



**STRATEGY  
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**ENVIRONMENTAL SECURITY ENGAGEMENT:  
A ROLE FOR THE RESERVE COMPONENT**

**BY**

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USAWC STRATEGY RESEARCH PROJECT

**ENVIRONMENTAL SECURITY ENGAGEMENT: A ROLE FOR THE RESERVE  
COMPONENT**

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The views expressed in this academic research paper are those of the author and do not necessarily reflect the official policy or position of the U.S. Government, the Department of Defense, or any of its agencies.

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## ABSTRACT

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The NMS identified environmental security as an engagement tool of the DOD. Implementation of environmental security engagement activities occurs at a global and a regional (mil-to-mil) level. Doctrine for establishing this program has not been developed or fielded to the Unified Combatant Commands. Because doctrine integrating environmental security into all operational and logistical regulations is incomplete, resource support (both manpower and funding) has been limited. The greatest potential impact to the new and re-emerging democratic countries is at the soldier-to-soldier level. Engaging at this level ensures the strengths of our democratic institutions and environmental ethic are integrated into host nation military operations.

The Reserve Component is an excellent source of personnel to accomplish most environmental security missions. With power projection platforms of the Active Component, the Reserve Component provides the experienced personnel on-the-ground to successfully complete engagement activities in environmental security. The Reserve Component has unique capabilities with established military expertise, environmental technical experience from civilian occupations, and political negotiation experience gained over years of participation in local community politics. All of these factors combine to provide a force of unique and excellent credentials to fulfill the environmental security role of the Department of Defense.



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## ENVIRONMENTAL SECURITY ENGAGEMENT: A ROLE FOR THE RESERVE COMPONENT

The political and strategic impact of surging populations, spreading disease, deforestation and soil erosion, water depletion, air pollution, and possibly, rising sea levels – developments that will prompt mass migration and, in turn, incite group conflicts – will be the core foreign policy challenge (in the twenty-first century)<sup>1</sup>

—Robert D. Kaplan, “The Coming Anarchy”

In this passage, Kaplan introduces environmental security as a national security issue. The National Security Strategy (NSS) and the National Military Strategy (NMS) reflect this environmental threat. An engagement strategy was developed to confront environmental threats to our national security. DoD incorporated this mission into the NMS in 1997, but did not change doctrine to reflect this new and complex mission. Environmental security engagement as a mission is considerably different from the normal war-fighting missions of the past. To ensure resources and command emphasis exists to support environmental security engagement, it is paramount that doctrine be imbedded in all policy and operational publications. I address development and gap analysis of this strategy in this paper, as well as provide a proposal to efficiently and effectively implement this environmental security engagement mission. The US military and specifically the Reserve Component are especially qualified to successfully engage in environmental security. The US active military can provide the organizational structure and the Reserve Component can provide the manpower and technical expertise to ensure success.

### BACKGROUND

In 1996, former Secretary of Defense William Perry defined “environmental security” as a valuable engagement tool for the US in his preventive defense strategy<sup>2</sup>. Interpretation of the meaning of environmental security is diverse across federal agencies. DOD implements environmental security differently than other federal agencies. Global policy analysts differ considerably on the definition of environmental security and its applicability as a mission of the US military.

Environmental security programs have different purposes at the global versus regional levels. At a global level, DOD must meet the requirements of covenants, regulations, and status of force agreements. DOD also actively participates in the development of these global initiatives through NATO and other partners. DOD, however, has a significant role at the regional level, leveraging US military assets to engage in mil-to-mil communications and coordination, while marketing our environmental ethic. Since 1996, awareness of environmental security as an engagement strategy has increased significantly. DoD has accepted this mission, albeit with some challenging gaps in the overall strategy.

## DEFINITION

For the purpose of this paper, I defined environmental security as “the freedom from social instability due to environmental degradation”<sup>3</sup>. Social or economic stability is directly related to the quality of the environment.

The nexus between social, political, economic and environmental systems is addressed in Thomas Homer-Dixon’s article “On the Threshold: Environmental Changes as Causes of Acute Conflicts.” Homer-Dixon proposes that environmentally induced conflicts are likely to arise first in the developing world<sup>4</sup>. This is due to causally interrelated social effects of reduced agricultural production, economic decline, population displacement, and disruption of legitimized social relations.

A study conducted by United Nations Environmental Program documented both direct and indirect conflicts and how they resulted from man-made or natural environmental disaster<sup>5</sup>. The North Atlantic Treaty Organization (NATO) completed a pilot study verifying the integration of cause and effect among environmental, economic and social systems<sup>6</sup>.

One of the key findings of this study was that environmental stress poses a potential threat to security and may raise the incidence and escalation of conflict at the local and regional levels<sup>7</sup>. Environmental security has been included in our NSS to reduce regional conflicts caused by environmental degradation.

## GLOBAL ENVIRONMENTAL SECURITY

Organizations that provide protection from violence differ greatly from those in environmental protection ... military organizations are secretive, extremely hierarchical and centralized, and normally deploy vastly expensive highly specialized and advanced technologies<sup>8</sup>.

—Daniel Deudney

Above, Deudney expresses a universal distrust of military organizations, especially regarding environmental protection. Despite this prevalent civilian perception, the NSS identifies the importance of regional environmental stability to our national interests.

When environmental threats exist in a country or region, then economic and political systems are threatened as well, thus threatening US interests. Specifically the NSS states our strategic approach must be to lead abroad if we are to be secure at home, engaging to protect our vital interests and important national interests. The NSS identifies environmental security as an important strategy because deteriorating environments threaten public health and impede economic growth, which could generate

tensions that threaten international stability<sup>9</sup>. At a global level, agencies of the US engage in addressing the major concerns of our global environment such as<sup>10</sup>:

- Human population growth and loss of biodiversity
- Climate change
- Water scarcity and pollution
- Food security
- Environmental refugees
- Deforestation
- Industrial contamination of air and oceans
- Soil conservation/erosion
- Nuclear safety issues
- Ozone depletion
- Global warming

The federal government dedicates resources through Universities and other governmentally agencies/institutions, resources for monitoring and studying macro-effects on the global environment. A key research capability DOD supports is NATO's Committee on the Challenges of Modern Society (CCMS), which supports pilot environmental projects<sup>11</sup>. The NMS encourages a supporting role of our military in response to conflict, specifically:

The military by itself can rarely address the root causes of conflict—as it often stems from political, economic, social and legal conditions that are beyond the core competence of the military to resolve – military forces can provide a degree of fundamental security and use their unique operational and logistical capabilities to help civil initiatives succeed<sup>12</sup>

—National Military Strategy

#### REGIONAL ENVIRONMENTAL SECURITY

The US armed forces have tremendous capabilities and assets to support engagement at the local, national and regional level. Probably the most important capability is that of power projection and global presence. US forces are not only located in every major geographical sector of the world, but can deploy to these areas in a very short time (rapid effective deployment)<sup>13</sup>.

To support this capability, US forces are leaders in organizational structure, logistics capabilities, and fiscal support<sup>14</sup>. An American Council for the United Nations University study reported that the US Department of Defense should stay focused on those matters closest to its missions including clean up of military facilities and deterrence or prevention of military aggression involving environmental degradation. The study also found US military strengths in handling radioactive waste management, disposal of

hazardous wastes, earthquake disasters, nuclear accidents, and disposal of chemical and biological wastes<sup>15</sup>.

The US military engages most effectively in military to military relationships. In many countries, the military is the only strong agency of the government. In such cases, when we employ military to military assistance, the communications and coordination may have greater impact on advancing the democratization in the subject country.

Engaging in mil-to-mil relationships and providing our environmental ethic as part of our military doctrine may reduce obstacles and enhance further environmental discourse. Military forces could provide the creditability and support necessary to implement a proactive environmental ethic, which supports new democracies. Dr. Kent H. Butts (Professor, Political Military Strategy, Center for Strategic Leadership) supports military to military interaction using environmental discussion as the principle "tension reliever"<sup>16</sup>. Butt further argues that the military has unique capabilities to predict, plan for and attend to environmental security problems<sup>17</sup>.

The US military through USAID has assisted African countries to promote sustainable development through fisheries management, wildlife management, anti-poaching programs, and water resource management programs<sup>18</sup>. Butts identified specific areas of DOD expertise including remediation planning, water resource management, environmental measurement and assessment, environmental education, base restoration, geographic information systems, economic and environmental infrastructure design, and disaster relief<sup>19</sup>.

For us to commit to engagement at the global (strategic) or regional (operational) level, we must determine the resource and skill requirements. We accomplish implementation of environmental security strategies at the regional and state level through integration of our environmental ethic into education and training of the militaries of new democratic countries. US doctrine has to support environmental security engagement at the international level. Therefore, environmental security doctrine is driven by both international perspectives/organizations as well as the environmental ethic we are inculcating into our armed forces today.

