTER I

COOPERATION ON ENVIRONMENTAL SECURITY

DR. KENT BUTTS
CENTER FOR STRATEGIC LEADERSHIP
U.S. ARMY WAR COLLEGE

In the *1997 National Security Strategy for a New Century* the President states that, "Environmental threats do not heed national borders and can pose long-term dangers to our security and well-being. Natural resource scarcities often trigger and exacerbate conflict... We must work closely with other countries to respond aggressively to these and other environmental threats." Working closely with other nations to solve environmental problems is only possible if there is a wide recognition of the importance of the environment to security and regional stability and there is cooperation in the United States between the various agencies that have an international affairs role. The purpose of the International Environmental Security Executive Seminar and Game held at the Center for Strategic Leadership of the U.S. Army War College was to sow the seeds of cooperation among our international allies and further encourage the nascent cooperation by the agencies of the United States' government. We believe that cooperation on environmental security issues will help promote regional stability, cooperation and communication, and contribute to the ongoing process of conflict resolution.

Cooperation only develops when there is a common recognition of the importance of the issue. In the Cold War milieu, authoritarian regimes could suppress internal dissent and minimize demands on the political system. Moreover, given the great need to prevent strategic nuclear war, Western countries, to include the United States, often left environmental issues unaddressed and justified such

inattention with the need to pursue more important national security goals. With the end of this era, a greater analysis has taken place of the causes of regional tensions and newly democratic regimes have been forced to address the demands of constituencies for domestic environmental security and freedom from transnational environmental degradation. However, developing democracies are not alone in recognizing the importance of the environment to governmental legitimacy and longevity.

In the last two years the heads of the United States Department of Defense, Central Intelligence Agency, and Department of State have all singled out the environment as a critical element in promoting the interests of the United States. Perhaps Secretary of State Warren Christopher made the point most succinctly during his address at Stanford University, stating that the environment has a "profound impact on our national interests." Because environmental forces cross borders and oceans, they can provide a direct threat to the prosperity, jobs, and health of the American population; thus, "achieving political and economical stability and U.S. international strategic goals frequently turns on addressing critical natural resource issues."

While the Secretary of State spoke about integrating environmental issues into the objectives of State Department diplomacy, other elements of the U.S. government have also developed environmental security programs, weaving them into efforts to accomplish their agency objectives. The Secretary of Defense made environmental security a pillar of his Preventive Defense concept. The Director of Central Intelligence established a Center for Environmental Intelligence, which has as one of its many unclassified missions, cooperation with the scientific community to provide data for scholarly research aimed at addressing environmental problems. The Environmental Protection Agency (EPA) has drafted a detailed Environmental Security Strategy to guide its international efforts, and the Department of Energy (DOE)

has witnessed the establishment of environmental security centers in many of its research laboratories. DOE has also cooperated with the Environmental Protection Agency and the Department of Defense to address the difficult and often contentious issue of low-level radioactive nuclear waste in the Arctic.

The *U.S. Strategic Plan for International Affairs* and the *National Security Strategy* have built on such interagency cooperation and these individual agency policy directions. The Strategic Plan is the document for international affairs that is to serve as a guide in clarifying long-term U.S. foreign policy goals and coordinating the roles and missions of the agencies tasked to accomplish them. The environment figures prominently in the Strategic Plan as an element that must be addressed if the United States is to protect its citizens, and preclude the instability and conflict that result from competition for scarce natural resources. *The National Security Strategy* document of the United States clearly recognizes the importance of the environment in maintaining global security. It suggests that the United States should pursue a *shaping strategy* that allows it to engage proactively in addressing threats to global security such as transnational issues like the environment. The shaping strategy seeks to strengthen alliances, reduce tensions, and promote regional stability. The environment serves as a valuable tool for promoting the cooperation and communication necessary to reduce tensions and build trust among regional states. Inherent to the documents and most agencies' approach to the issue, is the recognition that environmental issues become security issues when they can affect the national security interests.

The environment can provide a foundation for regional solutions and preserve security interests when socioeconomic, ethnic, religious, and historical tensions plague a region, it is often difficult to find common ground on which to build the trust and the communication necessary to avoid misunderstandings. The Madrid peace

process established five areas for multilateral cooperation in an attempt to reduce the long-term tensions of the Middle East. Of the five issues, two, water and environment, were environmental in nature and a third, refugees, had strong environmental components. In the intervening time it has been proven that even when the bilateral negotiations have suffered as a result of rising tensions between countries, cooperation on the multilateral issues such as water have continued on, sustaining new-found regional interaction and maintaining avenues for communication. Environmental issues are often perceived as non-threatening and essential to regional governments, and can be used to maintain ties during times when other forms of linkages would be deemed inappropriate. The water management agreements between Pakistan and India have survived several wars, and during the recent straits crisis involving Taiwan, China, and the United States, environmental efforts between the three continued on, while other areas of cooperation were threatened.

In the future, environmental issues will gain even greater importance in regional affairs. Technology continues to provide new and creative ways to use increasingly scarce resources, and the food demands of the exponentially increasing world population will make access to clean water and arable land vital objectives. Population growth will heighten competition for the world's fisheries, essential as a source of protein; and the availability of electrical power and the requirement for ever-increasing economic growth will challenge regions to address air quality standards and minimize cross-border pollution caused by carbon fuels and industrial waste. Environmental issues often have technical components that require access to data or information not available regionally. Moreover, the transnational dimensions of most environmental issues make it difficult for any country to address them effectively without the cooperation of other regional states. Therefore, to deal with environmental issues and maintain regional economic, and political

stability in the coming years, increased cooperation between regional states and between agencies of the state governments will be increasingly important.

Perhaps surprisingly one of the most valuable resources in addressing environmental issues has proven to be the military. This trend will continue. Capabilities developed for traditional military missions lend themselves well to the resolution of environmental problems. Frequently the military is the best resourced of all government agencies. It generally has access to substantial transportation assets and a construction engineer unit capable of building primary water treatment facilities and addressing many environmental problems. Moreover, the military brings an understanding of the physical geography of the state, and a presence in virtually all regions of a country and importantly, the distant border areas where many governments find it difficult to maintain legitimacy and address problems critical to the local population. In the highly industrialized United States, the military has played an important role in addressing environmental problems that seemed beyond the scope of local governments. In the Chesapeake Bay, for example, the Department of Defense provided the essential Cray computers to run water flow studies of the Chesapeake Bay estuaries and help the multi-state, multi-municipality effort to improve this important regional economic resource. In the Philippines, the military has served as an important extension to the Department of Energy and Natural Resources in protecting its natural resources. When illegal fishing with dynamite and arsenic became a widespread problem among the thousands of Philippine Islands, the military helped establish artificial reefs and patrolled areas where illegal poaching occurred. In addition, the military has stationed large units in distant regions to help protect forests and wildlife from poaching and to help in the reestablishment of tropical rainforests. This interagency cooperation has enabled the Philippines to aggressively protect natural resources of great importance to its economic stability.

As the interagency community seeks to address its international affairs mission, it is increasing efforts to cooperate on the issues of environmental security. One particularly important opportunity for such cooperation exists with the new Department of State environmental hub concept. As one of the elements of the Environmental Diplomacy initiative, environmental hubs are being established in all regions worldwide to better integrate environmental issues into U.S. foreign policy. The environmental issues of importance to each hub will vary with geography and region yet, each environmental hub will have a plan of action that addresses how it will promote cooperation between the State Department and other U.S. government agencies such as Department of Defense, EPA, the U.S. Department of Agriculture, the National Oceanic and Atmospheric Administration, the United States Agency for International Development (USAID), and the Department of Energy. The hubs will also seek to coordinate with the international community, bringing international donor organizations, NGOs, and regional governments into a process of cooperation in resolving important environmental issues. The framework of the environmental hubs offers a new and promising opportunity for achieving the most efficiency from the limited resources of all U.S. government agencies. However, the effectiveness of the environmental hubs in promoting regional stability will turn on gaining a full and complete understanding of the importance of regional perspectives on the environment and security.

The United States has often been accused of developing regional policy initiatives and announcing them publicly without fully exploring the attitudes and perspectives of allies and other regional actors. Whether this perception is accurate or not, it is often difficult to obtain objective insights into which U.S. policies have the greatest potential for success, which environmental issues are most critical to the stability and security of a region, and what barriers must be overcome to allow the best policy options to succeed.

In an effort to bring together the U.S. interagency community around the notion of the new environmental hub framework, the Center for Strategic Leadership, with the help of its co-sponsors the Department of State, the Environmental Protection Agency, and the Department of Defense, designed this Environmental Security Game and invited members of the international community, diplomats, non-governmental organizations, and the International Fellows from the U.S. Army War College to participate. In the course of conducting this game, a substantial number of recommendations were made to U.S. policymakers concerning the most useful and regionally acceptable policies to address environmental security issues, recommendations of significant value in developing U.S. diplomatic, shaping and engagement strategies.

In the following chapters, the Keynote speaker and our interagency colleagues make clear that the stability and security of nation states will relate increasingly to cooperative efforts to manage environmental issues, and our international officers provide the necessary regional insights on how best to approach cooperation on environmental security.

The teams that addressed these issues reflected four geographic regions and were composed of international, military and civilian representatives, as well as representatives from the U.S. regional CINCs. Because one of the objectives of the game was to determine efficient processes of cooperation between U.S. government agencies, each of the four U.S. government agencies with significant environmental security programs presented an in-depth overview of their international programs so that the international community that participated in the game would come away with a full understanding of their capabilities.

CHAPTER II

KEYNOTE ADDRESS

MR. ROBERT KAPLAN
CONTRIBUTING EDITOR, *ALTANTIC MONTHLY*

If I were standing before you 100 years ago, in 1898, after the Americans had just won the Spanish-American War, as an American I would be very optimistic about the future. We were just opening up markets in the Far East. We had just won a war. Europe's economy was developing and bubbling apace, there really wouldn't be much objective reason for pessimism and that's because three words did not yet exist in any dictionary at the time: inflation, fascism, and totalitarianism. The point that I want to make is that we don't even have names yet for the evils that we may face in the next century. So when we talk about this issue today, about the environment, don't just think about it as its own issue. Think about how it will interrelate with other issues, ethnic conflict, population, and globalization, etc., so that you may in your own mind play a kind of game with yourself about what some of these evils of the next century might be. Because if I was standing before you 100 years ago the most clairvoyant thing I would be able to say was that technology was strengthening the power of central control in some newly emerging dynamic states in central Europe and Japan which would prove to be several decades later very dangerous. So remember, when we discuss this issue, the environment, all we are doing is groping towards trying to figure out what the real problems will be three or four decades from now.

Now, in 1992 there was a bad earthquake in Cairo, Egypt. For the first 24 hours or so, not exactly sure of the chronology, I believe the president was out of the country and it was very different; the government was a bit stalemated in the decision-making process and it was the

Ikhwan Al-Muslimoon, the Muslim brotherhood, that provided some blankets and relief supplies and food for the people. It wasn't much, but in the first 24 or 48 hours it was more apparent than what the government was doing and suddenly the government appeared to be nowhere. Well, the President returned, the government got a handle on the situation and it passed. But we almost had an instance of a natural physical event having an effect on the high politics of a critical nation, and I think we're going to see a lot more of that in the future. I think sooner or later we will have an example of a natural event that will transparently overthrow a regime; or transparently lead to the removal of a regime or a crisis in a very strategically important part of the world. We see it in little places that aren't, at least from our point of view, too strategically important, like Montserrat. But sooner or later, the Cairo earthquake scenario will probably kick over into a change of regime and then everyone will be talking about the environment. And we do not need global warming or change in climate for this to occur. All we need is the normal variations in climate and seismic activity and the most important fact emerging in our era, that for the first time in human history we have large urbanized populations living in climatically or seismically dangerous zones.

I don't even have to go outside of the United States to give you an example of that. There is a major earthquake zone called the New Madrid Fault Line that runs down the Mississippi Valley through St. Louis and Memphis. The last time there was a major earthquake on the New Madrid Fault Line, I believe was 1812. Abraham Lincoln was three years old. If you visit Daniel Boone's farmhouse in eastern Missouri there are cracks in the farmhouse from that earthquake, at that time, all there was in that area was that farmhouse. Now, nearby there are major cities of millions of people; many of whose buildings are not built to earthquake standards. Tehran was not a city in 1880; it was a small village. Now it is a city of 12 million in a very seismically, fragile area. So is the Nile Delta in Egypt. We can go around the world with examples about this. So again, forget about

global warming. That's a subject for the scientists, not for people involved in international affairs and the soft sciences. Global warming is like Gulf War Syndrome, it requires more study, more observation, but it is not necessary for the environment to make a big impact on security policy because we have so many millions of people in urbanized areas living in fragile zones. Another example, the two-thirds of China's population responsible for 70 percent of the economic output of China live in flood zones, which have become even more dangerous because of the canalization of rivers and the dangers of those rivers overflowing due to the increase building of dams throughout China. So you have 70 percent of China's economic activity threatened by physical, natural events like floods.

