Environmental Security, GMU Project, & Initial Survey Results

Jeremey Alcorn
George Mason University
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Presentation Nuts & Bolts

- Background
- What is ES?
- Why this research?
- GMU ES Project Overview
- U.S. Gov't ES Review
- Survey Results
- Moving Forward

Background

- Early dialog on redefining security started in 1970s and 1980s

- End of Cold War triggered new dialog and inquiry into human security and environmental security paradigms

- Late-1990s push to define and understand implications of the ES concept

- Since 9/11, ES concept efforts continued at international level but with more limited U.S. focused activities and scholarship
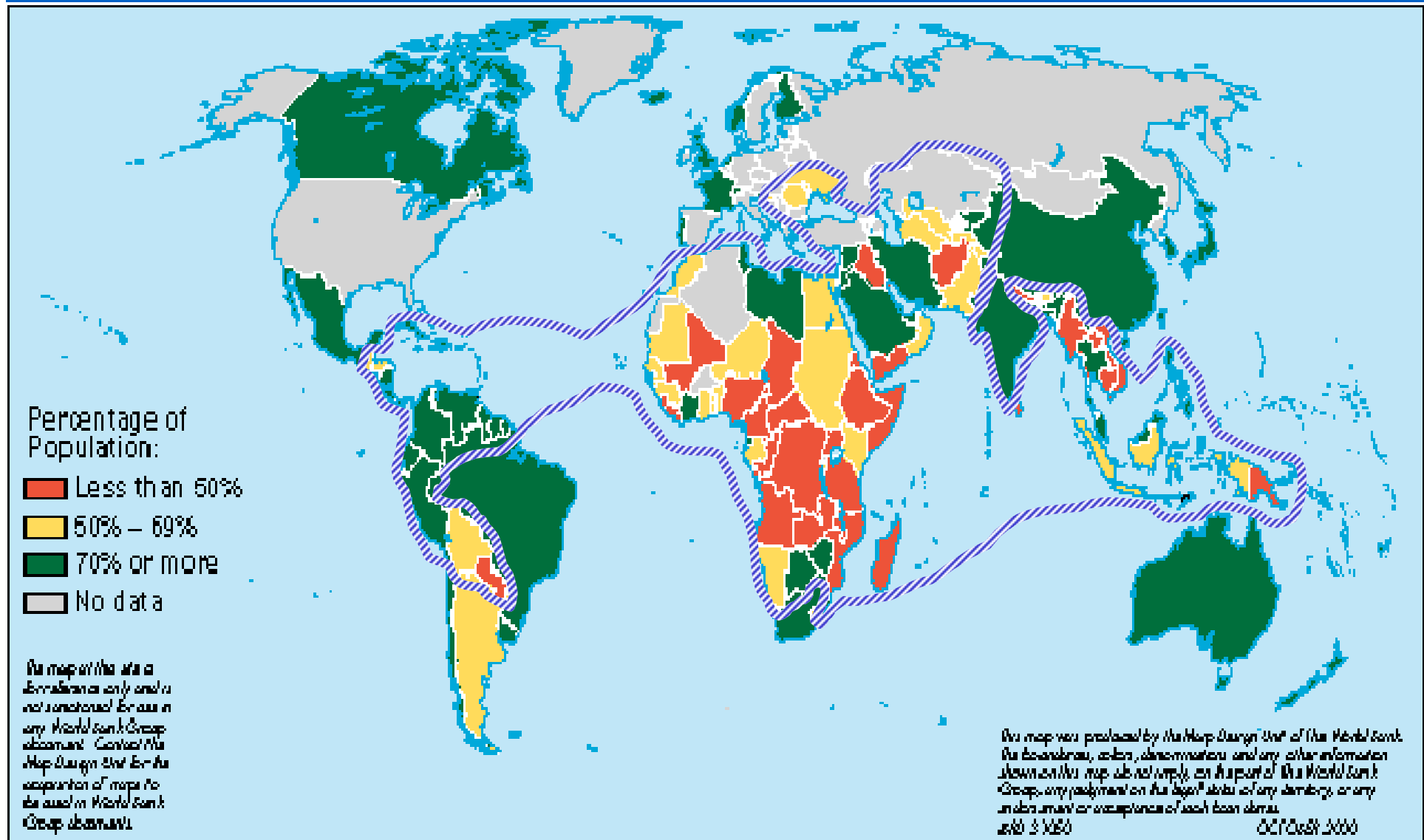
Worldwide Conflicts/Hotspots: Connection?
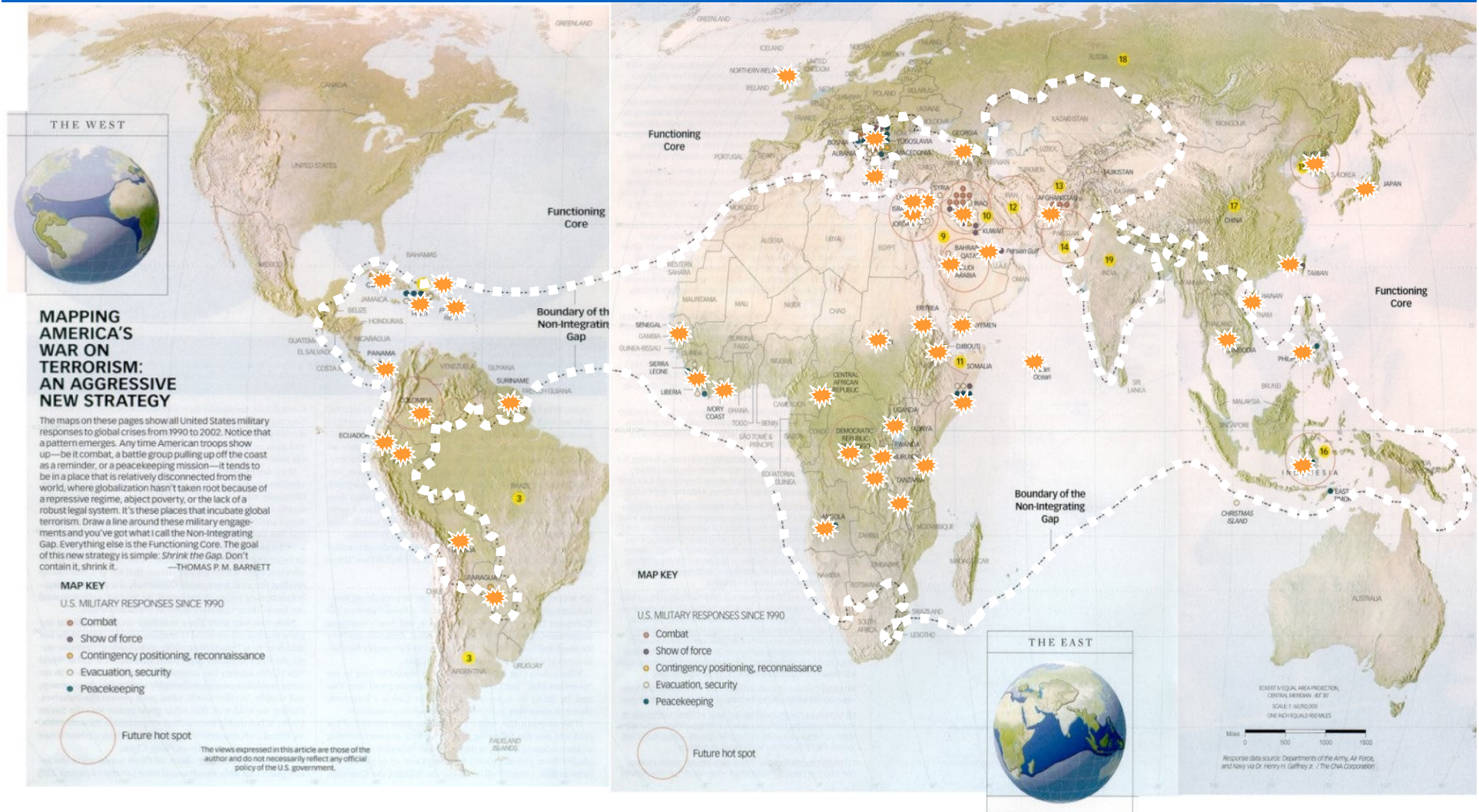
Concept Credit: Thomas Barnett, The Pentagon's New Map
Map Credit: William McNulty, Esquire, March 2003 and SERO 2003, Sustainability 401.1

Example: Fresh Water Access (1990-1996)

Percentage of Population:

- ▮ Less than 50%
- ▮ 50% – 69%
- ▮ 70% or more
- ▯ No data

What is Environmental Security?