## **DOCTRINE**

Integrating environmental security considerations into doctrine is important in both wartime and Military Operations Other Than War (MOOTW). Under today's increasing frequency of contingency operations, our military is engaged with multinational forces much more often than in the past. In these operations, a

universal environmental ethic will ensure a consistent approach to environmental management of base camps, targeting actions, and other operations.

It is not only necessary that the international community develop and implement basic environmental security principles, but also that the United States to integrate environmental security into all of US doctrine and ensure leadership enforces this doctrine.

#### INTERNATIONAL DOCTRINE

Neither the UN nor NATO has revised doctrine at the international level to incorporate a consistent environmental ethic across participant nations. Without uniform regulation in environmental security, each nation has a different interpretation of what constitutes the necessary level of environmental security engagement.

For example, an incident occurred during Operation Joint Endeavor where US forces deployed to established base camps in Camp Pleso, Croatia and Camp Rumbaugh, Bosnia. Prior tenants, causing the US to inherit the disposal of these wastes, left hazardous wastes in both base camps<sup>20</sup>. Both the United Nations and the North Atlantic Treaty Organization fail to integrate environmental awareness into operations or training. Sills et al reviewed environmental security doctrine in UN military actions<sup>21</sup>. They reviewed international convention, protocols and treaties, charters, and interviewed senior UN officials to explore current and potential UN doctrine for managing environmental issues in UN peacekeeping operations.

The UN Secretary General's bulletin of 6 August 1999, entitled "Observance by United Nations Forces of International Humanitarian Law" was the only formal guideline for military action relating to environmental security in the UN. Regarding environmental security activities of UN forces in peacekeeping actions this bulletin stated:

"The United Nations force is prohibited from employing methods of warfare which may cause ... widespread, long-term, and severe damage to the natural environment<sup>22</sup>."

In Article 1 of the Convention of Prohibition of Military or Any Other Hostile Use of Environmental Modification Techniques (ENMOD) UN guidance stating:

"Each State Party to this Convention undertakes not to engage in military or any other hostile use of environmental modification techniques having widespread, or severe effects as a means of destruction, damage or injure to any other State Party<sup>23</sup>."

These are the only references to UN military actions in contingency or conflict operations regarding environmental security. The recommendations of this report state that the UN should start<sup>24</sup>:

- Addressing environmental “causes” of war,
- Helping to prevent environmental pressures from resulting in armed conflict,
- Addressing environmental “effects” of war, regardless of cause,
- Helping to establish rules of engagement vis-à-vis the environment,
- Monitoring states compliance with existing conventions and treaties, and
- Holding responsible parties liable.

The North Atlantic Treaty Organization (NATO) has a very well organized “global” presence in environmental security engagement. NATO established the NATO Science Committee in 1957 to advance science and technology in the member countries. The NATO Committee on Challenges of Modern Society (CCMS), created by NATO in 1969, responds to concerns about environmental issues<sup>25</sup>. CCMS supports projects in the fields of environmental pollution, noise, urban problems, energy and human health (and especially defense related environmental issues<sup>26</sup>).

In 1991, NATO recognized the radical changes in the security situation in that “security and stability have political, economic, social, and environmental elements”<sup>27</sup>. In 1997, the NATO science program priority areas included scientific problems related to environmental security including the reclamation of contaminated military sites, regional environmental problems and natural and man-made disasters<sup>28</sup>.

The NATO Defense College, established in 1951, trains officers and civilians of NATO and Partnership for Peace (PfP) countries in strategic level courses on politico-military issues<sup>29</sup>. However, the College does not include specific instruction on environmental security. The NATO SHAPE School for NATO and non-NATO officers has an extensive environmental course curriculum. The school offers courses in Environmental Protection of Military Forces, Unit Commanders and Staff Environmental Orientation, and Environmental Protection for General/Flag Officers<sup>30</sup>. This coursework provides the basic environmental awareness for officers upon return to their respective countries/units. This is the only instruction available to these officers except for training available in their respective countries.

The levels of military environmental programs for countries vary from fully developed (Germany, Sweden, Finland, Norway, Canada, Australia, United States) to initiating a program (United Kingdom, Czech Republic, Argentina, Chile, Mongolia, and China)<sup>31</sup>. NATO has recently drafted STANAG 7141EP Joint NATO Policy and Doctrine for Environmental Protection During Allied Operations and Training<sup>32</sup>. This

document is not regulatory; however, it does provide a general overview of environmental stewardship guidance to member countries during times of peace and war.

During peacetime, NATO forces carry out operations in compliance with national and international environmental laws. During wartime, they are compliant with the environmental aspects of laws of armed conflict. Key to this policy and doctrine is that an operational personnel complete environmental plans before any operations.

Environmental planning however, does not address detailed management of activities such as hazardous waste disposal or sewage disposal.

Another problem is that there is no consistency between participating nations. For example, one country may not consider the same materials as hazardous as another, or may accept host country standards as acceptable despite inherent environmental hazard (such as treatment of human or biomedical wastes). Concurrence across nations will be difficult until all nations accept a common basic environmental ethic, whether NATO or the UN promulgates it. The United States must continue to reflect our strong environmental ethic despite differences in partner or host nation environmental regulations.

#### NATIONAL DOCTRINE

The National Security Strategy (NSS) identifies environmental threats throughout the world as of major concern to the US. The NMS (NMS) includes environmental security as one of many engagement tools in the shaping strategy. Specifically, this engagement is of tremendous value because of the information sharing and contacts between our military and the armed forces of other nations, promoting trust and confidence and encouraging measures that increase our security and that of our allies, partners and friends<sup>33</sup>.

Former Secretary of State Christopher reviewed the conflicts threatening society, specifically environmental degradation actions which resulted in cross border disputes. These disputes were directly caused by natural resource issues (scarcity), which could adversely affect US interests, both politically and economically<sup>34</sup>. The NSS reflects this concern such that a deteriorating environment not only threatens public health, but also impedes economic growth and can generate tensions that threaten international stability<sup>35</sup>.

Former Secretary of Defense William Perry introduced the concept of "preventive defense" as his first line of defense in the post Cold-War era followed by deterrence and military conflict as the last resort. Secretary Perry defined preventive defense as engaging military and defense establishments around the world to further the spread of democracy and to further trust and understanding among nations<sup>36</sup>. Both the NSS and the NMS recognize the threat that environmental instability poses to US interests. The need

for our military to engage in peaceful activities to alleviate these environmental threats is of utmost importance to our national security.

Secretary Perry, in a press release dated Nov. 20, 1996 stated, "A strong environmental program is an integral component of a strong defense—and a strong Department of Defense."<sup>37</sup> He outlines three areas where environmental security is important: (1) servicemen environmental health, (2) good operational management (reduced liability), and (3) good citizenship (stewardship). Secretary Perry referenced a letter signed by six national environmental groups as stating "Almost unnoticed, US military personnel have become major players in the battle to clean up and protect our environment." The US military, with strong interrelationships with other militaries, can reduce tensions and build trust among regional states<sup>38</sup>.

In 1997, during a strait crisis between Taiwan, China, and the United States, environmental components of the talks continued while all other activities ceased<sup>39</sup>. JC Publication 3-07 further states "the US military can respond rapidly to emergencies or disasters and achieve order in austere locations because they can provide logistics; command, control, communications, and computers, and the planning required to initiate and sustain humanitarian assistance operations."<sup>40</sup>

#### SERVICE DOCTRINE

DOD has included environmental security as one of its principle engagement tools in preventive defense. DOD provides direction in DODD 4715.1 (Environmental Security) and DODI 4715.5 (Management of Environmental Compliance at Overseas Installations). However, the Joint Publications do not provide environmental security doctrine, thereby creating a gap in environmental security doctrine. The individual services have provided their own guidance for environmental operations in MOOTW and wartime.

In his study Considerations for the Development of a DOD Environmental Policy for Operations Other Than War, COL David Carr discusses the lack of integration of environmental security in JC doctrine<sup>41</sup>.

We found, because of lessons learned during Operation Joint Endeavor, that a clearly defined DoD Environmental Policy for OOTW is needed to provide specific guidance to the Unified Commands on environmental standards and procedures. At the time of Carr's article, the Joint Chiefs were writing Joint Chiefs Pub 3-34 Engineer Doctrine for Joint Operations and revising JC Pub 4-04 Civil Engineering was to include a chapter on environmental protection. Currently neither publication has been fielded. The Joint Chiefs should review JC Pub 3-07 (Military Operations Other Than War) for doctrine specific to environmental security.

The Air Force has incorporated environmental security operations into all levels of engagement (peacetime to war) and at all phases (pre-deploy, deploy, etc.) in Air Force Handbook 10-222 volume 4 (Environmental Guide for Contingency Operations). The Navy has also implemented environmental security considerations in chapter 3 (during MOOTW) and chapter 4 (during War) of NWP 4-11 Environmental Protection. The Army Engineer School is finalizing FM 20-400/Marine Corps MCRP4-21C Military Environmental Protection. This field manual addresses environmental security in depth as an engagement strategy and provides specific instructions to commanders on their environmental responsibilities.