All right, so precisely because of this absolute increase in both population and urbanization, the environment and climate become a factor for the first time in modern history. That is the environment and climate as its own new kind of issue or factor. But what's much more interesting is to think about the environment as an aggravating element for other factors. In other words, an aggravating background noise that will only inflame further and make harder to solve, issues like ethnic conflict, regional splits, and overpopulation. By overpopulation I mean something very specific. I mean too many young unemployed males hanging around in countries whose government's economies cannot absorb them into the job force, cannot absorb them into the education system, or whatever. Numerous studies have shown that you show me a country with many young unemployed males, and I will show you a country with political unrest or a country that may have a lot of political unrest in the years to come. The best example of that, of course, is Algeria. Algeria had three decades of the most dramatic urbanization in North African history; a dramatic population increase that chain reacted in the early 90s into what we later called extreme Islamism. But in fact, it was merely a side effect of long-standing demographic changes in this society and the environment only makes all of that

worse. If you have shortages of adequate soil, of water supplies (remember that the biggest destabilizing factor today in the third world is what I call decreased government capacity), the increasing difficulty of governments to supply enough water, enough electricity, enough sewage collection all of the kind, of every day, boring, mundane things that the people in the United States of America take for granted and don't even think about but without which a government cannot maintain its legitimacy, it cannot maintain its respect.So you have governments throughout the developing world that are besieged. People are rushing into the cities, cities that are built on places where the water table underneath is too weak, and they besiege them. They are rushing in because the soil in the surrounding areas has been overused, is too acidic, or whatever to supply farmers with a meaningful income. So they rush in to try to get low wage jobs in the cities.

Another example is Rwanda. The average woman in Rwanda gives birth eight times over her adult lifetime. The soil in Rwanda is so overused, so acidic that sometimes farmers have to mix it in with lime to get things to grow. This did not create the Genocide in Rwanda but it was an aggravating background noise. It only made ethnic relations even more difficult to solve. As we enter a world where more and more people live in cities and basic services are harder and harder to maintain because of a shortage of natural resources, this is a world where in order to rule, democrats in newly emerging democracies will have to be that much more ingenious in order to stay in power. Dictators in authoritarian or military states will have to be that much more ruthless to stay in power. The margin of error gets wider for leaders in the developing world and the margin of success gets narrower and the environment only complicates this and makes this worse. By the environment I mean a growing shortage of available natural resources. We can take some examples here. Let's look at South Africa where even when you have a talented social engineer like Nelson Mandella. Every day every year his job gets harder

and harder. He has more and more urbanized youths to satisfy. The water table gets lower and lower. Water becomes more expensive. It becomes harder to bring running water into the townships, harder to bring in electricity, sewage, all of these needs get harder and harder for him satisfy. The basic aspirations of the people within the geographical space he has to rule will become harder to satisfy. Egypt, the Egyptian economy has posted some very impressive growth rates in the last few years due to a very brave and, so far, successful attempt at privatization. But that's only a mini trend. It's only been going on for a few years. Looking out over the decades, if the resource base keeps getting eaten up and urbanization keeps increasing a pace in Egypt, then one of two things has to happen in Egypt. The Egyptian government will either become more democratic and there will be meaningful elections where everybody can run, in which case you may have an Islamic regime in power which will have a far worse human rights record than the present regime. Or, the regime may become more authoritarian and you could have a so-called Saddaming of Egypt effect little by little over the years and decades. Again, I am just using Egypt as an example. As the resource base gets eaten up and the population gets more urban, whoever is in power, democratic or authoritarian, has a harder job and his or her margin of error gets wider. I think the bottom line of this is that it will be harder and harder to sustain newly emerging democracies and that America a few years down the road, regardless of the high-minded sanctimonious statements we hear from the U.S. government, is going to stop using the word democracy or democratization. It is going to start using the word open society, seeking respect for civil rights and judicial systems but basically telling people you don't have to hold elections so fast because we understand the problems you are undergoing and we understand that in your case elections now, may actually make things worse. So I think we are going to see less and less of an emphasis on democratization from the U.S. government and more and more of an emphasis on just keeping things stable, of just going along

with any ruler anywhere who has a modicum of civility about him or her in terms of respecting human rights.

Regionally we do have examples of environmental problems helping to solve issues. The Jordanians and the Israelis have made a good start in terms of the issue of water. But I think to look at resource scarcity, earthquakes and all of that as a kind of opportunity weapon, something that can help solve a problem, is simply to put a good face on a bad situation. I think that may only work when you have a relative neat bi-polar problem or problematic relationship like between the Israelis and Jordanians and where you had good faith to begin with from both parties where it was in the political self interest of both parties to kind of come closer together so they might as well start with water. But remember this, the very definition of political conflict is bad faith...is bad faith. An environmental issue like one country controlling another country's water resources for example, or not enough water or not enough fuel or whatever, will only complexify a bad faith situation. In the Middle East now we have a situation where you have a government, the Republic of Turkey, that controls a lot of the water for other governments, Egypt, Syria, even eventually Israel and Jordan, because most of the water comes down from the Taurus Mountain Range in the Eastern Anatolia. So Turkey controls the water resources for a number of countries and the dam from which Turkey controls those water resources is in an area that's occupied by a demographic group, the Kurds, which have been fighting a war with the Turkish army for the past decade in which 4,000 people at a minimum have been killed. So you have a very complex situation which is not going to help regional stability, it is just going to add another complexifying factor to it, and that is what I mean by the environment being an aggravating background noise and to always look for how the environment intersects with other issues. An example we just had a few weeks ago in Southeast Asia was extreme air pollution resulting from over logging in Southeast Asia, at the same time that there was a financial currency crisis in

the region. And what did people watching CNN from around the world see? They didn't make a distinction between air pollution in Indonesia and the collapse of the Tai Bot in Thailand. They put it together and they said, "We've over rated this area. It's over rated. We thought it was moving completely into the developed world. We were wrong." So this is an example how the environment can sort of aggravate or make worse an already existing process of regional development.

Another example, we have a problem in Eastern Europe of nuclear power plants that are not up to, in many cases, western standards but which the people in the region have no choice but to use because of their cheap energy. At the same time we have a totally different problem that seems to have no relationship with these nuclear power plants, tremendous organized crime activity in former communist world . . . Romania, Bulgaria, the former Soviet Union; and this is normal. We have a tremendous degree of organized crime activity in the former communist world for the same reason we had Mafias develop in Sicily in the 15th century. Because whenever you have governments that are weak and lack legitimacy, human beings look for other informal organizing principals and mechanisms to supply them with protection, and order and what not. Mafias are simply an informal, alternative system to government in many cases. But what if down the road you have regional crime syndicates take control of nuclear power plants? This wouldn't occur officially, it would occur informally and unofficially. But you see how one interrelates into the other so that the news headlines never spell the word environment or natural catastrophe. But it is the environment that is just another kind of factor that is available for analysts in trying to predict the future.

Now, I think the bottom line is that we are entering a world where we are going to have more and more people who are more and more urbanized living in geographical terrain where the resource base is weaker and weaker, and there is less and less minerals, water, or whatnot to offer them. And

many of these places are places where institutions, where bureaucratic institutions have always been weak to begin with because strong bureaucratic institutions require not one generation of literacy but many generations of literacy in order to really function well. So this pressure of weak institutions, dimensioning resources, higher urbanized populations each feeding into the other, each making the other harder and harder to manage, I think is going to lead to a world where we are going to have more and more authoritarian regimes. I think the age of democratization is a mini phenomenon; a mini trend that is already being surpassed by many regimes that will call themselves democratic, and we will go along with the lie. But in fact, the way the power relationships will really function will be in an autocratic framework. And that again goes in with the prediction of the Greek philosophers Thucydides, Polybius, all of them who all recommended that a purely democratic regime would lead to anarchy. And a purely military regime will lead to tyranny, and that humankind is destined for mixed regimes or hybrid regimes. Somehow in each different place combine the two, and that may be the solution for many parts of the world that are beset with too many people and too few of resources living in too crowded conditions.

As the United States over the years and decades looks out at this world and thinks how to manage it, I think it is going to find that it's very nice to talk about international organizations like the UN. It is nice to talk about the spread of democracy in elections. But all of that is very high-minded and sanctimonious. In fact, what the United States will wind up doing will be going back to the old Kissinger playbook. He wrote in his first book, A World Restored, about the politics of 19th century Austria which is court diplomacy, balance of power politics, such as playing China off against Japan or against Korea. It is just looking at each region of the world and playing each power off against the other and trying to manage the world rather than overwhelm it, trying to keep disasters to a minimum through a

combination of international cooperation and the old balance of power diplomacy. Just because we have new problems on the horizon, or just because the old problems are far more complex because of the very environmental issues we are discussing these coming days, does not mean the diplomatic solutions will be any different than they have been in the past. So you will be hearing a lot about new multinational cooperation, and that is an important factor. What I ask you to do is to factor in the contrary scenario that we may go back even harder to the old European balance of power politics in the future.

CHAPTER III

U.S. DEPARTMENT OF DEFENSE

DR. GARY VEST
PRINCIPAL ASSISTANT DEPUTY
UNDER SECRETARY OF DEFENSE
FOR ENVIRONMENTAL SECURITY

I would like to take a few moments to talk about the United States Department of Defense's view and activities regarding environmental security.

At the outset I would like to convey to you for acknowledgement that the United States military is by no means 'new' to matters of environment. We have been at environmental matters in the military in the United Sates in earnest for nearly 28 years. I personally have been a full time environmental professional with the military for 27 years and I have been engaged on behalf of the United States military on international military environmental matters for the last 17 years.

We are clearly in a different world than we were a short time ago and this has a particular bearing on the activities of the United States military in international environmental matters. It was nearly five years ago that the new Secretary of Defense, Les Aspen; his Deputy Secretary, Bill Perry; and his Under Secretary, John Deutsche, created what was called Defense Environmental Security. That is the office of which I am the Deputy. In international terms we were given three basic missions, the three basic charges. The first was to do those things that were appropriate to contribute to the understanding and the knowledge base on the relationship between environmental and security matters. The second was on a continuing basis to bring military environmental considerations to bear on the development and implementation of the United States

security policy. The third was to determine how and in which circumstances the United States Department of Defense or components thereof, could be used as an instrument of US national or international environmental policy.

I mentioned that we have been at this a long time. Our experience base in managing environmental matters is very good. We have approximately 10,000 full-time environmental professionals at work in the United States military around the world; and in dollar terms, our annual program amounts to approximately $5 billion. Our objectives in environmental security are to use that experience base in the post Cold War world with militaries of other nations to enhance the military-to-military relationship to contribute to domestic and regional stability. Now the message is very, very clear and clean and I will say it again; we are using our environmental expertise to enhance the military-to-military relationship to contribute to stability and in turn, peace. We believe that the Post Cold War world, throughout the world, offers incredible opportunities in this positive way. Sometimes we talk about a vision and that vision is, what if all the militaries of the world went through a cultural transformation in terms of the environment and that they, and each of their countries in working with the militaries of adjacent countries, became the leaders in environment? Why is that important? That is important because many would say it is very difficult, if not impossible, to have stability and peace if there is no quality of environment. Additionally, there must be quality of life. There must be good quality-sustained economic development and it is our belief that we can contribute to that, working environmental matters with the militaries of other nations throughout the world. Equally importantly, though, is to do it in cooperation with civilian agencies in all governments, multinational organizations, and non-government organizations. In other words, do it in a very open manner with all that would have an interest or a stake.

We are at work with the militaries throughout the world. Our longest history is in the European Command area of responsibility and for the remaining couple of minutes that I have I am going to highlight some of the work that we are doing in the various regional areas of responsibility. United States military views the world through its regional CINCs (Commanders in Chief) unified combatant command and we look at environmental military-to-military relationships within that framework. We have been very active in NATO for nearly 20 years on environmental matters. We are currently heading, in partnership with colleagues, toward multi-year efforts focusing on the cleanup of foreign military bases, the relationship between environment and security, environmental management systems, and the Black Sea. Each of the NATO efforts that we are involved in are co-chaired with another nation and this is very important, we like to partner. So, we approach each of these multinational things in cooperation with another leader. We are interested in supporting the initiatives of other nations on a regional basis that we too participate in the Nordic/Baltic activity that was spoken to earlier. But we do so, working with the representatives of the Ministries of Defense of all of the effected nations to do what we can as appropriate to support their initiative. We have worked since the end of the Cold War within the NATO context through the North Atlantic Cooperation Council, we have developed relationships with the non-naxi nations but who is our partnership for peace nations. We have developed a number of bilateral relationships. We have formal bilaterals today with Germany, Sweden, Finland, Norway, Poland, Czech Republic, Hungary, Russia, and soon we will begin negotiations with Spain. In two weeks time, as part of a US participation in the ministerial in Brussels, we will present our thoughts on a proposal for a military environmental component of the new Euro-Atlantic Partnership Council.