- High diversity of definitions for ES concept
  - 24+ definitions per King 2008
- 1998 AEPI two tier survey study determined U.S. and international set of common concept components
- 2000 AEPI study highlighted definitional problem and examined how to make concept actionable for U.S. Army theater level commanders
- Definitions continued to multiply and the academic debate continues...

ES Definition Spectrum

- Environmental component of Human Security paradigm *(UNDP Report 1994)*
- ES concept that resource competition and stress augments or triggers conflict
- "Real-politik" nation-centric security issues and maintenance of defense capabilities
- Environmentalist plot to conceptually "muddy the waters" and siphon defense resources

U.S. Environmental Security (1)

- White House and DOD embraced "real-politik" definition (DODD 4715.1) and built consensus in 1990s
- ES concept or mention of environment dropped from National Security Strategy (NSS) since 2000
- Post-9/11 national security focus on GWOT, homeland security, Afghanistan, and Iraq
- DODD 3000.5 officially brought in human security considerations but no mention of environmental security

U.S. Environmental Security (2)

- Despite this, operational necessity has spurred DOD ES-related activities:
  - CENTCOM ES partnership activities in Central Asia - Targeting "soft underbelly" of terrorism
  - SOUTHCOM disaster response and ES training activities
  - PACOM seismic / tsunami impact response and mitigation
  - CONUS disaster resilience and response support activities (Katrina, Rita, etc.)
  - DOD sustainability efforts (Army Sustainability Strategy, ISP activities, etc.)
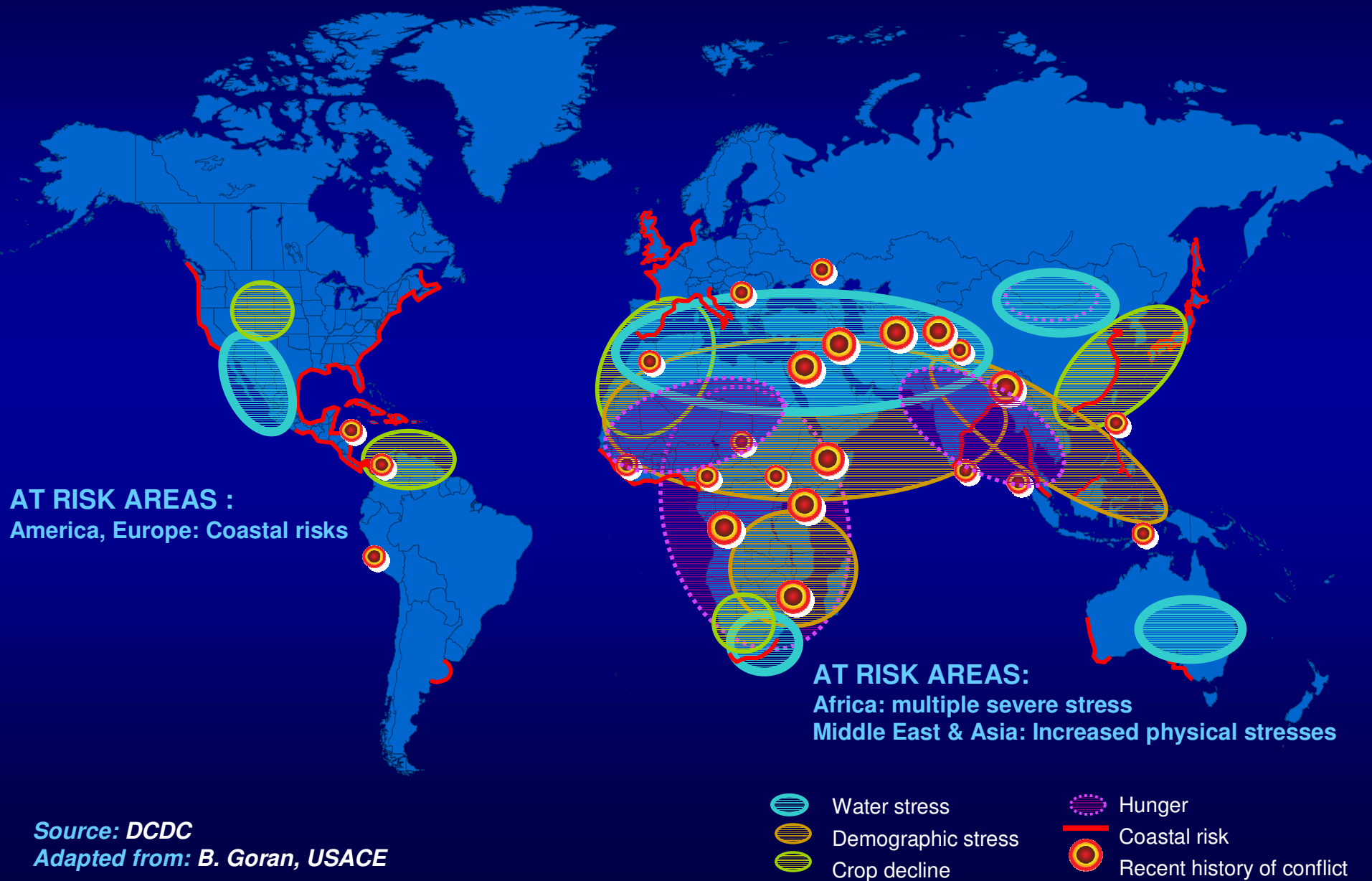
U.S. Combatant Commands