This manual goes well beyond AR 200-1 Environmental Protection, which has been the principle guidance regulation to commanders of installations for conforming to environmental laws in the United States. AR 200-1 is oriented to installations and fails to provide strategic and tactical environmental guidance to commanders. The services have taken the initiative to integrate environmental security into service doctrine and our environmental ethic into military operations.

## **PROGRAM DEVELOPMENT**

If we have to choose between destroying a famous building and sacrificing our own men, then our men's lives count infinitely more, and buildings must go. But the choice is not always so clear-cut as that. In many cases, the monuments can be spared without detriment to operational needs. Nothing can stand against the argument of military necessity. That is an accepted principle. But the phrase of 'military necessity' is sometimes used where it would be more truthful to speak of military convenience or even of personal convenience. I do not want it to cloak slackness or indifference<sup>42</sup>.

—General Dwight D. Eisenhower

General Eisenhower in 1945 recognized the relationship between environmental security and operations, and the need to assess each operation for risk.

Former Secretary of Defense Perry has defined three components of environmental security in military operations as: environmental risk (liability), environmental stewardship (protection), and environmental health (service member protection)<sup>43</sup>. These three components form the basis for all military environmental doctrine, defining environmental security in a format understood by commanders, and easily communicated to the militaries of other nations. Secretary Perry best described the US military environmental security engagement mission in a press conference when he said

The US military has a wealth of experience and expertise that it can share with the militaries of other nations. Our defense environmental programs are becoming another important tool in which to engage the militaries of the new democracies. In doing so we can make a small contribution to a better global environment, and have a positive influence on their approach to defense and the way they manage resources<sup>44</sup>.

—Secretary of Defense William Perry

Exporting expertise to other militaries is well within the capability of the US military. Both the active and reserve component has important roles to play in these engagement roles. Before I discuss these roles, I will provide the definition of the components of environmental security engagement.

#### ENVIRONMENTAL STEWARDSHIP

Environmental stewardship (protection) is the program for environmental management of our installations in DOD. Service members receive environmental awareness training at the installation during their basic courses. They receive the basic understanding of environmental stewardship and the pillars of compliance, conservation, restoration, and pollution prevention.

Mechanics manage their hazardous substances in the motor pools. Trainers plan exercises to include protective measures required for protection of the training lands. It is the responsibility of the leaders to ensure we protect our environmental resources and it is the law. DoD technical and organizational skills have already born fruit in reducing hazardous waste generation by 46% (CY 1992 to CY1998), and reduced open enforcement actions by 76% between FY93 and FY98<sup>45</sup>. Environmental stewardship is the backbone of environmental program and fully supports our environmental ethic.

#### ENVIRONMENTAL LIABILITY

Doctrine defines environmental liability as "risk". The staff should apprise the commander of environmental risks that could affect his mission. The commander should know the impacts of targeting areas such as wastewater treatment plants, refineries, and pesticide plants on air, water, and soil.

Examples of liability challenges have occurred in both war and peacekeeping operations, such as the targeting of infrastructure and resultant damage to the environment. During Desert Storm, Iraq set fires to Kuwait's oil wells and was assessed financial compensation to Kuwait of \$610 million by the UN. As a result of this action a the UN General Assembly adopted a resolution (GA res. 47/37, Nov. 1992), which states "Destruction of the environment not justified by military necessity and carried out wantonly, is clearly contrary to international law."<sup>46</sup>

The UN is investigating environmental liability concerns in both wartime and peacekeeping operations. The UN Inter-Agency Needs Assessment Mission (NAM) assessed NATO airstrikes of over eighty

industrial facilities. They found that the damage to oil refineries, fuel dumps and chemical and fertilizer factories caused air and water pollution and threatened health and ecosystems<sup>47</sup>.

Yugoslavia claims NATO committed environmental war crimes in Serbia and Kosovo through bombing a plastics-manufacturing complex in Pacevo<sup>48</sup>. US military missions are under intensive scrutiny by the news media when targeting objectives that could lead to environmental damage. Commanders must be briefed on the ramifications of their decisions, and that if future legal decisions are made which find that action as culpable, then the United States could face censoring or some other level of remuneration. Environmental liability not only pertains to physical property damage but also to the health affects on our own personnel and the affected public.

#### ENVIRONMENTAL HEALTH

Environmental health is a major component of environmental security. It includes all environmental actions, which could adversely influence our personnel (and the civilian population as well). The DOD Overseas Environmental Baseline Guidance Document provides a checklist structure to conduct a preliminary assessment of a base campsite before our occupancy. Carr recommends that the following activities be reviewed before site occupation<sup>49</sup>:

- Certification of local water sources by appropriate medical field units
- Solid and liquid waste management
  - Open dumping
  - Open burning
  - Disposal of gray water
  - Disposal of pesticides
  - Disposal of human waste
  - Disposal of hazardous waste

Operational planners must pay particular attention to prior use of the land. They should review records insure the land was not used previously as a hazardous waste or materials area, a dump or nuclear waste site. Medical personnel can provide the assistance necessary to monitor the area for environmental health. Planners need to incorporate environmental actions into the operation order/plans to protect the personnel before, during and after deployment. DOD should monitor personnel after deployments to ensure no actions have occurred during deployment, which could cause sickness or injury. There is also the question of the risks involved on our own personnel and the liability commensurate with it.

DOD used Agent Orange in Viet Nam for defoliation. There may be increased cancer rates attributed to the exposure to Agent Orange. The Gulf War syndrome has never been identified as a disease or manmade causal agent. However many service members have experienced debilitating symptoms possibly associated with Desert Storm. These incidents require research and investigation to determine long-term health affects, and liability.

#### ENVIRONMENTAL SECURITY ENGAGEMENT OPPORTUNITIES

The environmental security activities our armed forces participate in are governed by requirements identified in the Unified Combatant Commands (CINCs). The CINCs, coordinate with embassies supported within their Area of Responsibility (AOR). The J-5 (Plans) develops Theater Engagement Plans (TEP), which identify activities they will support in the next annual year. CINCS may refer to these plans differently: USEUCOM uses a Theater Security Planning System, which requires completion of a TCP. The J-5 (Plans) staff develops the TCP from Country Campaign Plans, with input from the AOR embassies and military liaisons. Engagement annexes to the TCP are the responsibility of the functional area specialists. Every CINC may do things differently – there is not a JCS policy for this engagement strategy process<sup>50</sup>.

In October 1999, the Center for Strategic Leadership (Army War College) sponsored a workshop on environmental security for foreign officers attending the Army War College<sup>51</sup>. These officers identified specific environmental threats in their particular geographical regions, as well as how US armed forces could engage to defuse these threats. Appendix C records the results of this survey. The most common threats were water issues and land degradation. Overall, the group did not believe the US armed forces had a role in these regional environmental threats, and that country sovereignty was very important. The officer group saw the US military as a strong provider of conference support, joint exercises, natural disaster assistance, and education. This perception may be based solely on the premise that the primary mission of the military is war fighting, with little technical expertise in environmental security.

The CINCs are currently developing their strategic planning documents, which identify projects/missions for US forces in CINC AORs. The J-4 office plans environmental security missions based direction provided by the J-5 (Policy and Plans Directorate). Appendix D contains a listing of those engagement activities for CENTCOM and SOUTHCOM as well as those listed by EUCOM. These DRAFT documents provide the type of projects that our armed forces believe they are capable of engaging in. Generally, these projects are environmental education, training, coordination (conferences), information management assistance, survey sampling and monitoring of riverine and other ecotypes.

Environmental security activities in the combatant commands are contingent on funding and valid request by the subject country (through either the military liaison or attaché in the US embassy). Secretary Perry

believed the environmental security budget was flat lined (neither increasing or decreasing) for the near future<sup>52</sup>. A predominant opinion among the CINCs is that engagement strategy funding should be a specific line in the appropriation as "engagement". DOD funds engagement projects as part of the entire CINC budget, so these projects lack visibility in the funding process<sup>53</sup>. DUSD (ES) has identified various potential activities, which would advance the NMS environmental security engagement process<sup>54</sup>:

Information Exchange	Joint R&D Projects	Workshops	Education and Training
Delegation Exchanges	Capacity Building	Conferences	Region Joint Guidebook
Orientation Tours	Personnel Exchanges	Doctrine Dev.	Developmental Capacity Build.
Joint Exercises			

**ENVIRONMENTAL SECURITY ENGAGEMENT CHALLENGES**

Until DOD corrects doctrine, training and awareness gaps integrating environmental security into strategic operations is going to be difficult. Normally the host nation requests engagement assistance. Foreign leadership needs to receive briefings on the value of environmental security to their militaries and their countries. Consistency of environmental ethic within the UN and NATO militaries is required to ensure constant and equitable treatment of the environment. The US military can play a significant role in developing this ethic through the engagement process. Various agencies within the US government have environmental security activities separately funded by Congress. Diverse funding sources can complicate the environmental security engagement process, especially regarding type activities through redundant efforts. The Reserve Component, depending on the engagement program used, may be able to implement engagement activities using funding from various agency sources to accomplish diverse environmental missions.