There was a question earlier about European Environmental Agency. We believe it is essential for the

multinational organizations operating in given areas to be working together. An example of that will be in the spring or early summer in a military environmental conference. It will be co-conducted by the Swedish Ministry of Defense, the United States Department of Defense, hosted in Poland by the Polish military, co-sponsored by the North Atlantic Treaty Organization, and the Economic Council of Europe of the UN. We also hope to get affirmative answers for co-sponsorship from the European Environmental Agency of the EU and OECD. I give you these examples because this should convey to you some of our basic beliefs and our basic philosophy.

Also in the European Command area of responsibility, we are now beginning relationships in Africa. In two weeks time I will go to South Africa to begin the negotiation of a formal environmental bilateral between the South African military and the United States. In the Pacific region which is our Pacific Command which encompasses all of the Pacific area over into the Indian Ocean, a year ago in September we hosted with Australia and Canada the first ever Asia-Pacific Defense Environmental Conference. When I cite the two co-sponsors, we have a very aggressive comprehensive trilateral with Australia and Canada, addressing nearly 20 different areas of common environmental concern in military matters. That conference had attendees from most nations of the Asia-Pacific region. It will be followed in May in Darwin, Australia with two conferences, one focusing on maritime environ- mental issues related to the military for the area from Hong Kong to Australia, from up in New Guinea into the Indian Ocean. The second conference that will be conducted that same week will be on small island nations of the Pacific to address their unique interests and concerns.

Tomorrow I leave for China to begin discussions with the Chinese on military environmental relationships. In the Western Hemisphere we have the Southern Command. The Commander in Chief of the Southern Command in our office co-sponsored in June of this year the first ever Western

Hemisphere Defense Environmental Conference where most all of the nations, with just a couple of exemptions of the Western Hemisphere, sent environmental and defense representatives to begin establishing a framework of cooperation. The outgrowth of that conference will be a series of bilateral relationships, which I will be in Argentina and Chile shortly after the first of the year to begin those substantive discussions, as well as regional initiatives for the Central American region with the countries of the Caribbean.

We have also engaged and continue to engage in global issues. One of the officers of my office was in Bonn for the last two weeks, as well as a soon to be Admiral from our Joint Staff. Part of the US team in Bonn is doing the preliminaries for the global climate change negotiations in Kyoto. It was just a few weeks back at the 10th Anniversary Commem- orative of the Montreal Protocol that the military and the military industries were recognized as some of the best of the best in what they had done over the last ten years in implementing the Montreal Protocol. In fact, there is no organization, no type of organization that has won more awards for implementation Montreal Protocol than the military and its aligned industries.

So, in summary, our belief is that environment, environmental quality, quality of life, peace, stability, those things all fit together. Frankly, we believe that there is no better organization in any of the countries of the world, or collectively, than the military, to address these issues as leaders, as the leaders that they have always been, but to do so with the greatest amount of contemporary knowledge and do it in cooperation, in open cooperation, with all of the other entities in people that have an interest or capability in environmental matters.

CHAPTER IV

U.S. ENVIRONMENTAL PROTECTION AGENCY

DR. ALAN HECHT
PRINCIPAL DEPUTY ASSISTANT ADMINISTRATOR

I am pleased to be here and hope that during the course of this afternoon, and over the social hour this evening, we will have a chance to talk informally. I am particularly interested in hearing from a group, which is almost exclusively military, your views on how environment and security issues are linked. This is not an entirely new subject. I'm sure the library here has a large volume of literature on environmental security and on the kinds of issues that Bob Kaplan talked about, especially problems of resource constraints and trans-boundary environmental problems.

Over the last five years, environmental security has become more focused. In my discussion, I'll give you one or two examples that have moved the topic from academic circles into public policy.

One of the things that has helped move the discussion into concrete focus, is the new U.S. definition of national security. The *National Security Strategy for the New Century* says that "decisions today regarding the environment and natural resources can affect our security for generations. Consequently, our national security planning is incorporating environmental analysis as never before. In addition, we have a full diplomatic agenda, working inter-laterally, regionally, multi-laterally to forge agreements to protect the global environment."

Now, you might say that sounds like good rhetoric, but let me give you a specific example to make it more precise. The Environmental Protection Agency (EPA) is an active

participant in the IMO (International Maritime Organization) and the US is a party to the Amendments to the London Convention, banning the dumping of low level radioactive waste in the ocean. The U.S. has expressed concern, along with many other governments, about the dumping of low-level radioactive wastes in the Arctic Ocean and the Sea of Japan by the former Soviet Union. Unfortunately, the Russian government has been unable to comply with this agreement because of lack of technical capabilities in handling low level radioactive waste. As a result, the U.S. felt a responsibility to be involved in an international issue that had a potentially serious impact on the Arctic Ocean and Alaska. In addition, we expected the problem to get worse. Under certain agreements, Russia will be decommissioning a great many nuclear submarines. As more and more Russian submarines are decommissioned, an increased amount of radioactive waste is generated.

The problem is broader than just low level radioactive waste. Radioactive waste management in northwest Russia is a serious problem, affecting both military operations and the environment. This example crystallized for us what we have begun to think of as environmental security. It is an issue where there is a clear cross between an environmental concern and an issue of national security.

In our work with Russia, the Norwegians became our partners and without their help we would not have been as successful as we have been in forging a relationship between the civilian side and the military side to address this problem. At the same time in the Far East, Japan provided similar help. Over the years this problem, which was first and centrally focused on radioactive waste dumping in the Arctic Ocean, has become a central issue of total waste management and has grown to become a US-Europe partnership.

From this example, we have begun to look more broadly at the kinds of environmental issues to which Mr. Kaplan

and many others eluded and how we could bring our expertise to them. It is interesting that at the same time, just over three years ago, an outside advisory board to the Environmental Protection Agency also looked at these issues and made a recommendation. It said that EPA should begin working with relevant agencies and organizations to develop strategic national policies that link national security, foreign relations, environmental quality, and economic growth. And in fact, this report went even further to say that it called for some early warning system, such as an analytical system to identify potential future environmental risks. It's just coincidental that as we are meeting here today there is a meeting in Washington DC that was organized by a newly formed group at the Central Intelligence Agency. It is looking, region by region, at the kinds of environmental risks that may become crucial policy issues in the future. What we called 'early warning' in our discussion they have called 'flash points' in their discussion.

From this and further discussions within EPA, we made a considerable effort to define a program. One of the important steps has been the work that we have been doing with the Defense Department and the Department of Energy. The three agencies signed a formal agreement to cooperate on environmental security. This may not sound like a significant accomplishment in a bureaucratic world, but it actually is a very significant achievement. The Agreement signifies high level political support for these activities and allows us to coordinate them. What we have done among the three of us, and now with State and other agencies, is to look at ways in which we can pool our resources to address not only the problems of Northwest Russia, but problems in the Baltic and in other parts of the world.

We have defined EPA's role in environment security as follows: "EPA will work with other key agencies to minimize environmental conditions or trends involving other countries that may over time have a significant negative impact on US security and other related national interests.

EPA will develop and implement a program to identify, analyze, and support US government efforts to manage these international threats before they pose a greater risks to the nation's environment and national security". This work includes five elements. Anticipating future environmental and national security concerns. This is an analytical side of our work aimed at determining where in the world are environmental and security threats; how might they be abated; what are appropriate roles for various agencies; how could those agencies be brought together; what is the best national policy that could anticipate and address them. Second is to address regional environmental threats and enhance regional security. You'll hear a little bit about some of the work that we're doing in the Baltic as one such example. Third is abatement of global environmental effects that may have a regional impact. While climate change is a global phenomenon, if it has a regional affect that is going to cause significant unrest in bi-national or trans-national issues, it is something of concern to us. Fourth is managing conditions resulting from the legacy of the Cold War. This is especially relevant in many parts of the world in which civilian agencies, such as in the Baltic, have inherited facilities which were used for different purposes. They now have to be rehabilitated. And lastly, one that you may not automatically think of as part of environment security is, insuring compliance with international treaties and elimination of what are generally called 'environmental crimes.' That topic alone has gotten considerable attention just in the last few years. It was part of the G-7's political agenda for the meeting last year of Environment Ministers, and it will be a major focus of the UK's hosting of the G-8, Environment Ministers' meeting in the U. K. in April, 1998.

Environmental cooperation has often been used as a means to address difficult diplomatic problems. It is often referred to as "environmental diplomacy". More recently environmental solutions to problems, such as the case of

nuclear waste management in Russia have become an important element of protecting national security. We would like to do more as an environmental agency. We would like to be recognized as an important element of implementing US national policy around the world. The relationships that we have struck with the Defense Department, the Energy Department, and others are one way of doing that.

I don't know the extent of interagency coordination in your own countries. But I want each of you to think about your own governments and ask yourself how often does your state department or foreign ministry, your energy department, your defense department, and your environmental agencies work together in a coordinated way. The U.S. is making a considerable effort to achieve this despite different bureaucracies and different training in these agencies and different approaches. One of the things that I feel particularly pleased about is that in the last few years we have forged a powerful alliance among ourselves where our resources and technical capabilities can be combined. Today, in response to the fires in Indonesia, the Defense Department, EPA and other agencies have organized to provide technical assistance.

To the future, I think Robert Kaplan talked about the stress on resources and the dynamics of a changing world. From my point of view the United States, because of its size, economic growth, and its capability, is really linked almost everywhere in the world. There are few places that we can really not be affected by or avoid being engaged. I think we have a responsibility to do that. We will continue to do so because we think that our activities at a technical level play a very, very vital role in ensuring a cooperative and diplomatic solution. Technical solutions often are the ones that help resolve things more quickly than anything else does.

So, I welcome this occasion. I hope we can talk about whether this linkage of environment and security is

something that you see; and if you do see it, how do you see it in the future and what are the roles that we can play? A cooperation among our agencies is an important means of dealing with some difficult problems in the years ahead.

CHAPTER V

U.S. DEPARTMENT OF STATE

MS. LORI BRUTTEN
OCEANS, INTERNATIONAL ENVIRONMENT
AND SCIENTIFIC AFFAIRS

The State Department believes that international environmental issues have wide-ranging political, economic, and social implications, and, therefore, increasingly are and should be an integral part of the conduct of foreign policy. This represents a seachange in U.S. foreign policy. To meet this challenge, the State Department is pursuing both global and regional strategies. This global and regional initiative is referred to as Environmental Diplomacy. Global environmental issues such as the build up of greenhouse gases, the destruction of forests, the degradation of the oceans, the loss of biodiversity, or the release of chemical pollutants can threaten the health and livelihood of U.S. citizens, and our interests abroad.

Many of the environmental problems we face are not the result of natural forces; they are caused by human beings. For example, the biggest source of pollution in the world's oceans and rivers is man-made; including municipal, industrial and agricultural wastes and run-off. This pollution affects the most productive areas of the coastal and marine environment - estuaries and near-shore coastal waters. Today, over 50% of the world's population lives within 35 miles of a coast. One result of man's desire to live near the coastline is the further destruction of the marine environment. For communities that depend on tourism dollars the economic well being of these communities depends directly upon the health and productivity of the world's oceans. As populations grow and economies

continue to expand, the importance and complexity of such problems are likely to increase.

Let me give you another example of a global environmental problem - climate change. Climate change is the most serious of these global issues because if affects virtually all of our natural systems. The predicted disruptions of weather patterns caused by global warming could influence everything from agricultural production, to new outbreaks of infectious diseases, to a rise in sea level - of particular concern to island states or coastal areas. In the case of the United States, even if we cut our greenhouse gas emissions to zero - a complete impossibility - greenhouse gases would continue to rise. This is not war - but the effects are just as devastating.

Often, no one country is responsible for these problems. Many nations have contributed to their causes, and they can be addressed effectively only if the nations of the world work together, adopting and implementing policies that are result-oriented. It is, therefore, in our national interest to ensure that the international community takes steps to prevent and/or mitigate the potential harmful effects associated with these global environmental problems. We use diplomatic efforts to negotiate framework agreements and conventions and to work bilaterally and regionally with key allies to address these global problems.

In addition to global issues, countries around the world are facing a series of complex and inter-related environmental challenges that they cannot solve individually. Regimes are going to be judged on whether they can provide clean air, water, energy and food to their people. And, many of these issues are transboundary - they do not respect man-made borders. Let me give you an example concerning water.