Renewed U.S. Interest in ES

- Recent renewed interest in ES related to:
  - Stability, Security, Transition, and Reconstruction (SSTR) via DODD 3000.5
    - CENTCOM (Water, ES partnering & engagement)
    - AFRICOM (Human security & engagement)
  - Forward Basing Issues (LL Iraq & Afghanistan)
  - Energy Security

    (EPAct 2005, EISA, DSB Energy report, LL Iraq)
  - Climate Change "Ides of March" in 2007

    (CNA report, DOD FY08 Authorization Act - Sec. 931, SSI report, SERDP 9-02/05, environmental shock)

Threat Multiplier Stresses & Risks Out To 2036

AT RISK AREAS :
America, Europe: Coastal risks

AT RISK AREAS:
Africa: multiple severe stress
Middle East & Asia: Increased physical stresses

Water stress   Hunger
Demographic stress   Coastal risk
Crop decline   Recent history of conflict

Source: DCDC
Adapted from: B. Goran, USACE

On-going ES Challenges

- Environmental causes of conflict debate
  - Foster 2001 provides good hedge with environmental "antecedents" to conflict
- Lack of common and recognized ES definition *(similar to sustainability definition?)*
- Lack of U.S. national security policy and strategy mandate for ES activities, even when developed though ops necessity
- Limited understanding of U.S. ES players, existing capabilities and need gaps

Why This Research Now?

- Mega-Trends - global resources decline and environment stress (NIC & UN-ME)
- GWOT and future regional stability threats
  - Open Source Warfare (John Robb)
- DOD Future Force Transformations
  - Leviathan & SysAdmin paradigm (T. P.M. Barnett)
  - AFRICOM stand-up
- Enable future interagency mission synergy
- Inform New U.S. Administration Policy

GMU Environmental Security Project

- Project Titled: *U.S. Environmental Security: Defining It To Matter*
- Master of Science thesis project under GMU Dept. of Env. Science & Policy
- Thesis Committee
  - Dr. Susan Crate
  - Dr. Chris Parsons
  - Dr. Mishkat Al Moumin
- Started informal research in 2004
- Accelerated research in 2006
- Project proposal approved in Jan. 2008

Project Research Goal

- To Understand how:
  - U.S. national security and homeland security practitioners and policy makers conceptualize, understand, and (could) yield value from environmental security?