**ENVIRONMENTAL AWARENESS AND TRAINING**

Plans to implement the NMS engagement strategy will not succeed without a good environmental awareness and training program. NATO has a good comprehensive education program at the NATO SHAPE School for NATO officers. HOWEVER, NATO also has a NATO College in Rome for military and civilian leaders from new democratic and third world countries. There is no instruction on environmental security at the College to teach the interrelationship between environmental, economic, political, and social systems.

The George C. Marshall European Center for Security Studies, which provides strategic studies instruction European political and military leaders, has no program on environmental security engagement<sup>55</sup>. The US program International Military Education and Training Program (IMEP)(sponsored by the Department of State and supported by the Department of Defense) does not include any coursework on environmental security for visiting foreign military and civilian leadership<sup>56</sup>. The dearth of

instruction on environmental security available to leaders in countries we wish to engage with increases the difficulty of marketing our environmental ethic to both the military and civilian leaders, thus limiting our success. Before we can actively engage in environmental security, we need to provide a base awareness to the military and civilian leadership of newly democratic countries, otherwise anything we do will have little support in those countries.

#### GOVERNMENT ORGANIZATIONS: ENVIRONMENTAL SECURITY ENGAGEMENT

The Department of Defense, Department of Energy, and the Environmental Protection Agency (with Department of State approval) signed a Memorandum of Understanding (MOU) addressing environmental security between on 3 July 1996. The purpose was to establish a framework for cooperation to strengthen coordination of efforts to enhance the environmental security of the United States. Specific activities included under this MOU are information exchange, monitoring, risk assessment, technology demonstration and transfer, training, emergency response, pollution prevention and remediation, and other adverse environmental impacts on ecosystems. This MOU provides a mechanism for combined environmental security operations, in support of the NSS. Engagement actions have already borne fruit from this MOU. The Army Reserve Component tic Military Environmental Cooperative Agreement (AMEC) between the US, Norway, and Russia sets environmental management criteria for sustaining military use of the Army Reserve Component tic. The Northern European Initiative (Department of State, EPA, Department of Defense, Norway, Finland and Sweden) invited greater participation of Russia into the western international community and strengthen US relationships in the Baltic region. This agreement has directly resulted in the formation of the Regional Defense Environmental Training Center at Nemeicine, Lithuania and assistance in development of a Base Management Plan for the Latvian training site at Adazi<sup>57</sup>.

#### FUNDING OF ENVIRONMENTAL SECURITY ENGAGEMENT

Funding environmental engagement activities can be a convoluted process. There are many restraints placed on the funding based on the appropriation and the sources of funding. Although the MOU between DOD, DOE and the EPA does not address funding, through its use, leveraging funds can spread funding resources further for cooperative projects. The CINCs basically have three areas where funding may be available for engagement projects: from their own Traditional CINC Authority (TCA) funds, through the State Partnership Program (SPP, funded through DoD to National Guard Bureau), or through DoD/other funds. Appendix E provides specific information on each program.

The Legal Authority for funding mil-to-mil and mil-to-civilian programs is through<sup>58</sup>:

- 10 USC § 168 – Authorizes military to military contacts
- 10 USC § 1051 – Authorizes payment of incremental expenses of personnel of developing countries for participation in conferences or seminars

- 10 USC § 2010 – Authorizes payment of incremental expenses of developing countries participating in a bilateral or multilateral military exercise in which the US participates
- 10 USC § 401 – Authorizes the conduct of humanitarian and civic assistance projects.

The Secretary of State supports various engagement programs that also support mil-to-mil activities<sup>59</sup>. Some of these programs, which may support environmental engagement, are listed below, with a more detailed description in Appendix F:

- Foreign Operations Resources (Environmental Diplomacy) FY00 request: \$15M.
- EAP Regional Environmental Initiative. FY00 request: \$10M.
- International Military Education and Training (Foreign Operations Resources). FY00 request: \$52M.
- Defense Administrative Costs (Foreign Operations Resources). FY00 request: \$31.3M.

DOD spends approximately \$2M annually through DUSD (ES) for both global and regional support of environmental security. In 1998, they spent \$2.051M for conferences/meetings, pilot studies, and travel. Collaborating with the Department of State, DOD encourages militaries to meet and discuss regional environmental issues through joint problem solving<sup>60</sup>. DOD services conduct these meetings through low threat and non-controversial dialogue with such activities as:

- Delegation exchanges
- Joint analysis of environmental data
- Information sharing, and
- Hosting or attending conferences that address military environmental issues in a regional or multinational context.

Funds are restricted to travel, per diem, and conference costs, but are leveraged using other sources to multiply the capability. An example may be using funds from DOD to pay for travel and per diem of a reserve soldier to conduct a study. Another government agency may be able to fund supplies and equipment. DOD must define missions that have a good chance of success and increase the environmental awareness of the military personnel (and civilians if possible) of the subject countries. Active duty personnel are neither trained nor task organized to complete these environmental security missions. The CINC staff can meet planning, coordination and communication requirements, but the non-TOE sources must provide personnel on-the-ground. In this capacity, the 876,000-reserve component service members can provide the personnel pool to meet almost any environmental security requirement of the CINCs<sup>61</sup>.

## COMPOSITE RESERVE COMPONENT CAPABILITIES

The reserve component is the most appropriate force to support this engagement strategy because of its unique capabilities inherent to its service members. The Reserve Component consists of 90,000 in the Naval Reserve, 40,000 in the Marine Reserve, 565,000 in the Army Reserve and Army Guard, and 181,000 in the Air Force Reserve and Air Guard<sup>62</sup>. *Members of the Reserve Component unlike members of the Active Component, have their feet comfortably in both the military and civilian camps.* Specifically, the reserve component has the military experience, the community association, and the civilian technical occupational diversity to meet any type of challenge in the environmental security arena. These strengths are identified in Joint Pub 3-07 (Military Operations Other Than War), in that "MOOTW may require reserve units and individuals not found in the active component or may require deployment of more units or individuals possessing a capability than are available in the active component forces"<sup>63</sup>.

The 876,000-member reserve serves throughout the continental US, its possessions and in Germany. This paper will specifically address the Army reserve components (ARC): the ARNG and the USAR. The Army National Guard is in over 3200 communities throughout the 54 state and territories<sup>64</sup>. The Army Reserve has units in over 2000 communities throughout the United States, Guam, Puerto Rico, the Virgin Islands, and Germany<sup>65</sup>. There are over 550,000 Army Reserve Component members in communities that provide service to the community and to the United States when activated. Because of the community foundation inherent in the Army Reserve Component, these individuals/units can operate on a more personal level with the supported country.

Environmental security engagement is a process. In the spirit of the NMS, the process includes establishing and extending the concept of our environmental ethic across new and re-emerging democracies. Engagement consists of using the military to relate important concepts, which will ease the transition into a democratic nation. This process entails using a similar organization (the military) to relate one-on-one on the tenets of democracy and the subordination of the military to civilian authority. To engage specifically in environmental security adds an added requirement of expertise in environmental security. The military organizations in these countries are normally the strongest advocate of the central government. Through mil-to-mil relationships, a level of rapport and trust is established. We can convey the principles of democracy and our environmental ethic under favorable conditions. Key to this program is how we have integrated environmental security into our military operations, a model for them to emulate.

Fostered relationships with countries advance democracy in those countries and reinforce the subordination of the military to the civilian government. General Joulwan identified this capability of the Reserve Component in reference to the National Guards participation in the PfP program.

Since 1993, the National Guard's State Partnership Program has made great strides in fostering relationships with former Eastern Block countries. The National Guard units... have made tremendous contributions to the development of democracy, civilian controlled military forces, and warm relationships with the partner countries. These translate directly into increased security in the European Theater and create the conditions for a stronger and more lasting peace<sup>66</sup>.

—General George A. Joulwan, CINC, USEUCOM

To understand the value of environmental capabilities in this engagement process, it is also important to understand the RC capabilities in military operations and community programs.

#### MILITARY CAPABILITY

Throughout history, the Army Reserve Component has been a principle force within the Army, especially during wartime. However, in the past twenty years, DOD has employed the Army Reserve Component extensively in MOOTW deployments as often as the active Army has. The US Army Reserve and Army National Guard units make up the majority of the Combat Support and Combat Service Support of the Army. Typical units falling into these areas are Medical, Transportation, Petroleum/water, Logistics, Civil Affairs, Chemical, Signal, Military Police, Engineer, and Psychological Operations.

Inherent in the structure of the Army Reserve Component is efficient organizational and logistic capabilities. The Army Reserve Component is composed of many individuals who have prior service providing military expertise to their units. The Army has recognized the capabilities of the Army Reserve Component in performing MOOTW type missions. Every operation since Desert Storm has involved effective use of the Army Reserve Component: FORSCOM deployed over 37,000 active and 19,000 Army Reserve Component soldiers in FY 1998 in response to Iraqi challenges<sup>67</sup>.