In the case of the Nile River, Egypt uses the bulk of the water. You've got Egypt and Sudan with an agreement that doesn't include Ethiopia. Yet Ethiopia is upstream and it's beginning to develop. Simply put there isn't enough water

to go around. Here is an environmental issue: water, and you've got countries of the region facing increasing tensions about that limited resource's use. When you overlay the civil war in Sudan, the pivotal role of Egypt in the Middle East, you have a very complex and potentially incendiary situation.

Let me give you another example: Forest Fires in Indonesia. You've all read about the smoke and haze in Indonesia; it's affecting commerce, tourism, health and quality of life. Students can't go to school and businesses are closed. The effects aren't limited to Indonesia - they are affecting countries of the region. What's easy to overlook is that these fires were set intentionally to clear land for other purposes. It was land use decisions that contributed to the crisis. Within the United States, this environmental issue has resulted in the Department of Defense allocating some of its money to support C130s as its contribution to the international effort to combat the forest fires.

My guess is that with El Nino, climate change, and weather disruption, these are the sorts of weather and environmental catastrophes that all governments will have to increasingly deal with in the near future. The ability of governments to address these problems has implications for their internal political and economic stability and for the economic and political stability of their region.

These are some pretty complex challenges. They involve multiple actors in a single region, they don't all like each other, the issues are complex cutting across economic, political and social lines, and there's no clearly defined mechanism or institution to address these problems. When we started to think about these issues at the State Department, we realized we needed to do a few things: we needed to start thinking regionally about environmental problems.

Back in Washington we are beginning to do this. Policy makers are beginning to think about how we engage with other countries regionally. My office, working through the

interagency process, has the responsibility for developing international policy on these issues. The role of the State Department is to raise environmental issues and work towards solutions in the foreign affairs community, the implementation of these policies is made by U.S. technical agencies working with their counterparts in other countries.

Internationally, one manifestation of this policy is that we've created a new program, the regional environmental hubs. The hubs represent the Department's commitment to work on regional environmental issues. For example, our hub in Bangkok has had a central role in coordinating the humanitarian response from donors. By promoting regional cooperation on transboundary environmental issues through our new regional environmental hub program, and by working with key allies to address environmental problems that they face through the many bilateral commissions and common agendas, we are helping countries reduce sources of tension that could otherwise undermine their stability and security.

The integration of regional and bilateral environmental issues into our diplomacy efforts will:

- Help stabilize a region where pollution or the scarcity of resources contributes to political tensions;

- Enable the nations of one region to work cooperatively to develop initiatives to attack regional environmental problems and;

- Strengthen our relationship with allies by working together on internal environmental problems.

Integrating the full range of global and regional environmental issues into our foreign policy agenda is one of the State Department's goals. The President, Vice President and our Secretary are committed to this agenda. Even with their support, however, this agenda is hard to implement. Changing any large bureaucracy - at least in

America - is not easy. Internationally, our challenge is to bring other governments on board - especially in the developing world - recognizing they may have competing interests. Balancing these competing interests and convincing countries that economic growth and sustainable development is complementary is one of our major challenges.

CHAPTER VI

U.S. DEPARTMENT OF ENERGY

MS. KARIN BERRY
POLICY AND INTERNATIONAL AFFAIRS

I am going to go quickly through a broad overview of how the department went through its own strategic plan for how we can contribute to environmental security and then go directly to the specifics of our Baltic's environmental action plan which is a joint action plan. We are currently negotiating with each of the governments of Estonia, Latvia, and Lithuania and which we see as, hopefully, a blueprint or model of how we expect to do business on environmental security in the future.

Even though environmental security does, in some way, defy description, this is our definition that we are using at the Department of Energy. It addresses environmental stress that may contribute to regional instability or even conflict in foreign regions of strategic importance to the U.S. In that you find three filters. We go through each one of those three when we are determining whether or not a project is a worthy environmental security project at DOE. Again, is there environmental stress problem present; does it contribute to regional instability; and is it in an area that is of strategic interest to the U.S.? When I say strategic interest, I mean, is it going to cost us money, military involvement, and so forth? It is a cabinet-level initiative. It is based on cooperation with foreign partners and cooperating international organizations; and I think that it is important to note that at least at the Department of Energy, not all environmental issues are environmental security issues.

These are some of the broad goals that we have talked about when we are considering environmental security.

Encourage foreign democratic institution building, not necessarily democracies for you, Mr. Kaplan, but institutions improving public safety and contributing to the foundations for a healthy economic development. I will elaborate on that a little more later.

These are our five strategies. We have success measures in each one of these categories that we hope to be able to accomplish if environmental security is funded like we want it to be funded, and that's a big if. The first one, identifying environmental risks, most directly impacted foreign regional national stability. The CIA conference that is ongoing right now is doing some of those steps. One of our outcomes of success measures that we expect from that is a risk atlas, which does overlay some environmental stresses with political, regional instability. The second is to motivate host governments to work for themselves. That is where the joint action plans come in and for each joint action plan we anticipate not only will Department of Energy, Defense, and EPA have responsibilities, but so will the host ministries in each of those countries and municipalities. As it turns out, as we have gotten more into negotiating, at least the joint action plan in the Baltics; the municipalities are much more engaged than are the ministries at the federal level. The first two are really more of an immediate timeframe than the last three, and you can see that the last three deal primarily with infrastructure and specifically infrastructure where the Department of Energy has some technical expertise.

What do we have going on now? Alan Hecht mentioned the Arctic Military Environmental Cooperation (AMEC). This is a tri-lateral as he said. Also, internally it is a tri-lateral with DOD, DOE, and EPA all as coordinating activities. In this past year the Department of Energy funded activities under the AMEC at about $300,000. We anticipate that that will go up in the future.We have $100,000 budgeted for the interagency initiative with the Baltic countries, in which I am personally involved.

These next two activities are in the multiple millions of dollars. This is where the Department of Energy's historical emphasis has been. The International Nuclear Safety Program is all about making Chernobyl-style reactors safe (RBMKs and VVERs). It is active throughout Eastern Europe. Its budget in 1997 was $25 million and we are hoping that will continue.The International Non-proliferation Actives involve making fissile materials safe, especially weapons grade material. I don't think anybody knows how much money we spend on that, frankly, but it is a big program. The Southeast Europe Cooperative Initiative, or SECI, is a State initiated program. DOE is running or spearheading the energy efficiency in environmental programs under that, specifically an energy efficiency demonstration zone which is beginning in Hungary. SECI, I think, is an interesting example of regional security. Under SECI the countries in Southeastern Europe are supposed to be getting together and determining their own priorities and how they can work together. The first two projects have been outlined; one is cleaning up the Danube; the second is an efficiency demonstration zone. I think the third is going to involve natural gas pipelines.

Another activity that DOE is working on is building a database of all DOD international activities. We got started on this and said to ourselves, what is the department doing internationally? We are doing a lot internationally, but no one really knows at the middle what we are doing so we are trying to put that together in a database format. We are also working on our on hotspot study that we hope meshes with CIA's study.

Let me move from that to talk more specifically about the Baltics. We were asked by the State Department to make the Baltics a priority for cooperation under environmental security. The Vice President and President had visited in the last three or four years. All three of the Baltic countries have requested NATO membership. That invitation did not happen this past summer. They are historically a border or

buffer zone between Russia and Scandinavia and Northern Europe, and frankly there is a significant Baltic community within the United States that was asking for some action.

So, let's go through the filters. Are there environmental stresses in the region? Yes; soil, air, ground water, river pollution, and nuclear safety. There is a history of unsafe handling of hazardous and toxic materials by the occupying Soviet military. There is continuing industrial waste output, untreated sewage, agricultural runoff and, of course, the problem of power generation. Most of the power in the area comes either from a dirty burning oil shale plant in Estonia or two RBMK reactors in Lithuania, the Ignalina Power Plant. The rivers in the area drain into the Baltic Sea which is bordered by nine countries. So it is obviously a regional example of environmental cross-border effects. Do the environmental concerns there contribute to instability and if we do something about it, will we be helping instability? Well, what we have ended up focusing on are former Soviet military sites because these sites are such a present, tangible, and obvious reminder of Soviet occupation. There are a number of estimates on this but in the neighborhood of 40% of the population in each of Estonia, Latvia, and Lithuania is still Russian. There is quite a bit of tension between local populations and Russian populations. Addressing the contamination problems at the former Soviet military sites, I think, goes a long way towards providing some common ground for reconciliation there.

In addition, the Swedes, Norwegians, and Fins are very concerned about what happens at the Ignalina Power Plant. Another Chernobyl kind of accident could cause widespread radioactive contamination throughout the region. They are very concerned. There is a lot of money going into that and it is primarily being handled through the IAEA (International Atomic Energy Agency).

Another interesting fact that fits with Mr. Kaplan's comments of this morning is that most of the former Soviet

military sites were ceded to local municipalities once the occupying army withdrew in the 1990-91 timeframe. So, the federal governments are saying hands off. We're not going to tell you what to do with it. We're not going to give you money to clean it up. You figure it out yourselves which leaves the municipalities with what you could perceive as either a big problem or a big opportunity, and across the region it runs the spectrum of that in different places. We hope that by helping them address some of these problems we will be contributing to a more positive national identity, economic growth, European integration (in order to meet European Union standards, they must do something about some of the leftover contaminants), and possibly ethnic reconciliation.

Specifically, what are we doing there? The Swedish military is involved in this, too. In Estonia, the draft plan that we have presented to the Estonian government (and they are the only government that hasn't responded yet so I preface all of this by saying it is just proposed and very draft) is to work at the Mineharbor and Amari Airfield. The Mineharbor is in Tallin. They would like to be able to bring commercial ships in, which requires a much deeper dredge than the kind of shipping that they have had in the past. They are not sure what is in the sediment as a result of heavy traffic by the former Soviet navy. We are going to help them with some sediment testing so they will know what they dredge up when they are deep in the harbor. I should say that in the past the Department of Energy was very involved in making safe a former naval nuclear submarine facility at Paldiski in Estonia and we are going to continue working in that area as well. At the Amare Airfield they would like for it to be a commercial air center and they would like it to come up to meet the standards of NATO airfields. They are a long way from that happening so we would be working on doing some testing and monitoring at that site as well. In Latvia, where we have probably had the most interaction with the government, the Swedish military is involved in this as well. We are focusing on two things, one is training materials which they requested. They want the

video that we have done for our officers on environmental management of bases and they are going to dub it into Latvian. And they want the Base Commanders Guide to Environmental Practices translated into Latvian. That is easy enough. We are helping them with that. But the big project is at the Adazi site, which was a former Soviet military site and a secret city. It was a large Warsaw Pact training area; they would like to turn it into a NATO and Scandinavian training area but they are not there yet. A lot of the base is still closed and in the part of the base that is closed, since it was its own self-contained city. The district heating is still operating, electricity is still operating, and they have a big problem with squatters on the site. They also have very few records of the underground wiring and piping. They don't know what toxic or hazardous waste may have been dumped there. The Latvian military at this point has very little engineering expertise so they don't know how to start on doing waste water treatment systems at the site, or upgrading their district heating. They have miles and miles of storage facilities for tanks. It was a tank service area and they are pretty sure that they just dumped the cleaning compounds onto the ground, which is right on top of their water table and drains directly into the Bay of Riga. So there is something of a problem there. Also, when the Soviet military left, the containers that they had their jet and rocket fuel and other oil and gas in were apparently more valuable than the actual fuel, so they just dumped the fuel on the ground and took the containers home with them. There are floating bogs of oil and gas in some places in the Baltics that's a problem, too.

We are hoping to help them put together an overall base management plan that answers critical questions. Where are their problems that they have to address first for public safety? What are their goals for the site? What do they have to get done to meet those goals? What sort of technical expertise do they need? Once that kind of a plan is in place, I think we will be in a much better position ourselves to say

how we can help with the actual technical assistance, and they will know more of what they need.

In Lithuania we are engaged in a similar project. This particular site is Zoknoi Airfield in Siauliai. It is an aggressive municipality. They want to turn it into an economic development zone. They have contacted Boeing and Phillips about having an air maintenance facility there. Only a small part of the base will continue to be military and the rest of it they hope will become commercial. They are looking for World Bank and EBRD financing and the questions that always comes up are, what are your public safety problems in the area; where are the contaminants; what is your water treatment system like? They just don't know. So, it is the same thing there, only this time it will be for economic redevelopment instead of military re-development. One of the projects with Lithuania is that the Nemencine Center, which was a former classroom training center under the Soviet system, and they have developed an entire curriculum around environmental training. It was very impressive. They have asked us for computers and help with language training and we are working on helping them upgrade their curriculum in that case.

So, I've given you a broad example of how the department is put together. We begin with a strategy and then bring that down to the specifics of what we're trying to accomplish with the Joint Action Plan in the Baltics. Someone asked a question earlier about what we are actually doing in terms of technical assistance. We can provide a lot of training, monitoring, testing and planning assistance, but we have never planned on digging up dirt. That's typically what we say. We are not going to remediate the site. I think it's a good question for some of you here to consider as part of this exercise; what is an appropriate federal role for the United States government? We spend $6 billion a year cleaning up our own waste sites and that is just at the Department of Energy. So, I'm not sure what our role is going to be in the future in actually cleaning or remediating, or building infrastructure in other countries.