Project Research Objectives

- Research Objectives:
  - Capture stakeholder <u>definitional components</u> and understanding of environmental security
  - Identify <u>common attributes</u> that conceptually bridge, operationalize, and add value to existing policy analysis, risk management, and threat assessment frameworks
  - Understand current <u>functional capability gaps</u> and disconnects within stakeholder communities of practice
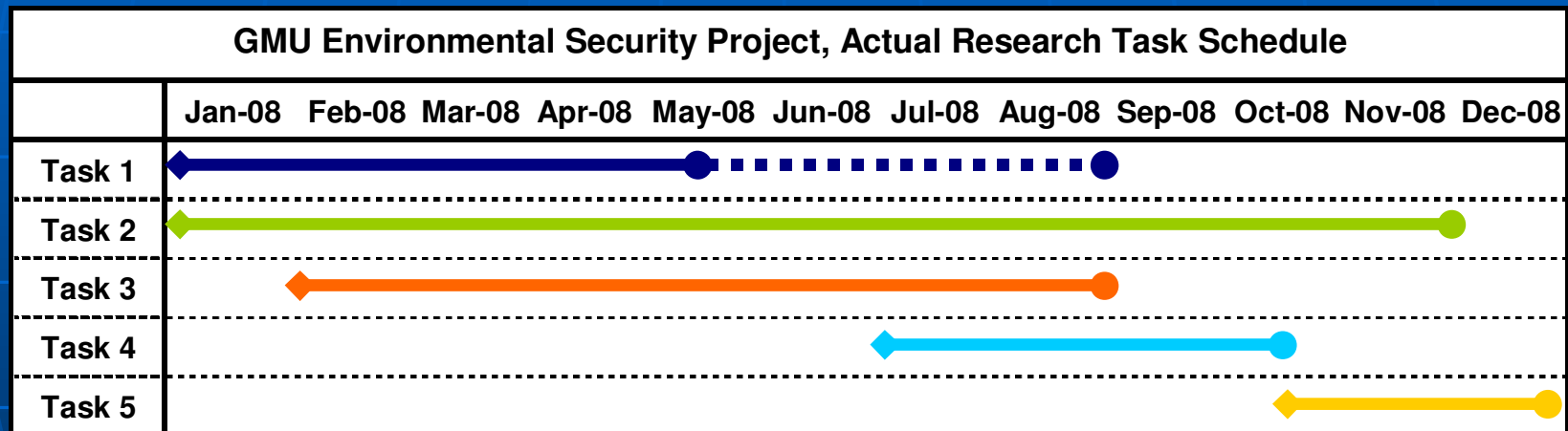
Research Methods Overview

- Pragmatic Action Research Approach
- Research Methods Used:
  - Literature Reviews
  - Email Survey
  - Interactive Workshop
- Report Back *(Draft Comments Process)*

Project Overview By Task

Task 1:
Federal National and
Homeland Security Mission
& Functional Analysis
(Literature Review)

Task 2:
Participant &
Stakeholder Identification
(Literature Review)

Task 3:
Definitional Component
and Understanding Capture
(Survey Instrument)

Research Outputs
Data, Results,
& Analysis

Task 4:
Commonality Leveraging,
Operationalization, &
Gap Assessments
(Focus Group Workshop)

Task 5:
Participant & Stakeholder
Result Sharing
(Report Back Venues)

Project Timeline

- Project proposal approved in Jan. 2008
- GMU HSRB approval in March 2008

GMU Environmental Security Project, Actual Research Task Schedule											
	Jan-08	Feb-08	Mar-08	Apr-08	May-08	Jun-08	Jul-08	Aug-08	Sep-08	Oct-08	Nov-08 Dec-08
Task 1											
Task 2											
Task 3											
Task 4											
Task 5											

- Survey period May – Aug. 2008
- Workshop on Sept. 18, 2008
- Thesis report anticipated completion Dec. 2008

U.S. Government ES Review (1)

- Task 1 initial literature review (NSS, NMS, etc.) meant to better understand:
  - U.S. national & homeland security players
  - Their mandates & missions
  - Potential Task 2 POCs
- Broadened Task 1 analysis to systematic look at:
  - "Grand Strategy" national security process
  - Executive Branch departments' / agencies' mission and organizational structures
  - Environmental and development players

U.S. Government ES Review (2)

- Systematically examined missions of:
  - Executive Office of the President entities and Cabinet level departments
  - Federal Agencies, Independent Establishments & Government Corporations
    - International & Domestic (nat'l & homeland security)
    - Domestic Only (homeland security oriented)
- Identified missions focused on:
  - Security
  - Environment
  - Security & Environment
  - Development

U.S. Gov't Orgs w/ ES Missions

International and/or Domestic Orientation

- Office of Science & Technology Policy (OSTP)
- Department of State (DOS)
- Department of Defense (DOD)
  - Department of Army
    - U.S. Army Corps of Engineers
- Department of Energy (DOE)
- Department of Health & Human Services (DHHS)
- Department of Justice (DOJ)
- Organization of American States (OAS)

Domestic Orientation

- Department of Homeland Security (DHS)
  - United States Coast Guard (USCG)
- Defense Nuclear Facilities Safety Board

Survey Methods

- Task 2 efforts identified 618 contacts via:
  - Literature review
  - Professional contact referrals
  - Public environment & defense venues
- MS Word survey sent via email in six email blasts from Apr.-Aug. 2008
- Emails included a survey form, a project description and an informed consent disclosure addendum

Survey's Objectives

- Identify participants' understanding of ES
- How agree with AEPI (1998) ES definitional components
- Identify ES use and/or mission relevance
- How ES is related to sustainability
- Understand ES capabilities and roles
- Identify ES capability gaps
- Participants interest in workshop

Survey Design (1)

- Survey asked questions to address objectives
- Heard of ES and your understanding of it?
- Agree with AEPI 1998 ES definition components and its relevance to your mission?
    - Public safety from environmental dangers
    - Natural resource scarcity
    - Maintenance of a healthy environment
    - Environmental degradation
    - Prevention of social disorder and conflict
- Other components?