Use of the Army Reserve Component is increasing as the personnel requirements for Bosnia in support of NATO's Multi-National Division, as the 49<sup>th</sup> Armor Division prepares to command the Stabilization Force in March 2000<sup>68</sup>. These personnel have been activated under the Presidential Selected Reserve Call-up program where as many as 200,000 soldiers can be activated for up to 270 days. Individuals in both components can also volunteer for individual or unit assignments in a piecemeal fashion without the Presidential activation. The supported CINC normally funds this type of volunteer activation. Planning for MOOTW missions is more essential when using Army Reserve Component assets to ensure continued efficient participation of the Army Reserve Component. Based on the increased deployment responsibilities and past activation experience, the Army Reserve Component has the military expertise and capabilities to interact effectively in mil-to-mil engagement activities.

#### COMMUNITY ASSOCIATION

The inherent tie between the citizen and the soldier and its importance to our democracy was not lost on George Washington. Washington was frustrated by the method of election of officers in the Continental

Army, but he realized the necessity, when he said, "when we assumed the soldier, we did not lay aside the citizen."<sup>69</sup> Although we do not elect officers today in the reserve, we still rely heavily on their innate relationships with their communities and the nexus they provide our armed services to the public. Unlike Active Duty, military personnel who face transfer every two to three years; members of the Reserve Component have the opportunity to establish long-term local commitments to their communities. They are active participants in their communities for generations. Many of these Reserve Component individuals not only contribute while in uniform but also as civilian stakeholders in public participation such as in sports, education, and community affairs. They are also active in local political systems. Through the Army Reserve Component, the American public is engaged in foreign policy (economic and political), and particularly involved in the public sanction of direct US military action<sup>70</sup>. Given the disruption in families and jobs, the Army Reserve Component follows US foreign and military policy more closely because of possible activation<sup>71</sup>. The Army Reserve Component is the bridge to engagement with host countries because of members of the reserve close community values and commitment to democracy. They can promote the exchange of free ideas and our common pursuit of peace, stability and democracy, as well as the benefits of the free-market economy from civilian entrepreneurial experience<sup>72</sup>. Our citizen soldiers have worked and lived in communities that have developed through the environmental revolution of the past thirty years. In the US, we have integrated the environmental ethic into school, work, and community programs. These individuals through everyday life as well as direct participation in the regulatory developmental process are uniquely postured to export this ethic during engagement opportunities with host countries, at a community level.

#### ENVIRONMENTAL SECURITY TECHNICAL CAPABILITY

As stated in JC Pub 3-07 the reserve component may have civilian skills unavailable to the active component. Contrary to the perceptions of critics of military involvement in environmental security, the Army Reserve Component does have the expertise to conduct specific environmental security missions of a very technical nature. Army Reserve Component soldiers may be environmental regulators, contractors, federal environmental employees, or environmental educators. An example of this civilian experience occurred in my battalion where many of my staff and company personnel had civilian environmental occupations:

- Battalion Commander – Environmental Engineer
- Battalion Executive Officer – Environmental Specialist
- Battalion Plans Officer – Hazardous Waste Regulator, state
- Battalion S-2 – Non-game Manager for state
- Battalion Intelligence MSG – Water Quality Regulator, state
- Platoon Leader – Environmental Health Regulator, state

This example may be unique to my battalion. However, in the proximity of state capitals and major cities, there is a preponderance of state and federal regulatory positions. Many of these state and federal personnel also serve in the Army Reserve Component. Identifying these individuals for missions may be our most important challenge. The Army maintains the Standard Installation Division Personnel Systems (SIDPERS), which captures civilian occupation codes. Unfortunately, the current system uses outdated codes and personnel annually to be current must update the Reserve Component<sup>73</sup>.

#### ENVIRONMENTAL PERSONNEL CIVILIAN IDENTIFICATION PROCESS

The Army Reserve Component uses the SIDPERS personnel data base system to capture personal data on service members. This is a three-character field, which captures the civilian occupation based on the Department of Labor Standard Occupation Code. Appendix G includes those codes, which are relevant to environmental management<sup>74</sup>. Two occupations that would greatly assist our program that do not exist are Geographical Information Systems Manager and Hazardous Substance Manager (includes hazardous materials and hazardous wastes). These two occupations greatly affect environmental operations and are of tremendous value to the environmental security engagement initiative.

#### RESERVE COMPONENT IMPLEMENTATION PROGRAMS

All reserve components have access to the civilian capabilities of their service members for MOOTW missions. The National Guard established the State Partnership Program to encourage state to country interaction and cooperation. This program supports environmental engagement programs. The Army National Guard and the Army Reserve have also participated extensively in the environmental security program through a variety of deployments that support engagement.

#### NATIONAL GUARD STATE PARTNERSHIP PROGRAM

The National Guard State Partnership Program (SPP) links US states with partner countries' defense ministries and other government agencies. This linkage occurs primarily through the vehicle of the States' National Guard, for improving bilateral relations with the US<sup>75</sup>. The program's goals reflect an evolving international affairs mission for the National Guard. The goals are also to promote regional stability and civil-military relationships in support of US policy objectives. Appendix H lists the State Partnerships.

The SPP is a hybrid engagement tool allowing interaction in social, economic, military and environmental areas. The program is contingent on the host nation expressing the interest and desire to engage in the partnership. Activities, which support this program, are bilateral training and familiarization events, exercises, and fellowship-style internships, to civic leader visits. This program can support military to military, military to civilian (MSCA), and in some cases civilian to military activities.

In addition, the resources of the Governor (of the states/territories) in his/her role as civilian leader are available to the partner nation. State programs dealing with commerce, education and public safety are a

few areas available through the Governor's office<sup>76</sup>. All activities are coordinated through the CINCs, the US Ambassadors' country teams, and other agencies as appropriate. This program has traditionally been funded at \$1,000,000 annually. The State Partnership Program functions under the Charter between the Chief, National Guard Bureau, the NGB General Officer Steering Committee, and the Director, International Affairs of NGB, effective 1 May 1996<sup>77</sup>.

#### THE ARMY NATIONAL GUARD ENVIRONMENTAL PROGRAM

The Army National Guard has a major directorate for environmental support (NGB-ARE) in the ARNG, which provides Major Command support to the states, DC and territories. Described below is the environmental program of the Army National Guard.

1. The Full Time Environmental Staff: 336 environmental professionals make up the full-time environmental staff in 54 state, DC and territories of the ARNG in over 3400 locations<sup>78</sup>. Over 80% of the program managers have at least five years experience in environmental program management. They also manage the environmental requirements on 60 major training areas (and over 1,100,000 acres) and over 200 local training areas (platoon to company size training).

#### Examples:

- a. Through a combined effort of the USEPA, the Swedish Armed Forces and the Michigan Army National Guard, the Latvian Military received valuable environmental assistance for their training site at Adazi. The EPA provided funding to conduct a baseline survey on flora and fauna, conduct a limited groundwater investigation at one site, and conduct an investigation of a lake that was purported to have had materials/wastes dumped into it. The Swedish military sent teams to evaluate the training site infrastructure, characterize chemical materials storage, and provide copies of the Swedish Base Management Plan. The Michigan Army National Guard provided familiarization training at Camp Grayling, MI on environmental laws and stewardship and provided the Latvians a copy of the Camp Grayling Master Plan and EIS. The Swedish Armed Forces, the military leadership of Latvia, EPA, and the Michigan Army National Guard, through the cooperative effort in 1999, completed a Base Management Plan for Adazi, Latvia. The State Partnership Program, the Swedish Armed Forces, and the EPA jointly funded this program.
- b. The Texas Army National Guard using Department of State funding translated the Department of the Army Environmental Guide to Latvian, Estonian, and Lithuanian. They also have a Czech intern working in their environmental office in Austin<sup>79</sup>.

2. NGB created the State Area Command (STARC) Environmental Staff Sections in 1996 to support the full time environmental staffs when guardsmen train on weekends. They are on the Table of Distribution and Allowance (TDA) staff of each state/territory and vary in size from five to eight personnel. There are 337 positions identified in the states, DC and territories. Their mission is to support training during the IDT and AT periods. Specific tasks include environmental training, environmental awareness and environmental assessments. Individuals without environmental experience attend environmental courses to provide them with the required training.

Examples:

- a. The Environmental Section Chief of the Minnesota Army National Guard will be traveling to Croatia during Annual Training to brief their military on environmental security and the assistance the MNARNG can provide. The Chief of the Environmental Section (a TDA position) is also the state employee who is full time Environmental Program for the Minnesota Army National Guard<sup>80</sup>.
- b. The Environmental Program Manager of the VTARNG briefed the Macedonian Military on the environmental program of the Vermont Army National Guard during a visit in 1998<sup>81</sup>.
3. AR 200-1, paragraph 1-32f<sup>82</sup> requires the appointment of a Unit Environmental Compliance Officer (UECO) for each unit. Each state has taken the initiative to train the UECOs on general environmental requirement actions that are specific to their state. This program will integrate environmental awareness training into all units of the Army National Guard.
4. The size of the pool of environmentally trained professionals in the ARNG is unknown. To identify the total number of eligible personnel, the SIDPERS program should be updated to include all environmental career codes, and these codes used in the annual review of personnel files.