But, right now we are very committed to the monitoring, training, testing, and planning stages.

I would just like to close with a quote from an American who I think this would sum up what we are really trying to accomplish here with environmental security. As Franklin Roosevelt said in one of his speeches, "What we are looking for is not just an end to war, but an end to the beginnings of all war."

CHAPTER VII

REGIONAL POLICY RECOMMENDATIONS AND INSIGHTS

INTRODUCTION

United States interests turn on regional stability. Environmental issues are now recognized as a major variable in regional instability and conflict. Existing tensions resulting from ethnic, religious, and other regional differences such as economic gaps between rich and poor areas, economic growth, and boundary disagreements may be multiplied by environmental disputes. Alternatively, environmental issues may help to bring about mutual confidence building by encouraging better communication and cooperation between governments that would otherwise be unfriendly competitors. They offer a viable new option for U.S. preventive diplomacy and CINC engagement strategies to "shape the international environment."

The Game focused on ways the U.S. could optimize environmental issues to promote regional security. The participants were asked to address policy issues associated with regional environmental security issues. A Read Ahead Book stressed the need for U.S. CINCs to consider environmental security issues as a part of their engagement strategies. It also explained the emerging the U.S. Department of State Environmental Hub Concept as a means to deal with environmental issues, and to integrate regional and bilateral environmental issues into diplomacy in order to achieve three purposes:

- help stabilize a region where pollution or the scarcity of resources contributes to political tensions;

- enable the nations of one region to work cooperatively to develop initiatives to attack regional environmental problems; and

- strengthen our relationship with allies by working together on internal environmental problems.

Four international teams were organized to represent four major regional areas of the world: The Asia-Pacific, Americans, Middle East and Africa; and Europe and Russia. Each team worked to identify and analyze issues from a *regional* perspective in order to provide U.S. agencies and military CINCs with a regional understanding on how the U.S. could use Environmental Security to promote regional stability. Specifically, each team was asked to determine:

- environmental issues leading to tensions or conflict,

- environmental issues that offer opportunities for cooperation and confidence building measures,

- appropriate U.S. policy options to deal with these issues, and potential barriers to U.S. policy success.

Each team developed and independently briefed their unique regional findings to a panel of senior U.S. interagency policy makers and international diplomats at a series of plenary sessions. A summary of their findings, by region, are what follows.

THE MIDDLE EAST AND AFRICA

Regional Environmental Challenges to Security

There are six major environmental challenges that apply equally to the Middle East and Africa.

- The first and greatest challenge is a shortage of fresh water. This environmental challenge causes security problems in many countries. Riverless states, and even some with large amounts of water, may not have sufficient quantities to meet irrigation and urban demands. Competition for scarce water resources can lead to intrastate and international tensions. Desalinization is a costly option available to a limited number of states.

- A second challenge is the environmental pollution of rivers and soil due to ineffective or a lack of standards and controls. While air pollution is not currently considered a serious problem because of the lack of industry, it remains an issue with which to be concerned for future development.

- A third concern is the development, presence, and possible use of nuclear, biological, or chemical (NBC) weapons of mass destruction with the host of potential destruction and suffering they would cause. NBC contamination from inadequate radiation handling, especially from Iraq, could have long-term detrimental effect on the region's environment. The hard lessons of Chernobyl are not lost with regards to the threat of radiation and Iraq's lack of full cooperation remains troubling.

- Next is the current and potential impact of mass migration, particularly in Africa. This can result from a variety of reasons that range from

environmental disaster or degradation to religious conflict, ethnic cleansing, lack of economic opportunities, disease, and armed conflict. In most instances these large-scale population movements result in poverty and mass suffering that severely strain limited government resources. They further create stress and tensions between neighboring states.

- Another challenge is the desertification of valuable agricultural and otherwise productive lands by overgrazing, deforestation for firewood, and the encroaching sands.

- The two regions share the worldwide concern over the effects of drugs with the resulting loss of respect for laws, HIV proliferation, crime, and disease. Populations are particularly vulnerable and unprotected from the challenge of diseases such as malaria or HIV.

Opportunities for Cooperation

Numerous environmental issues offer the opportunity for cooperation and communication with the United States and among regional states.

- Political problems continue to be raised as obstacles to regional cooperation. Some states do not believe that environmental issues are related to national security and, therefore, cannot be linked. Here the U.S. could assist with leadership and act as a mediating influence in its role as the world's remaining superpower. The Madrid peace process provides a fine model of how environmental issues may be used to build cooperation and trust.

- Encourage a political climate that is conducive to environmental cooperation. Create an attitude that assists states to cooperate in resolving their problems.

Two different approaches are possible. United States policy could be tied to incentives and dictate that cooperation take place between states in a "top down" manner. A second method would be through a "bottom up" approach that would seek cooperation on smaller projects between less controversial governments and non-government agencies where agreement will better serve future cooperation. Here discussions of environmental problems and their resolution may well lead to broader discussions of political problems and their resolution. Focus on those issues that can be addressed in the near term and do not spend effort on those long term "global" issues with little perceived regional relevance.

- Combined projects and regional cooperation are needed to accomplish anything. A single country seldom has the required assets to go it alone. While the political climate may not be good between some states, regional cooperation on environmental projects is possible. Successful examples include Senegal, Mali, Mauritania, and Guinea cooperation over the Senegal River, and Jordan and Israel with the Jordan River. While cooperation between the GCC and Iran is not possible at this time due to Iran's occupation of three islands belonging to the UAE, it does rule out the prospect of finding common ground if the islands issue can be resolved. The Amman Environmental Hub could be quite useful in this regard.

- Agricultural technology cooperation between Egypt and Israel serves as one example of a successful "bottom up" approach to accomplish common goals. Many regional states could benefit from this type of cooperation, and the military could be helpful in its implementation, particularly in frontier or isolated areas.

- Perhaps the most significant environmental security threat is the regional proliferation of NBC weapons of mass destruction. Cooperation with non-proliferation initiatives represents an area of common interest and opportunity.

- Another potential opportunity for cooperation is in the development of electrical power grids to maximize regional energy efficiencies. Such grids would tie the economies of countries together, create common interests, and promote energy efficiency.

- Clearly the issue of immigration and refugee management offers an area of concern and regional cooperation, particularly in addressing the environmental drivers responsible for most mass migrations.

Advice to U.S. Policy Makers

Unique regional realities flavor all issues. The Middle East and Africa represent some of the world's oldest civilizations and contain three major religious faiths, Moslem, Christianity, and Judaism. The issue of religion constitutes an area of national suspicion and a catalyst for distrust. Further, the ongoing peace process between Israel and the Palestinians represents a recurring theme that interferes with cooperation between the states in the Middle East.

The following recommended U.S. policy initiatives, both unilateral and multilateral, could help reduce the potential for conflict and foster better understanding and greater cooperation.

- Open a dialog with major regional powers, such as Iran specifically, to bring them into a cooperative framework on common environmental problems.

- Provide expertise and technology to exploit regional resources in a sustainable manner.

- Assist in the establishment of a region wide early warning system to monitor and/or predict environmental disasters.

- Assist in the establishment of ecological development and education programs and encourage wide participation via the Amman Hub.

- In all undertakings be sensitive to the cultural specificity, norms, and customs of the region.

- Work with regional states to establish a regional water bank.

- Encourage the roles that multilateral organizations and NGOs can perform within the regions.

- Support functional ecological cooperation as a basis for peace processes (or vice versa).

- Support regional efforts to help refine and enforce international environmental law. Apply consistent standards fairly.

- Work within the regions to develop and implement an international refugee regime that includes identifying and addressing underlying causes.

- Prioritize U.S. efforts toward the Middle East peace process. Positive progress here would make environmental matters easier to address.

- Use U.S. influence with regional friends to encourage cooperation on combined projects such as with Turkey and the Anatolia Dam Project.

Barriers to Policy Success

While recognizing that environmental issues are always a high priority within the region, several cautions are suggested that should be recognized as potential challenges or barriers to U.S efforts.

- The challenge of securing funding to meet costs will always factor into any initiatives.

- The region is faced with the educational challenge of improving the basic literacy of large segments of the population. It is recognized that this is a requirement to be able to exploit state of the art environmental technologies.

- Lack of progress in the Israeli-Palestinian peace process could be a barrier to environmental policy success.

- The role of private industry can be a barrier. Not easily controlled, the behavior of private industry can undermine environmental initiatives.

- The U.S. lacks positive relations with key regional powers for different reasons. These will have to be improved in order to achieve greater regional support and exert influence on environmental initiatives.

ASIA–PACIFIC

Regional Environmental Challenges to Security

There are common, primary causes of environmental degradation that apply to most countries in the overall region:

- Economic development is insufficient in the region to permit technologies that are both efficient from a production standpoint and environmentally wise.
- A current population of 2.8 billion persons, with 700 million living in poverty, places too great a demand on resources. This will only worsen as population projections show growth booming to 4.3 billion.
- Industrialization is outpacing the ability of the environment to absorb pollutants.

Similarly, common regional challenges include:

- While desirable in theory, democracy as practiced in many countries creates difficulties due to the large number of parties/factions. None are able to gain and maintain political power long enough to implement long-term policies.
- Illiteracy is related to the first problem. Uneducated voters are easily led to vote for poorly qualified candidates having less well thought out policies.
- There is difficulty in shifting from a labor-intensive economy to a capital or technologically intensive economy without the disruption or displacement of accepted cultural/social/economic policies. Population shifts to urban settings create new environmental problems for city governments.

- Reducing the number of persons living in poverty is necessary to maintain regional stability.

- There is a perceived need to maintain military readiness to counter any threats to stability versus recognizing an opportunity to employ military assets in support of environmental or economic development.

There is currently little political will to act on environmental issues. There is a lack of perception of any significant environmental problems by the majority of the people. For this reason environmental issues by themselves are unlikely to cause conflict. Bilateral and multilateral contacts, teamed with current regional organizations, could resolve most environmental issues through negotiations. Traditional political or economic issues, such as territorial claims or ideological disagreements, are more likely to lead to confrontation and conflict, or even war. Environmental issues are, however, useful in promoting regional cooperation.

There are several factors that influence environmental issues and they tend to be multi-facetted:

- The United States is perceived as an outsider. The U.S. has the perception that it needs the region more than the region feels it needs the U.S. Environmental Hub initiatives should reflect regional interests and involve regional organizations.

- Population is THE problem, and includes such dimensions as size, education, employment, and food security to name a few. Population expansion increases the demand for resources that cannot be met, potentially leading to cross border migrations or conflicts.

- There must be a balance between development versus protection of the environment. The inability to

provide adequate services can lead to environmental degradation, civic disasters, or disease, which can threaten human security and demonstrate governmental inadequacy.

- Likewise, there must be a balance between the pace of industrialization versus current labor intensive economies.

- There is also the issue of political will versus democratization. To what degree can democratic states with weak economies and exploding populations give priority to the environment?

- Military readiness versus environmental awareness can be viewed from two perspectives: the military's impact on the environment due to the need to train and maintain operational readiness; and the military's relative abundance of time and resources, which could be used to support environmental initiatives.

There are at least five common environmental challenges that could threaten stability most anywhere within the region. They are:

- Population growth.

- Access to, versus restrictions from, natural resources.

- Water management/cooperation/sharing.

- The effects of natural disasters.

- Waste disposal.

Because the Asia-Pacific region is so large and diverse, it was subdivided into three regions to better identify specific challenges. These three regions are South Asia/Indian Ocean rim, Southeast Asia/South Pacific rim, and North Asia/North Pacific rim.

South Asia/Indian Rim

Populations in this region are continuing to grow, bringing the potential for internal disorder, insurgency, or opportunism. Attempts to establish democracy could result in anarchy rather than effective government. Natural disasters or resource depletion could lead to mass migration. Inequitable water resource quantity or quality management could lead to conflict. Silting creates new islands, leading to additional politically disputed areas and sovereignty issues. Tensions related to existing political and religious issues, when affected by environmental conditions, have the potential for conflict.

North Asia/North Pacific Rim

North Asia has several territorial disputes that center around access to resources, as well as the separate political issue of China-Taiwan. There is the potential that environmental issues could be used as levers in these and other disputes.

Southeast Asia/South Pacific Rim

The key issue in Southeast Asia is access to resources and concern over exploitation of resources by multinational corporations. Also at issue is the refusal of some nations, including the United States, to recognize 200 nautical mile Exclusive Economic Zones. The potential exists to deal with overlapping Exclusive Economic Zones through bilateral or regional negotiations.