#### THE ARMY RESERVE

The Army Reserve has an office located at the US Army Reserve Center, Ft. McPherson, Ga. This office provides Major Command support to the USAR and works closely with the 416<sup>th</sup> Engineer Command (ENCOM) for environmental support to the reserve centers. The Army Reserve has two engineer commands (the 416<sup>th</sup> and 412<sup>th</sup>) that provide engineer and environmental support to the Army, in the US and abroad. The 412<sup>th</sup> ENCOM provides primarily engineering support and real estate support. The 416<sup>th</sup> ENCOM has 425 personnel with five engineer groups (and 20 environmental engineers)<sup>83</sup>.

Environmental type missions the 416<sup>th</sup> ENCOM performs are conducting Environmental Compliance Assessments (ECAS) at Army Reserve facilities. This provides tremendous experience to those personnel in all environmental media areas. The 416<sup>th</sup> Engineer Command has developed a database with civilian occupation fields specific to engineering and environmental to expedite the selection process

for qualified personnel. Carr's review of Environmental Policy for MOOTW identified effective use of the reserve forces in implementing environmental protection activities of the CINCs<sup>84</sup>. He reviews the support the Reserve Engineer assets provided during Desert Storm and the 412<sup>th</sup> ENCOM and 416<sup>th</sup> ENCOM provided civil engineering and environmental support during Joint Endeavor, which augmented and expanded the capabilities of the active duty engineer community. Some of the environmental security missions the 416<sup>th</sup> has provided are disaster assistance in Thailand, hydrological evaluations in Korea, and environmental technical support in Latvia, Bosnia, Hungary, and Germany<sup>85</sup>.

## RECOMMENDATIONS

Environmental security engagement is a mission of DoD. The US military is especially qualified because of the mil-to-mil relationship it has with newly democratic countries. In addition, the military has some tremendously important capabilities, enabling it to project environmental assistance anywhere in the world to accomplish the mission. However, there are serious gaps in the doctrine, organization, resources, and awareness/training, which limit the success of engagement. The reserve component forces provide DoD with tremendous expertise in environmental security engagement. They have the military, technical, and local civic experience to make them the most efficient engagers of the US. With thorough planning and coordination, they can support most DOD environmental security missions. To realize the full potential of the environmental security engagement strategy DoD must correct the deficiencies in doctrine. The following are recommendations for developing a cohesive environmental security engagement strategy:

1. DOD must assess doctrine at the UN, NATO, and JC level to ensure consistent and coordinated environmental security management in military operations. A universal environmental ethic that reflects support of all participating countries will ensure a consistent approach to environmental security in military operations. NATO has initiated a draft STANAG to address environmental protection. The Joint Chiefs are reviewing/formulating doctrine to support environmental security. Both NATO and the US must finalize this doctrine. UN must develop guidance to support these missions.
2. Integrate the Reserve Component intensively into the engagement mission and into environmental security missions specifically. This will avail DoD with the negotiating skills and basic nexus to community planning that is necessary in these new and re-emerging democracies. In addition, the military and civilian skills of the Reserve Component will be available to enhance the rapport and trust of the participating nations.
3. Organizational structure: J-5 staff must complete theater engagement plans to include environmental security missions. Close coordination is required with the reserve component interfaces (NGB-IA for NGB) to ensure units and schedules are sequenced correctly. The embassies have to work closely with the CINC have identified appropriate projects for DOD

4. Operations and training staff must inculcate environmental awareness into all training programs. NATO has already integrated environmental security into the NATO SHAPE School effectively, as have the individual services of the US military. However, leadership must include instruction of environmental security in the curriculum of the Marshall Center for Security Studies and the NATO Defense College. In addition, an Environmental Security Curriculum for the International Military Education and Training Program is paramount for military and civilian leaders, visiting the United States.
5. DOD should sufficiently fund the environmental security programs to support the engagement program. In the federal government, Congress distributes funds across federal agencies for environmental security missions, possibly causing redundancies. The MOU between DOD, DOE and EPA is a great first step to achieve leveraging of funds and resources. DOD should identify funds specifically for the CINCs to complete the engagement requirements of the Theater Engagement Plans, including the environmental security missions. Federal agencies should coordinate on matching or partnering funds to ensure correct scheduling and management of personnel assets, especially the reserve component.
6. The Reserve Component should establish a reserve wide civilian occupation system based on the Department of Labor civilian occupation codes, and encourage updating of the personnel databases to reflect this change. This change will provide an immediate listing of qualified environmental professionals for deployment. It will not only assist the environmental community but will also provide a capability to meet any specialty requirement for DoD.

## **CONCLUDING REMARKS**

The US military has the potential to develop and implement a tremendous environmental security engagement program. The support systems of organization, logistical support, and power projection are the strengths of the US armed forces. The type engagement activities particularly relevant to the military are conducted at the regional and national level, not in the global arena. The US military can effectively apply its inherent strengths at this level more effectively. The reserve component of the US Armed Forces is most capable of assuming the implementation role of these missions. The pool of qualified environmental professionals could be tremendous, but needs to be identified. The challenges exist in identifying appropriate missions, adequately funding these missions, and identifying individuals or units to accomplish those missions. The SIDPERS program will best meet this requirement, if implemented. Once the RC identifies the particularly individuals, they can provide the manpower to successfully complete the environmental security missions. They are the appropriate ambassadors of our democratic process; they live in the communities yet have strong ties to the military. They understand the benefit of a military to support the civilian community. They also may have the environmental technical competence to provide a myriad of environmental services to needy countries efficiently and effectively. Local participation in the community and political system are basic tenets of democracy the Partnership for Peace and State

Partnership Programs encourage. The reserve component personnel can combine the principles of democracy with our environmental ethic as a valuable message using the mil-to-mil or mil-to-civilian relationships with the new and re-emerging democratic countries.

**APPENDICES**

## APPENDIX A: LISTING OF ACRONYMS

ALMC	Army Logistics Material Command
AMEC	Arctic Military Environmental Cooperative Agreement
AOR	Area of Responsibility
ARC	Army Reserve Component
ARNG	Army National Guard
BESC	Basic Environmental Specialist Course
CCMS	Center for Challenges to a Modern Society
CINC	Combatant Command Commander in Chief
CY	Calendar Year
DOD	Department of Defense
DODD	Department of Defense Directive
DODI	Department of Defense Instruction
DOE	Department of Energy
DOS	Department of State
DUSD (ES)	Deputy Under Secretary of Defense (Environmental Security)
EPA	Environmental Protection Agency
FY	Fiscal Year
JC	Joint Chiefs
MIARNG	Michigan Army National Guard
MNARNG	Minnesota Army National Guard
MOOTW	Military Operations Other Than War
MOU	Memorandum of Understanding
MSCA	Military Support to Civilian Authorities
NATO	North Atlantic Treaty Organization
NGB	National Guard Bureau
NMS	National Military Strategy
NSS	National Security Strategy
PfP	Partnership for Peace
SIDPERS	Standard Installation Division Personnel System
SPP	State Partnership Program
STANAG	NATO Standardization Agreement
STARC	State Area Command
TCP	Theater Campaign Plan
TDA	Table of Distribution and Allowance
TOE	Table of Organization and Equipment
TXARNG	Texas Army National Guard
UN	United Nations
USCENTCOM	United States Central Command
USEUCOM	United States European Command
USSOUTHCOM	United States Southern Command
VTARNG	Vermont Army National Guard

## **APPENDIX B: ENVIRONMENTAL SECURITY PUBLICATIONS/REFERENCES**

Joint Publication 3-34 (Draft) Engineer Doctrine for Joint Operations

Joint Publication 4-04 (Draft) Civil Engineering

FM 20-400/MCWP 4-21 (Draft) Military Environmental Protection

AF Handbook 10-222 Vol. 4 Environmental Guide for Contingency Operations

NWP 4-11 Environmental Protection

EO 12114 Environmental Effects Abroad of Major Federal Action 4 Jan 1979

AR 200-1, Environmental Protection and Enhancement, 21 Feb 1997

DOD Directive 6050.16 Policy for Establishing and Implementing Environmental Standards Overseas Installations, 20 Sep 1991

DOD Directive 6050.7 Environmental Effects Abroad of Major Department of Defense Actions 31 March 1979

DOD Directive 4715.5 Management of Environmental Compliance at Overseas Installations, 22 April 1996

DOD Document, Overseas Environmental Baseline Guidance Document, October 1992

1989 Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal, with amendments 22 September 1995

Convention on the Prohibition of Military or Any Other Hostile Use of Environmental Modification Techniques (ENMOD) ratified 17 January 1980

**APPENDIX C: ENVIRONMENTAL SECURITY: FOREIGN OFFICER ASSESSMENTS<sup>86</sup>**

ENVIRONMENTAL SECURITY: FOREIGN OFFICER ASSESSMENTS --							
REGION	PACOM			SOUTHCOM	CENTCOM	EUCOM	
	NE	SE	SC	Americas	Africa S/W Asia	Europe	Sub- Sahara
<b>ENVIRONMENTAL ISSUE</b>							
Environmental Pollution	X	X	X		X		
Fisheries	X	X	X		X	X	X
Land Degradation/Exploitation	X			X			X
Population Growth	X	X	X				
Infectious Diseases	X	X					
Water Issues		X		X	X		X
Deforestation		X	X	X	X		X
Hazard waste disposal		X			X		
Industrialization (pollute)		X	X	X			
Desertification			X		X		X
Weapons of Mass Destruction					X		
Nuclear Waste						X	
Demining						X	
<b>MILITARY ASSISTANCE</b>							
Environmental Intelligence	X						
Technology Transfer	X				X	X	
Training	X					X	X
Conferences	X			X			
Exercises	X						X
Natural Disaster Assistance				X			X
Education				X	X		
Landmine Assistance						X	
Joint Navy Patrols							X
Continue Partners for Peace							X

## APPENDIX D: COMMANDER IN CHIEF (CINC) ENVIRONMENTAL SECURITY ACTIVITIES

### CENTCOM/SOUTHCOM OPERATIONAL TASKS AND ACTIVITIES<sup>87</sup>

1. Educate senior civil and military leaders on the importance of environmental security to regional stability.
2. Establish environmental security courses at all SOUTHCOM schools
3. Coordinate with regional security and relevant civil organizations on environmental security issues
4. Coordination with international security and relevant civil organizations
5. Assist in the development and strengthening of the host nation environmental program
6. Identify potential terrorists threats involving the environment and perform risk analysis
7. Train host nation security forces in force protection measures
8. Train host nation security forces in protecting key infrastructure
9. Establish open source cooperative data sharing network
10. Train host nation security forces to provide medical and public health services
11. Train host nation security forces in the management and protection of protected areas
12. Assist in the development of capabilities for host nation security forces to effectively participate in the review process for infrastructure project development
13. Assist in the development of an interagency health program
14. Train for the capability to patrol sovereign borders
15. Train host nation security forces on environmental responsibility during the conduct of operations
16. Train host nation security force in implementation of environmental laws and agreements
17. Conduct education and training in de-mining and disposal of unexploded ordnance for host nation security forces
18. Develop host nation security force capability to plan and respond to technological and natural disasters in support of civil authority
19. Develop a capability within host nation security force to provide preventive medicine and field sanitation expertise to rural populations
20. Develop host nation security forces capability to provide potable drinking water and other sanitary infrastructure
21. Develop awareness within host nation security forces of long term environmental effects of development projects
22. Develop host nation security forces capability to execute their environmental stewardship responsibility to conserve the biodiversity of military cantonment and training areas
23. Train security forces in maritime management operations
24. Train host nation security forces in the principles and enforcement of fisheries regulations and maritime law in support of civil authority
25. Support sampling, monitoring, inventory, and assessment activities by civilian government and private research institutions
26. Share information and expertise about the development of waterways and system management
27. Assist in the development of capacity to conduct studies of riverine and inland waterway environments
28. Share knowledge of ecosystem management, biodiversity and sustainable development based management techniques
29. Share knowledge in the development of a code of best management practices for nation logging industries
30. Train host nation security forces to monitor compliance and implementation of local natural resource regulations
31. Assist host nation security force in supporting civil authority in the establishment of re-forestation and forest utilization programs

## USEUCOM ENVIRONMENTAL SECURITY OPERATIONAL TASKS AND ACTIVITIES<sup>88</sup>

1. Achieve a high quality of life for service members and their families
  - Comply with DOD directive on environmental security and supplementing instructions and DOD policies with applicability to overseas installations and operations
  - Ensure a trained cadre of US environmental professionals
2. Maintain, support, and contribute to the integrity and adaptation of NATO
  - Promote increased interaction with NATO environmental professionals to ensure consistent environmental practices and policies
  - Ensure widespread access of US environmental professionals within theater to the NATO-ECHS Web Site for access to information on various NATO/CCMS Pilot Studies
  - Support improvement of environmental security knowledge base
3. Promote stability, democratization, military professionalism, and closer relationships with NATO in the nations of Central Europe and the Newly Independent States
  - Promote environmental cooperation and interoperability to enhance standing of a nation's armed forces as a highly responsible member of a democratic society
  - Promote a comprehensive environmental planning process for major cooperative peacetime training exercises (e.g. Partnership for Peace) and operations other than war
  - Support introduction of defense related environmental technologies through cooperative efforts between academia, service professional schools, the private sector and individual countries in the region
  - Support a Coordinated Interagency Approach to environmental security in the region
4. Support US efforts to ensure self sustaining progress from the Dayton process; develop military institutions in former Yugoslavia adapted to democratic civilian control
  - Ensure consistency in development of environmental policies and operation plans
5. Support peace initiatives in the Middle East
  - Promote environmental cooperation and interoperability to enhance standing of a nation's armed forces as a highly responsible member of a democratic society
  - Support US State Department endorse efforts to provide US private sector and military technical expertise to address water resource issues in the region
6. Ensure freedom of maritime and aeronautic lines of communication in the Mediterranean
  - Promote cooperation and interoperability in aeronautic environmental protection programs amongst air forces of the Mediterranean
7. Promote stability, democratization, and military professionalism in Africa
  - Promote environmental cooperation and interoperability to enhance standing of a nation's armed forces as a highly responsible member of a democratic society
  - Support a coordinated interagency approach to environmental security in the region
  - Promote environmental considerations during exercises, operations, and training (Joint Combined Exchange Training)
8. Provide prompt response to humanitarian crisis
  - Support environmental initiatives during humanitarian and relief operations
9. Maintain a high state of readiness in USEUCOM forces
  - Ensure continued access to air, land and water resources necessary to accomplish the mission by respecting environmental laws in each host nation where USEUCOM maintains substantial installations
  - Promote regional cooperation Tran boundary environmental issues
  - Promote a comprehensive environmental planning process for major cooperative peacetime training exercises and operations other than war
  - Provide awareness and information exchange related to the threat of environmental warfare

## APPENDIX E: ENVIRONMENTAL SECURITY ENGAGEMENT PROGRAMS – FUNDING MECHANISMS

### 1. INTERNATIONAL ACTIVITIES FUNDING SUB-COMMITTEE DOD ENVIRONMENTAL SECURITY POTENTIAL FUNDING SOURCES<sup>89</sup>

#### Partnership for Peace Warsaw Initiative Funds:

- Countries: All PfP Partner countries eligible (i.e. C/E Europe, FSU), except Armenia/Azerbaijan
- Restrictions: Restricted to “information sharing events”; pays travel/food/lodging costs for foreign officials and costs of holding conference (ex: interpreters, meeting room, audio-visual equipment). May not be used for U.S. participant travel costs; may not pay for any concrete “deliverable” provided to participants such as equipment, books, translation of materials, etc.
- Lead-time: Normally prior fiscal year, but sometimes funds are available 60 days before event (sometimes less in extreme cases - good luck).
- Available funds: Considerable variation (normally in \$5,000-\$200,000 range)

#### Cooperative Threat Reduction Mil-Mil Program:

- Countries: Most countries within the boundaries of the Former Soviet Union
- Restrictions: Restricted to “information sharing events”; pays travel/food/lodging costs for foreign officials and costs of holding conference (ex: interpreters, meeting room, audio-visual equipment). Sometimes can use for US travel costs. May not pay for any concrete “deliverable” provided to participants such as equipment, books, translation of materials, etc.
- Lead-time: Normally prior fiscal year, but sometimes funds are available up to 60 days before event.
- Available funds: Considerable variation (normally in \$5,000-\$200,000 range)

#### International Military Education and Training

- Countries: Approved IMET countries worldwide
- Restrictions: Education and training-related expenses only, to include TDY costs for U.S. training teams traveling to recipient country, course cost/tuition, transportation to and within U.S., food/lodging/medical expenses while in U.S., and English language training needs. Training must be at the request of recipient country. Lead US Service school may develop training proposal to address more than one country’s ESOH training need for possible funding approval by the Defense Security Assistance Agency. Such training may include mobile training team or foreign student attendance at the lead US Service School.
- Lead-time: Recipient country should request in prior fiscal year, but shorter notice possible as funds permit.
- Available funds: Varies by country but most events would fall in \$5,000-\$1,000,000 range

#### Traditional CINC Authority

- Countries: Within CINC AOR
- Restrictions: Requires CINC approval and Command initiative
- Lead time: Varies by event but should attempt in prior fiscal year
- Available funds: Except for major events (ex: Western Hemisphere Defense Environmental Conference), funds might be in \$5,000-\$50,000 range

#### EUCOM Mil-Mil Program

- Countries: EUCOM AOR

- Restrictions: EUCOM-initiated and approved
- Lead time: Prior fiscal year
- Available funds: limited

#### **A&T Representational Funds**

- Countries: Any
- Restrictions: Meals/receptions must be hosted by A&T SES official (ex: PADUSD (ES) or DUSD (ES)). US participants can only make up less than 20% or 50% of party, depending on overall size of event.
- Lead time: about 60-90 days
- Available funds: \$40-60 per person

#### **2. NATIONAL GUARD BUREAU STATE PARTNERSHIP PROGRAMS.**

These programs at present are only applicable to the Partnership for Peace countries, until congressional language is changed to include all commands<sup>90</sup>.