Climatic conditions are viewed as a growing challenge to regional stability. The possibility of global warming, for example, causes concern among islanders who fear that a rise in sea level could cause their nations to disappear. Since cause and effects are difficult to determine, these issues are more likely to be dealt with through regional fora and global cooperation rather than leading to military confrontation.

North Asia/North Pacific Rim

North Asia recognizes the considerable problems associated with the size and growth of the Chinese population and its industrial growth. A particular regional environmental issue is acid rain caused by Chinese smokestack industries. This is likely to be a source of irritation in political relations, but not an issue with potential for armed conflict.

Southeast Asia/South Pacific Rim

Climatic issues include unexplained changing rain patterns that are leading to new areas of drought. Accompanying this is the additional issue of freshwater management. While this is not seen as a major source of potential conflict, it could lead to population migration or internal instability.

Changes and threats to the environment present the potential for both instability and cooperation throughout the region.

South Asia/Indian Ocean Rim

South Asia continues to have tremendous diversions of economic resources to maintain perceived levels of military preparedness. Both peacetime maneuvers and those occurring during periods of increased tensions lead to environmental damage.

North Asia/North Pacific Rim

Nuclear waste disposal, specifically that tied to the former Soviet Union, and the use of nuclear power plants for energy generation are areas of concern. There is also concern for the impact of Chinese dam projects. These new dams bring with them the potential for population relocation and an unknown potential for future environmental or natural disasters. While population

migration is the primary concern, the issue of energy creation brings with it the potential for increased industrialization and its associated air/water pollution problems.

Southeast Asia/South Pacific Rim

Landmines from previous conflicts remain a major environmental problem. At issue is how to remove them and who should fund it. Deforestation, both by increasing local populations and multinational corporations, provides excellent short term economic benefits but leaves environmental disasters once the resources are exhausted. Increasing urbanization, growth without adequate governmental services, and unemployment all represent a potential for internal unrest and a sinkhole for available funds. The legal dumping of nuclear waste in the ocean depths is an environmental issue with undetermined long-term impacts.

Opportunities for Cooperation

South Asia/Indian Ocean Rim

South Asia has had great success in regional cooperation in the areas of fishing rights determination. Coupled with recent success in sharing electric power generation, these could constitute a base upon which to continue to work. States now recognize the need to cooperate. Labor sharing, the concept of employing workers overseas where they are needed, provides the benefits of easing population pressure as well as sending foreign exchange back into their home country. Having educated individuals working in other countries is a mutual benefit for both nations—one gains intelligent workers for a period of time while the other gains knowledge of alternative technologies that can then be used to improve their native economy and environment.

North Asia/North Pacific Rim

Like South Asia, North Asia has experienced frequent and contentious fishing rights disputes. These have led to numerous bilateral and multi-lateral arrangements that are frequently revisited. However, the belief that they can be resolved through negotiation rather than by conflict serves as an avenue for confidence building.

Southeast Asia/South Pacific Rim

Water resource management concerns have led to the creation of the Mekong River Commission as a forum allowing participants to work together to ensure that all nations have a voice in the solutions to water use, flooding, and power generation problems. The commission could be used to achieve cooperation on other environmental, economic, and political issues involving the member states. Although the possibility of global warming is not uniformly perceived as important, IOARS could be a forum to deal with the effects, particularly for such issues as rising sea levels, which must be approached from a global rather than a regional perspective. The most likely source of conflict is Exclusive Economic Zones. However, they also offer the greatest potential for building regional cooperation. Efforts in negotiating delineation and conditions can result in greater understanding between nations and improve the processes within the regional organizations.

Advice to U.S. Policy Makers

Economic issues predominate concerns throughout the region, just as economics are the United State's greatest interest as well. The U.S. economy is vulnerable to disrup - tion if the Asia-Pacific region was disrupted or became economically unstable.

Overall, there are few perceived major environmental conflicts likely in Asia-Pacific. Further, there are few environmental issues that directly impact the U.S.

environmentally nor even significantly from an economic standpoint.

Since many environment issues are global in nature, the U.S. needs to play some role and be seen as an environmental actor. The U.S. would be most effective working via regional organizations such APEC. The U.S. will, instead, have to work on a bilateral basis in most instances. As it does so, it must be very aware and sensitive to other state's perceptions and interests. Once it acts in any portion of the region, it will lose its "honest broker" status and be perceived as an interloper by one or more parties.

While Asians want the U.S. to "stop Chinese expansion" and influence, they do not want China to be viewed as an enemy.

The U.S. should take maximum advantage of mutually beneficial economic agreements and assist in the monitoring of the environment, particularly regarding fishing and natural disasters. It should stay involved through technological and humanitarian assistance whenever appropriate.

Additional influence could be gained through the use of an environmental "string" on foreign aid.

In addition, there are a series of specific issues on which the United States could take the lead.

- The Asean Regional Forum (ARF), though embryonic, has the potential to focus defense cooperation on international maritime environmental problems, such as fisheries, energy, transport, shipping, and natural disasters. Informal discussions could be initiated under Track II to create a secretariat with a permanent operations center and necessary data links and communication network. Cooperation is often lacking at the local level because of conflicting interests and corruption. The ARF could overcome

such barriers by enforcing a regional approach to environmental problems.

- Share information technology and data to build operational capacities and promote cooperation in regional states. Provide satellite data for critical land and sea environmental issues. Low cost, high technology data pipes to developing states provides the information nodes necessary to create effective cooperation in minimizing threats and seeking early solutions. In particular intelligence is needed on trawler fleets.

- Promote new maritime shipping agreements. The merchant fleets of developed nations are being replaced by flags of convenience, which are responsible to no disciplined state authority and pose substantial environmental threats. At the same time, high rates of economic and energy sector growth are straining the limits of Asia's narrow, congested transport routes. New efforts to manage this traffic are needed to preclude environmental disasters.

THE AMERICAS

Regional Environmental Challenges to Security

There are several common environmental challenges that are applicable to most countries in the Americas.

- The first challenge is the management of commercial fishing in territorial waters. Sovereignty disputes over the definition of territorial waters and boundaries that impact fishing grounds continue as a matter of contention throughout the Americas, north, central and south. Further, overfishing or over regulation can have serious political impacts within the affected countries.

- A second challenge is regulation of industrial pollution. Concern over greenhouse gas emission controls is a major issue that directly impacts all nations, either directly or indirectly. The question is twofold: how to control emissions; and who regulates the issue when one nation pollutes the environment of another? The impacts of acid rain are just one example of such an issue.

- A difficult challenge with serious implications for the military is the impact of increasing urbanization. This creates many additional issues such as water resource cooperation, deforestation, and waste management. All of these have additional second and third order effects.

- The issue of water resource management involves areas of contention such as upstream control of water sources that affect more than one nation. This could involve hydroelectric power development with multiple associated challenges such as the shared use

of water and generated electricity. There is also the issue of upstream contamination, such as heavy metals, and the basic issue of potable water availability.

- Another issue is deforestation. There is competition between the pressures of population growth and distribution versus sustainable development and environmental protection of natural resources. Deforestation also brings with it the issue of the potential loss of biodiversity and its challenges as it relates to overall environmental welfare versus the economic needs of the area.

- The last example is waste management. One subset of this is the disposal of low level radioactive waste; such has been the case in Hudspeth County, Texas. The Texas legislature selected a poor scientific location in an active seismic zone. The last earthquake in 1995 measured 5.6 on the Richter scale. Groundwater contamination is also threatened, as is the possibility of contaminating the Rio Bravo River, which supplies eight million people in the U.S.-Mexican border cities. Because the population is largely poor Mexican-Americans, the situation gives the perception of environmental racism against poor Mexican-Americans. This illustrates the potential conflict that could occur region wide as political sensitivity to toxic waste disposal grows.

In addition there are many environmental challenges specific to sub-regions. The way they are addressed will have much to say about the good will of the United States and the potential success of policy options.

South America

Specific challenges involve multiple issues:

- The impact of Atlantic and other fishing fleets from across the world that are depleting the fishing resources important to regional economies and cultures.

- Rivers and streams that are being polluted, often by foreign owned private industry.

- Rising tensions over economic development versus environmental issues, as in the damming by one country, of rivers that run through other nations.

- Disagreements continue over glacier fields as a source of water.

- Continuing conflict over water resources, their management and control.

- Disagreement over fundamental human choices on how to use available resources.

- The availability of potable water.

Mexico – United States

Major challenges between Mexico and the U.S. center around water quality and its potential contamination:

- Concern over nuclear power plants located near Tijuana.

- Low level radioactive waste sites within poverty zones that have the potential for contaminating ground water.

Canada – United States

Issues involving the U.S. and Canada are not unlike the rest of the hemisphere. They include:

- Disagreements over fishing rights.

- The implications of greenhouse gas emissions and the transborder effects of acid rain.

- Spillover effects from storage of low level radioactive waste.

Opportunities for Cooperation

Several environmental challenges presented opportunities for cooperation and assistance from the United States.

- Support international involvement to help reduce or prevent illegal fishing. This would start with negotiated regional/international quotas and agreements. Support those international agreements that restrict fishing areas. Assist in the enforcement process through the surveillance of U.S. and other national fishing fleets to ensure compliance. Share information between governments and military forces on when and where violations occur. This could be accomplished through the use of in-place procedures that have already been set up for other missions, such as narco-traffic interdiction. Apply sanctions against violators. Encourage and support environmental security arrangements between nations that would be voluntary and mutually beneficial.

- Assist in the regulation of industrial pollution. Promote bilateral and regional agreements and standards on the storage and disposal of toxic and low-level radioactive materials. Provide technical assistance and the means to implement remediation efforts. Share technology, information, expertise, and funding. Support the joint implementation of environmental standards.

- Assist regional urbanization management efforts through technological and focused infrastructure capacity building assistance. Provide assistance in determining an infrastructure development strategy and share existing technology. Assist nations to deal with their problems by sharing U.S. knowledge to allow faster modernization of the agricultural base. Assist in the planning and development of rural electrical distribution, and the implementation of public health care systems.

- Encourage regional cooperative efforts in water resource management. Take active measures to share information and the hard lessons learned from the U.S. Army Corps of Engineers about major river systems, waterway development and management, and water resource studies. Provide military to military engagement where appropriate to assist national militaries to be responsible for these activities.

- Assist in the area of deforestation by sharing knowledge of sustainment based management techniques and in the development of codes of conduct for national logging industries. Encourage the private sector to develop codes of conduct.

Advice to U.S. Policy Makers

Progress is achievable but, as always, the "devil is in the detail." Treaties are signed but difficulties arise in finalizing the details. Expect differing priorities throughout the regions that must be recognized and negotiated. There is currently a lack of incentive for the private sector to improve pollution controls. At the same time the U.S. is asking foreign governments to do more while concurrently attempting to make them do less.

Several areas predominate when assisting other nations with their internal matters.

- The first is sensitivity to the issue of national sovereignty. No government wishes to have another impose itself or its ideas upon them without being treated as full partners, regardless of the level of participation or resources provided.

- There is imperfect data being used in many areas to measure actual damage, potential destruction, and projected impacts in the future. The U.S. can assist in the regional establishment and quantification of data.

- Lobbyists continue to be sources of conflict as they lobby for interests which frequently run counter to environmental efforts at the expense of profits.

- There must be adequate resources to accomplish the stated goals. Funding sources will be difficult to locate and must be used wisely, avoiding unnecessary requirements and bureaucracy that fails to add value.

- Public education will be critical to any successful improvement efforts. It must be fully considered, culturally researched, carefully planned, and successfully communicated in advance of implementation to ensure understanding and acceptance by the populous.

- A lack of financial incentives will continue to impede changes that are necessary to both protect environmental resources and balance the economic benefits to be gained.

EUROPE AND RUSSIA

The Europe and Russia (Eurasia) team categorized environmental concerns from four perspectives: those that are global in nature and shared by many countries worldwide; environmental issues that have been caused within Eurasia; environmental issues that have been traditional causes of conflict on the continent; and environmental issues that have clear security implications within Eurasia.

Regional Environmental Challenges to Security

Several categories of recent crises represent worst case examples that could be repeated.

- Nuclear power plant accidents such as Chernobyl and Kozloduy represent first hand experience with the potential environmental damage and suffering that can result from nuclear contamination. Fifteen of the dangerous Soviet made, RBMK, graphite moderated reactors continue to provide essential electrical power to the region.

- Oil spills such as have occurred in the Black Sea and Caspian Sea leave an indelible blemish and lasting consequences beyond the cleanup efforts and may create tensions between countries.

- Chemical spills, such as those occurring on the Rhine River, present both short and long-term environmental cleanup challenges and have severe consequences for local and regional economies.

- Epidemics such as diphtheria, and foot and mouth disease outbreaks in the Balkans, represent an historic danger that has not been entirely removed from the scene. Others include respiratory diseases

from the airborne dust of coal fired power and heat plants, metallurgy industry and home furnaces.