##### **a. The Minuteman Fellows Program**

Purpose: allows the National Guard's Federal mission of national defense and State mission of domestic support, as well as civilian professional expertise of traditional Guardsmen to be used as Theater peacetime engagement tools.

Funding Source: Partnership for Peace add-on to NGB program, appropriated as Operations and Maintenance (O&M), for engagement activities with Partnership for Peace signatory countries. Funds cannot be used for pay and allowances; man-days needed to execute fellowships will be based on need and availability, and entail further coordination with the Army and Air National Guard Directorates.

- National Defense Fellowship: US National Guard-to-Partner Country armed forces. Position focuses on NATO interoperability in mil-to-mil activities. This program can be used for exchanges of military personnel.
- Military Support to Civil Authority (MSCA) Fellowship: US National Guard-to-Partner Country civilian. Purpose to integrate the State and community National Guard mission (MSCA) into peacetime engagement for agencies both inside and outside the military (military to civilian). This program will support exchanges of civilian and military personnel in the emergency response arena.
- Civilian Skills Fellowship: US National Guard (in civilian professional capacity)-to-Partner Country defense forces or Government agencies. This civilian-to-military/civilian is intended to integrate civilian professional expertise of Guardsmen into peacetime engagement.

#### **The GUARDEX Program**

The GUARDEX program is an engagement mechanism of the State Partnership Program in USEUCOM AOR. It allows Partner Country personnel to participate in Partner State Annual Training periods in the US, and directly supports peacetime engagement objectives and NATO Partnership for Peace objectives. This program supports PfP activities of NATO interoperability, peacekeeping and peace support operations, search and rescue, and humanitarian assistance. Costs are primarily funded by the Warsaw Initiative funds or Cooperative Threat Reduction funds under 10 USC §2010 and 10 USC §1051. Funds can be used for travel, per diem and lodging of the participant countries and NOT for pay or allowances.



## APPENDIX F: AGENCY INTERNATIONAL ENVIRONMENTAL PROGRAMS

### DEPARTMENT OF STATE PROGRAMS (FY2000 REQUESTS)<sup>91</sup>

U.S. International Affairs - \$15 million Economic Support Funds for environmental diplomacy activities to provide Secretary with the ability to protect US interests in negotiations where US security, trade, and environmental concerns intersect to advance regional cooperation efforts and respond to emerging environmental crises and priorities.

EAP Regional Environmental Initiative - \$10 million to prevent reoccurrence and prevent further environmental degradation from forest fires in parts of Southeast Asia. Funded from Economic Support Funds to expand environmental programs into more countries of the region and into additional areas of concern: sustainable forest management, coastal resources management, and reduction of greenhouse gas emissions.

International Military Education and Training - \$52 million to provide training on a grant basis to students from allied and friendly nations. Purpose is increase ability of foreign national military and civilian personnel to instill and maintain basic democratic values and protect internationally recognized human rights as well as a goal of regional stability through effective, mutually beneficial military to military relations which culminate in increased understanding and defense cooperation between the US and foreign countries.

Foreign Operations Resources - \$3,430 million support US regional stability goals to help US allies to become capable coalition partners as well as defend their own security. FMF finances acquisition of US military articles, services and training. Specifically it facilitates integration of Poland, Hungary, and the Czech Republic into NATO, continues the President's Warsaw Initiative strengthening cooperation between NATO and Partnership for Peace partners in Central Europe and the New Independent States.

Defense Administrative Costs - \$31.3 million to fund operating costs of non-FMS activities of overseas Security Assistance Organizations, as well as administration costs for IMET, security assistance activities of the Unified Commands, and Military Departments and DSCA headquarters not related to Foreign Military Sales.

### ENVIRONMENTAL PROTECTION AGENCY (FY 2000 REQUESTS)<sup>92</sup>

#### Reduction of Global and Cross-border Environmental Risks - \$407,414.2 thousand

- Reduce Tran boundary threats: Shared North and South American Ecosystems - \$119,987.5 thousand
- Climate Change - \$242,765 thousand
- Stratospheric Ozone Depletion - \$27,046.5 thousand
- Protect Public Health and Ecosystems From Persistent Toxics - \$6943.1 thousand
- Achieve Cleaner and More Cost-effective Practices - \$10,672.1 thousand

EPA will use various approaches to prevent harm to the global environment and ecosystems by (a) forming bilateral and multilateral environmental agreements and global/regional negotiations, (b) cooperating with other countries to ensure domestic and international environmental laws, policies and priorities are recognized and implemented, and (c) working with other Federal agencies, states, businesses to promote the flow of environmentally sustainable technologies and services worldwide.

DEPARTMENT OF ENERGY (FY2001 REQUESTS)<sup>93</sup>:

DOE provides policy and technical assistance to curb global proliferation of weapons of mass destruction, emphasizing US nonproliferation, arms control and nuclear safety objectives in Russia and the newly independent states as well as worldwide. Environmentally DOD is working to ensure that other countries effectively cleanup the environmental legacy of the cold war.

- International Affairs - \$10,022 thousand
- Environmental Quality (Management) - \$5,802,863 thousand
- National Security (Defense Programs) - \$4,594,000 thousand

**APPENDIX G: DEPARTMENT OF LABOR STANDARD OCCUPATION CODES APPLICABLE TO ENVIRONMENTAL SECURITY<sup>94</sup>**

Standard Occupational Classifications, Department of Labor 1998 Revision

Position Title	Code	Comments	Media
Env. Engineer.Tech	17-3025	Mod test operate equip in control pollute.	Ww, dw, air
Env. Engineers	17-2081	Design, plan, perform eng.duties in prevent	Ww, dw, air
Soil and Plant Scientists	19-1013	Research in breeding, phys, prod, mgt Of crops and ag plants	Plants, soil
Zoologists and Wildlife Bio.	19-1023	Study origins, behave, disease, genetics and Life process of animals and wildlife	Animals/WL
Conservation Scientists	19-1031	Manage, improve, protect nat. resources to Max use w/o damage to environment	Plants, livestock w/r/t Soil, water
Foresters	19-1032	Manage forest lands for econ,recreat, Conservation purposes	Forests
Env. Scientists and Spec.	19-2041	Research on id abate or elim sources of Pollute or hazards affect env. Or health	Air, food, soil, water
Geoscientists	19-2042	Study comp. Struct. and other physical Aspects of earth possibly for mineral	Soil geology
Hydrologists	19-2043	Research dist, circ, and phy prop. Of under- Ground and surface waters	Water
Urban and Regional Plan	19-3051	Develop compreh.plans and programs for Use of land and phy.fac.	Planning
Anthropologists and Archaeologists Ecologists	19-3091	Study origin, dev, and behavior of humans	Cultural
Geographers	19-3092	Study nature and use of areas of earths Surface relate and interpret interactions	Earth general
Biological Techs	19-4021	Assist biolog and med. Scientists in labs	Analysis
Environ. Science Teachers	25-1053	Teach courses in env. Science	
Env Science and Protect Specialists	19-4091	Perform lab and field tests to monitor env. Invest.pollution source, collect, analyze sample	All media

## APPENDIX H: STATE PARTNERSHIP PROGRAM PARTICIPANTS<sup>95</sup>

### USEUCOM

Alabama – Romania	Maryland – Estonia
California & Kansas – Ukraine	Michigan – Latvia
Colorado – Slovenia	Minnesota – Croatia
Georgia – Rep. of Georgia	North Carolina – Moldova
Illinois – Poland	Ohio – Hungary
Indiana – Slovakia	Pennsylvania – Lithuania
South Carolina – Albania	Tennessee – Bulgaria
Texas/Nebraska – Czech Rep.	Utah – Belarus
Vermont – Macedonia	

### USCENTCOM

Arizona – Kazakhstan	Montana – Kyrgyz Stan
Louisiana – Uzbekistan	Nevada – Turkmenistan

### USSOUTHCOM

Florida – Venezuela	Mississippi – Bolivia
Kentucky – Ecuador	Missouri – Panama
Louisiana – Belize	Puerto Rico – Honduras
New Hampshire – Belize	West Virginia – Peru

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