Given the heavy population density of northern Europe, several environmental challenges represent major concerns.

- The northeast Barents area and the Baltic states are particularly vulnerable to nuclear power accidents. Geography makes these regions particularly vulnerable to the radiation releases from nuclear accidents.

- Transboundary air/sea/land pollution moves from eastern Eurasia to the west. The concentration of mining and manufacturing industries in the subregion generates damaging levels of lead, sulfur dioxide heavy metals, and other toxic and hazardous waste.

- Competition for and potential depletion of fishing resources in western Europe continues.

- Offshore oil and gas resources in western and northern Europe, and the Caspian basin are important. Though short-term petroleum demand may vary, secure supplies of long term conventional resources will remain essential to European economies and a key variable in the region's geopolitical calculus. Environmental issues are already influencing major energy decisions and pipeline routing strategies.

- The potential for land/sea pollution and accidents continues in the Baltic Sea. Toxic and hazardous waste, agricultural runoff, and sewage have significantly damaged its ecosystem and economic vitality. Because nine countries border this strategic body of water, and there are five additional countries in its catchment area, establishing environmental

remediation plans is quite complicated, but provides an excellent opportunity to establish regional cooperation processes.

Long term effects of these types of crises have far reaching consequences beyond any initial event.

- Industrial river pollution such as that which plagues the Elbe and Danube Rivers.
- Migration from northern Africa.
- The threat of infectious diseases, particularly tuberculosis and cholera.
- The management of toxic wastes.
- Acid rain.
- Biological waste disposal and its threat to coastal pollution.
- Water resource distribution issues, such as in Slovakia and Hungary.
- Nuclear Waste storage, particularly within the former Soviet Union.
- The transit of toxic waste.
- Fisheries conflicts such as the Cod War between the United Kingdom and Iceland, or Spain and Portugal.

Opportunities for Cooperation

Perhaps no other region has greater opportunities or a more pressing need to forge cooperation and build communication from environmental issues. To be successful, however, several actions should be taken. First, define the problems and risks. Then, prioritize the risks, determine the necessary and available capabilities, and

exchange data between involved actors. Provide technical support, particularly with regard to crisis reaction, immediate support, alternative energy technology, and forthrightly determine financial and economic aid requirements.

Continued success in cooperation will turn on sound strategic planning that identifies: the stakeholders; nation states; international organizations; non-governmental organizations; and regional organizations. Planners should determine the optimum approaches to interaction: multilateral/bilateral/unilateral; combination of existing national programs; and examine closely the existing interagency programs.

Advice to U.S. Policy Makers

The Department of State environmental hub concept has substantial potential for facilitating U.S. environmental policy initiatives toward Europe and Russia. When donor countries fail to coordinate their programs, they lack efficiency, may be duplicative, and are vulnerable to manipulation. The hubs would help address these problems and could promote better working relationships between regional organizations, the donor programs, NGOs, and U.S. agencies. However, U.S. policy initiatives need not be unilateral or bilateral to be successful. The U.S. may accomplish more in its efforts to reduce environmental threats to regional security and promote cooperation by allocating its resources into three categories: U.S. led; U.S. fostered; and U.S. supported.

This multilateral approach allows the U.S., with relatively constrained foreign aid resources, to seek synergies with private, NGO, and international initiatives. For example, the private sector has accomplished much in the environmental area with efforts to improve or establish international standards, tax codes and incentives, environmental laws and research grants. The U.S. could *support* such initiatives, and those of NGOs, regional

organizations and other donor countries, or encourage these organizations to *foster* them. In the three important security threat areas of nuclear weapons control, nuclear power generation, and the industrial pollution of air, land, water, transportation, and fuel alternatives, U.S. policymakers could design a matrix for each region and determine where the United States should *lead*, *foster*, or *support*. By using this analytical tool jointly with all relevant U.S. agencies and the CINCs, policymakers could easily determine which agencies had ongoing programs, and where and how each agency could contribute to each issue and tier.

U.S. Policy Initiative

	U.S. Led	***U.S. Fostered***	***U.S. Supported***
Nuclear Weapons	Training	Technical Support	NATO Enlargement Crisis Response
Nuclear Power	Training Monitoring	Private Sector National Law	Crisis Response
Industrial Pollution	Training	National Law Private Sector	Crisis Response

Barriers to Policy Success

Because of the size of the geography included in the Europe and Russia region, the group elected to base their advice on barriers to policy success on the areas of the Baltic, Northwest Russia, and Belarussia. Within this region the primary environmental security challenges are: the risk of nuclear accidents from Soviet designed RBMK and VVER nuclear reactors; waste water treatment and soil contamination from the Soviet heritage of military explosives, fuel, fuel/oil dumping, and chemical/ petrochemical waste; and the transit of oil and gas, chemicals, and other potentially dangerous products. Although it is important for the United States to address

these problems, many barriers must be overcome if one is to achieve U.S. policy success in this sub-region or elsewhere. They are:

- The lack of research, cases studies and data collection on which to base policy initiatives.

- The lack of full coordination between European Union, NATO, and United States projects.

- The Russian and ex-communist ideological reluctance to embrace U.S. initiatives.

- The cultural differences between the region's view of environmental security policy imperatives and those of the U.S.

- Political Barriers: The cooperation between the Baltic states and Russia is poor. Many cross boundary problems exist. The countries of the region lack membership in adequate multinational and regional organizations for financial as well as political reasons.

- Economic Barriers: The restructuring of the economies and transition to market economies is problematic and often forces fragile governments to choose between economic growth and environmental improvement. While environmental movements provided some of the first protests to the Soviet regime, economic demands usually exceed public pressure for environmental security in the post Soviet states.

- Military Control: The militarization of some areas, such as Kaliningrad or St. Petersburg, minimizes the influence of local governments and allows pollution to continue. Economic development will be required to overcome military influence.

- There is widespread lack of administrative law or an organizational basis for sharing environmental experience and technology, monitoring environmental change, establishing training and information networks, and enforcing compliance.

- Organized crime exerts substantial influence and control, is relatively isolated from public pressure, has little interest in solving environmental problems, and is generally disruptive unless they are remunerated.

- There is a general lack of awareness and appropriate education that limits government's efforts to build support for the sacrifices necessary to address environmental problems. Raising the economic standard of living remains the primary interest of the populace.

CHAPTER VIII

SUMMARY AND CONCLUSIONS

Several insights were reinforced and validated during the game. First, it was affirmed that environmental issues could be used to promote regional confidence building measures and create opportunities for better communication and closer cooperation between states that might otherwise be or become antagonists. Environmental Security portends a viable new option for United States preventive diplomacy and regional CINC engagement strategies to "shape the international environment."

A most important message was the need for successful United States policy to reflect the issue of national sovereignty. The United States must be aware and sensitive to other nations' perceptions, interests, and culture. The world is composed of unique countries that cannot be generalized with regards to a common approach or solution to problems. The United States must take into account the cultural specificity, norms, and customs of each region and its countries if it wishes to open meaningful dialogs and achieve joint solutions to challenging environmental problems.

Public education will play an important role in most of the opportunities for environmental cooperation, and will be critical to forge the trust and communication necessary to achieve the desired results and an enduring success.

There are many players and interested parties likely to be involved in most environmental issues. The United States should not overlook the impact and contribution that regional, non-governmental, and private organizations can make in cooperation with our own interagency capabilities and other donor nations. It may be that the United States' position as a world super power puts it in a unique leadership position to lead, foster, or support ongoing

programs, and to better coordinate the overall effort of each organization and country to maximize efficiencies and success.

There was consensus that the Department of State Environmental Hub Concept has substantial potential to facilitate United States environmental policy initiatives to achieve better cooperation, increase efficiencies, prevent duplication, and reduce manipulation throughout the regions of the world. Given current funding constraints, however, the potential for HUB success would be substantially enhanced by a program designed around interagency and CINC cooperation.

Finally, the international military officers involved uniformly saw benefits of the new Environmental Security concept for their own national defense organizations and regional security regimes, as well as serving as an engagement mechanism for the U.S. military CINCs. In particular, they expressed a recognition that Environmental Security could serve as a vehicle of cooperation for bridging long extent enmities.

APPENDIX A

ATTENDEE LIST

Bayon, Ricardo
Communications and Finance Coordinator
IUCN - U.S., The World Conservation Union
1400 16th Street NW, Suite 502
Washington DC 20036
202-797-5454 (switch)/5461 (fax)
202-939-3435 (personal)
rbayon@iucnus.org

Bell, Chris
Policy Analyst
Office of the Deputy Under Secretary of Defense
for Environmental Security
3400 Defense, Pentagon, Room 3D756
Washington DC 20301-3400
703-695-3328/703-693-0493 (fax)
bellcl@acq.osd.mil

Bender, William
Major, USA
SOJ-5, SOCOM
7701 Tampa Point Blvd
MacDill AFB, FL 33621-5236
DSN 968-2668/968-3485 (fax)
benderw@ussocom.smil.mil

Berry, Karin
Senior Policy Analyst
U.S. Department of Energy
1000 Independence Ave SW
Washington DC 20585
202-586-5900/202-586-6148 (fax)
karin.berry@hq.doe.gov

Bradshaw, Arthur L. Jr. (Art)
Colonel (Retired), USA
Outreach, Games, & Conferences
Center for Strategic Leadership
U.S. Army War College
650 Wright Avenue
Carlisle, PA 17013-5049
717-245-4941/717-245-4309 (fax)
bradshaa@csl-emh1.army.mil

Brown, Donald
UNEP Coordinator
UN Sustainable Development
U.S. Environmental Protection Agency
401 M. St. SW, Room 31127
Washington, DC 20460
202-564-6115/202-565-2409 (fax)

Brutten, Lori
Team Leader Special Projects
Department of State/OES
U.S. Department of State,
2201 C St NW, Room 7821
Washington DC 20520
202-647-4758

Butts, Kent H. Dr.
Marshall Chair of Military Studies
Center for Strategic Leadership
U.S. Army War College
650 Wright Avenue
Carlisle, PA 17013-5049
717-245-3728/717-245-4309 (fax)
buttsk@csl-emh1.army.mil

Constantine, G. Ted
Senior Intelligence Analyst
Defense Intelligence Agency
Low Intensity Conflict Team (TWC-1 LIC)
Defense Intelligence Agency
Washington DC 20340
202-231-3455/202-231-5110 (fax)
afcongrt@dia.osis.gov

Cranz, Don
Lieutenant Colonel
Chief of Plans & Policy Staff Group (J-5X)
HQ USEUCOM
Unit 30400, Box 585
APO AE 09128
DSN (94-314)-430-4001/4004
DSN (94-314)-430-7430 (fax)
cranz@hq.eucom.mil

Delatorre, Gene
Office of Policy & International Affairs
U.S. Department of Energy
1000 Independence Ave SW
Washington DC 20585
202-586-6121/202-586-2062 (fax)
gene.delatorre@hq.doe.gov

Gecelosky, Andrew
Colonel, USAF
Chief, Washington Liaison Office
PACOM Washington Liaison Office
Room 2E319, The Pentagon
Washington DC 20310
703-693-6436/703-693-6435 (fax); DSN 223

Grieder, Wendy
US National Coordinator for NATO/CCMS
U.S. Environmental Protection Agency
Office of International Activities
401 M St. SW, Room 31127
Washington DC 20460
202-564-6462/202-565-2409 (fax)
grieder.wendy@epamail.epa.gov

Hearne, Steven R.
Senior Engineer
ECJ4-EN, EUCOM
HQ, USEUCOM
Logistics & Security Assistance Directorate
EUCOM Engineer Office
Patch Barracks, Stuttgart, Germany
49-711-680-5110/ DSN (94-314) 430-5326/430-5110
HEARNE@hq.eucom.mil

Hecht, Alan Dr.
Principal Deputy Assistant Administrator
Office of International Activities
401 M Street SW
Washington DC 20460
202-564-6600/202-565-2409 (fax)
hecht.alan@epamail.epa.gov

Kam, Geraldine (Geri)
Assistant for Special Projects
U.S. Department of State
2201 C Street NW, Room 7821
Washington DC 20520
202-647-4689/202-647-2746(fax)
gkam@state.gov

Kaplan, Robert D.
Contributing Editor
Atlantic Monthly
4 Cherry Street
PO Box 69
Stockbridge, MA 01262
413-298-4849/413-298-3177 (fax)

King, Wendell C. (Chris)
Colonel, USA
D/G&EnE,
U.S. Military Academy
Environmental Engineering
Washington Hall, Room W6007
West Point, NY 10996-1695
914-938-2300/914-938-3339 (fax); DSN 688
bw0384@exmail.usma.edu

Margolis, Jonathan Dr.
Acting Director
Office of Science & Environmental Initiatives
U.S. Department of State
2201 C Street NW, Room 7821
Washington DC 20520
202-647-2958

Mayland, Janet
Regional Policy Advisor
Oceans, and International Environmental & Scientific Affairs
U.S. Department of State
2201 C Street NW
Washington DC 20520
202-647-3647/202-647-0773 (fax)

McDonough, Mark
Chief, Policy Branch
International Plans & Policy Integration Division
Deputy Under Secretary of the Army – IA
SAUS-IA-IPP, Room 3D549
102 Army, Pentagon
Washington DC 20310
703-697-6797/703-614-1703 (fax)
mcdonme@dcsopspo2.army.mil

Maclean, Alistair
First Secretary
Embassy of Australia
1601 Massachusetts Avenue
Washington DC 20036
202-797-3073/202-797-3049 (fax)
alistair.maclean@dfat.gov.au

McNerney, Mike
Policy Analyst
Deputy Under Secretary of Defense
for Environmental Security
3400 Defense, Pentagon
Washington DC 20301-3400
703-695-3321
mcnernmj@acq.osd.mil

Mentz, John (Jake)
Program Manager
Pacific NW National Labs
901 D Street SW, Suite 900
Washington DC 20024
703-697-4910/703-697-9532 (fax)
jw_mentz@pnl.gov

Nolan, Michael
Lieutenant Colonel, USMC
Strategy/Policy Officer
CCJ-5 Policy, CENTCOM
7115 South Boundary Blvd
Macdill AFB, FL 33621
813-828-1828/813-828-6668/(fax) 813-828-5917
marforlant@aol.com

Rambouskova, Hana Dr.
Science, Technology, Environment & Education Attaché
Czech Republic Embassy
3900 Spring of Freedom Street NW
Washington DC 20008
202-274-9125/202-966-8540 (fax)

Rabczenko, Andrzej
Professor
Counselor for Science & Technological Affairs
Embassy of Poland
2640 16th Street NW
Washington DC 20009
202-234-3800/202-328-6271 (fax)

Russell, Theodore E.
Ambassador
Deputy Commandant for International Affairs
U.S. Army War College
122 Forbes Avenue
Carlisle, PA 17013-5213
717-245-3505/717-245-3412 (fax)
russellt@carlilse-emh2.army.mil

Scott, Carl
Special Assistant for International Activities
Deputy Assistant Secretary, Environment, Safety
and Occupational Health
110 Army Pentagon
Washington DC 20310-0110
703-695-7824/703-693-8149 (fax)
scottca@hqda.army.mil

Showers, Duncan (Scott)
Lieutenant Colonel, USAF
Deputy Command Engineer
SOUTHCOM
3511 NW 91st Avenue
Miami, FL 33172-1217
305-437-1156/305-437-1172 (fax); DSN 567
showersd@hq.southcom.mil

Temkar, Prakash Dr.
Army Environmental Policy Institute
430 Tenth Street NW, Suite S-206
Georgia Institute of Technology
Atlanta, GA 30318
404-892-3099 (Ext. 272)/404-892-9381 (fax)
DSN 367-4241/3

Vest, Gary
Principal Assistant Deputy Under Secretary of Defense
(Environmental Security)
DUSD for Environmental Security
3400 Defense, Pentagon
Washington DC 20301-3400
703-697-1013/703-693-7011 (fax)

Wassersug, Steve Dr.
Environmental Programs
Global Environment & Technology Foundation
7010 Little River Turnpike, Suite 300
Annandale, VA 22004
703-750-6401/703-750-6506 (fax)

Worrest, Robert C. Dr.
Director, Washington Operations
Consortium for International Earth Science
Info Network, Inc. (CIESIN)
1747 Pennsylvania Avenue NW, Suite 200
Washington DC 20006
202-775-6614/ 202-775-6622 (fax)
robert.worrest@ciesin.org

APPENDIX B

AGENDA

Wednesday, 12 November 1997

Arrivals & Welcome - Participants arrive according to individual itineraries

1200-1300 Conference Registration

1300-1315 Welcoming Remarks & Introductions

- Ambassador Ted Russell
  U.S. Army War College

1315-1335 Keynote Address

- Robert D. Kaplan
  Contributing Editor, *The AtlanticMonthly*

1335-1400 1st Plenary Session: Definitions & Concepts

- Dr. Kent Butts
  Center for Strategic Leadership, UASWC

Objective: To establish clear definitions that will permit communication between policymakers, diplomats, and military professionals from different countries, and allow them to address the implications of environmental issues for regional security. This session will help to provide a common starting point for participants as they explore how cooperation on environmental security issues can promote regional security.

1400-1500 2nd Plenary Session
Topic: U.S Interagency Environmenta
Security Programs (Team USA)

- Moderator - Dr. Kent Butts
  Center for Strategic Leadership, USAWC

Presenters -

- Ms. Lori Brutten
  Department of State
- Dr. Alan Hecht
  Environmental Protection Agency
- Ms. Karin Berry
  Department of Energy
- Mr. Gary Vest
  Department of Defense

Objective: To educate international participants on the U.S. interagency environmental security programs available to further U.S. foreign policy and demonstrate shared interests between the U.S. and international participants. Participants will receive ten minute briefings, with five minute question & answer periods, on each of the four DOD, DOS, EPA, and DOE programs. Presentators will provide a broad overview of their agency's international environmental programs, emphasizing their value to regional states, and in promoting regional security.

1500 - 1530 Group Photo and Refreshments

1530 -1630 3rd Plenary Session
Topic: Regional Environmental Security Assessment

- Moderator - Dr. Kent Butts
  Center for Strategic Leadership, UASWC
- Presenter - Dr. Robert Worrest
  Consortium for International Earth Science Information Network, Inc.

Objective: Participants will receive ten minute assessments with a short question & answer period concerning Regional Environmental Security issues for each of four geographic areas, Europe, Asia/Pacific, Middle East/North Africa, and the Western Hemisphere.

1630 - 1730 Plenary Wrap-up and Game Preview

- Dr. Kent Butts
  Center for Strategic Leadership, USAWC

1730 - 1800 Travel

1800 - 1930 Reception

- Hosts - Ambassador Ted Russell
  U.S. Army War College
- Mr. Gary Vest
  Department of Defense

1930 - 2000 Travel

2000 - 0800 Rest Over Night

Thursday, 13 November 1997

0730 - 0800 Coffee Service

0800 - 0815 Game Introduction, Scenario & Role Briefing

- Dr. Kent Butts
  Center for Strategic Leadership, USAWC

Objective: To explain the Game Scenario and Roles to the participants focusing their thinking about the nature, magnitude and potential impact of environmental security issues in their specific geographic region.

0815 - 0830 Game Participants Report to Game Rooms and Organize (4 Teams)

Workgroups	Leaders
Europe	MG Damir Krsticevic
Asia/Pacific	BG M. P. Singh
Africa/Middle East	COL Mohamed Mubarak
Western Hemisphere	COL Roberto Bendini

0830 - 1000 Regional Team Work

- International Team Leaders
  U.S. Army War College International Fellows
- Faculty Team Leaders
  USAWC
- Facilitators
  Operations and Gaming Directorate, CSL, USAWC

Objective: The four Regional Teams will each develop two products:

1. Regional Environmental Challenges to Security

2. Regional Environmental Opportunities for Cooperation

1000-1020 Break - Refreshments

1020 - 1130 Presentation by International Fellow Team Leaders to the Regional Organization Representatives

- Moderator - Dr. Kent Butts
  Center for Strategic Leadership
- Presenters - International Team Leaders
  U.S. Army War College International Fellows
- Panel - Regional Embassy Representatives (3) role playing:
  The Arab League
  Asia-Pacific Economic Cooperation
  The Organization of American States
  Euro-Atlantic Partnership Council

Objective: To refine the results of their morning work groups to regional subject matter experts concerning:

1. Regional Environmental Challenges with Security Implications

2. Regional Opportunities for Cooperation

This session will refine the team's original findings.

1130 - 1230 Lunch

1230 - 1400 Regional Team Work

- International Team Leaders
  U.S. Army War College International Fellows
- Faculty Team Leaders
  USAWC
- Facilitators
  Operations and Gaming Directorate, CSL, USAWC

Objective: Four Regional Teams will each develop two products:

1. Recommended U. S. Policy Initiatives, both unilateral and multilateral, that reduce the potential for conflict or foster understanding and cooperation

2. Potential Barriers to U.S. Policy Success

1400 - 1415 Break - Refreshments

1415 - 1550 Presentation by International Fellows Team Leaders to Interagency Working Group Representatives

- Moderator - Dr. Kent Butts
  Center for Strategic Leadership
- Presenters - International Team Leaders
  U.S. Army War College International Fellows
- Panel - IWG Principals
  Ms. Lori Brutten (DOS)
  Dr. Alan Hecht (EPA)
  Mr. Gary Vest (DOD)
  Ms. Karin Berry (DOE)
  Ambassador Ted Russell (USAWC)

Objective: Team Leaders will brief the results of their afternoon work groups concerning:

1. Recommended U.S. Policy Initiatives, both Unilateral and Multilateral, to Reduce the

Potential for Conflict or Foster Understanding and Cooperation

2. Potential Barriers to U.S. Policy Success
This session will allow interagency representatives and foreign diplomats to explore new policy approaches suggested by the teams.

1550-1600 Concluding Remarks

- Ambassador Ted Russell
  U.S. Army War College

APPENDIX C

INTERNATIONAL FELLOWS
U. S. ARMY WAR COLLEGE CLASS OF 1998

REGIONAL TEAM ORGANIZATION

MIDDLE EAST AND AFRICA

BG Taher A. EL-SERSY	Egypt
COL Mati LESHEM	Israel
BG Abdelhalim A. AL-RAHAMNEH	Jordan
COL Mohamed M. S. MUBARAK	Kuwait
COL Jamal EL-HAJJ	Lebanon
LTC Kalifa KEITA	Mali
LTC Shahid MASUD	Pakistan
COL Mohd AL-SULAITI	Qatar
BG Hussien M. AL-ASSAF	Saudi Arabia
LTC Matar Juma AL-NEYADI	UAE

EUROPE AND RUSSIA

COL Ruzhdi R. GJATOJA	Albania
COL Gerald KARNER	Austria
MG Damir KRSTICEVIC	Croatia
COL Josef PROKES	Czech Republic
COL Mirko ATANASOVSKI	F.Y.R.O.M.
COL Johann BERGER	Germany
COL George BOZIKAS	Greece

COL Giuseppe PILOSIO	Italy
COL Juris EIHMANIS	Latvia
COL Lars Johan SOLVBERG	Norway
LTC Angel P. UTRILLA	Spain
COL Mustafa BAYSAL	Turkey
COL Gordon SHIPLEY	United Kingdom

ASIA PACIFIC

COL Stephen AYLING	Australia
COL Samnang SUON	Cambodia
BRIG Mohindar P. SINGH	India
COL Hitoshi KAWAMURA	Japan
COL Han Pil SEO	Korea
LTC Ramon G. SANTOS	Philippines
Mr. Chien-Chiang FENG	Taiwan
COL Anuchat SUKSILA	Thailand

THE AMERICAS

COL Roberto Fernando BENDINI	Argentina
LTC Eduardo Jose BARBOSA	Brazil
COL Michel GAUTHIER	Canada
LTC Alvaro A. POLLONI	Chile
LTC Romulo ROMERO	El Salvador
LTC Jose M. VARGAS-SANDOVAL	Mexico
COL Oswaldo M. CONTRERAS	Venezuela

APPENDIX D

OTHER CSL ENVIRONMENTAL SECURITY ACTIVITIES

Copies of previous Environmental Security publications by the Center for Strategic Leadership, U.S. Army War College can be requested by one of three methods.

Mail:

Center for Strategic Leadership
U.S. Army War College
ATTN: Ms. Julie Perry
650 Wright Avenue
Carlisle, PA 17013-5049

Electronic mail:

perryj@csl-emh1.army.mil

Telephone:

Ms. Julie Perry at (717) 245-3226 or DSN 242-3226.

Report of the Executive Seminar on Special Material Smuggling. Institute for National Security Studies, U.S. Air Force Academy, and Center for Strategic Leadership, U.S. Army War College, Carlisle, Pennsylvania, September 13, 1996.

Environmental Security and Preventive Defense, Game Report. Deputy Under Secretary of Defense (Environmental Security), and Center for Strategic Leadership, U.S. Army War College, Carlisle, Pennsylvania, August 1997.

NATO/CCMS Environmental Security Conference, Preliminary Report. Center for Environmental Security, Pacific Northwest National Laboratory, and Center for Strategic Leadership, U.S. Army War College, Carlisle, Pennsylvania, September 1997.

Environmental Change and Regional Security, Conference Report. Asia-Pacific Center of Security Studies, and Center for Strategic Leadership, U.S. Army War College, Carlisle, Pennsylvania, September 1997.