Survey Design (2)

- Relationship between ES and Sustainability?
- Agency / Organization consider ES & Sustainability?
- ES mission or responsibilities?
- Official definition?
- U.S. policies / strategies supportive of ES and topics as relate to mission?
- Could ES policy mandate help?
- ES capabilities or gaps?

Survey Responses

- 30 in-scope survey's received
- Respondents came from:
  - U.S. Army (including USACE)
  - U.S. Air Force (USAF)
  - Intelligence community
  - Defense-oriented non-profits
  - Homeland security
  - Federal environmental

Familiar with ES?

- 97% of all respondents were familiar with term *environmental security*
- Good agreement that ES is important concept & dynamic
- However, a wide variety of definitions and understanding

Wide Variety of Understandings

- **U.S. Army** respondents stressed linkages between natural resources and national security, including stability issues

- **USAF** responses focused on the defense and sustainment of critical environmental resources

- **Intelligence** comments affirmed that environmental factors do "influence national security interests"

- **DHS** respondents emphasized protection of key environmental resources / infrastructure and their importance for self-sufficiency during disaster

- **Federal environmental** professionals stressed importance of ecological services / resources to citizens and their health

ES Definition Components (1)

- Public safety from environmental dangers
  - 86% agreed with this part of ES concept
  - 90% thought was mission relevant
  - Minor disagreement on relevance by some U.S. Army and DHS respondents
- Overall good agreement

ES Definition Components (2)

- Natural resource scarcity
  - 87% agreed that applied to ES
  - 87% thought was mission relevant
  - Dissent expressed by USAF, intelligence, and environ. community respondents
- Widespread agreement

ES Definition Components (3)

- Maintenance of healthy environment
  - 97% agreed was part of ES concept
  - 87% thought was mission relevant
  - Minor disagreement on relevance by U.S. Army, DHS, and intelligence community respondents
- Again, overall good consensus

ES Definition Components (4)

- Environmental degradation
  - 100% agreed that was ES component
  - 90% thought was mission relevant
  - Dissent on relevance by some U.S. Army and DHS respondents
- Very strong agreement

ES Definition Components (5)

- Prevention of social disorder and conflict
  - 70% agreed that applied to ES concept
  - Only 60% thought was mission relevant
- Disagreement on relevance by respondents within all groups
- Some thought proactive and very relevant
  - DODD 3000.5 means it applies but lacks environmental component
- Others did not relate to their missions
  - "It is the Department of State's role"

Other ES Components?

- 54% indicated that there were additional ES topics relevant to their missions
  - Energy Security
    - Environmental cross-over (air, hazmat, etc.)
  - Climate change
    - SSTR, mission capabilities, health implications
  - Natural hazard and manmade emergency response
  - Natural resource management
  - Encroachment

ES & Sustainability?

- General agreement among all respondents of very strong linkage
- Emphasized mutual dependency btw ES and sustainability
- Others emphasized sustainability contribution to stability and resiliency issues and approaches
- ES is part of overall sustainability
  - One response that ES useful mission term while "sustainability…seems a separate requirement"
- Human Security Paradigm = Sustainability?

ES Considerations and Responsibilities? (1)

- 80% indicated that their Agency / Organization considers ES & Sustainability in relation to their mission or operations
- But, only 67% said that it had any ES related responsibilities
- **U.S. Army** respondents suggested that they had responsibilities that including:
  - Maintenance of environmental & water resources
  - Emergency response & humanitarian aid
  - SSTR and counter-insurgency engagement
  - Mitigation and cleanup of environmental damage

ES Considerations and Responsibilities? (2)

- **USAF** responses varied from part of "core mission" to "drinking water system" security to "ranges, base closures, and pollution issues"
- **Intelligence** indicated mission overlap with disaster response and humanitarian relief
- **DHS** respondents suggested relevance to drinking water system protection (i.e., US EPA)
- **Federal environmental** professionals suggested they had ES responsibilities in:
  - Public health / wildlife disease
  - Drinking water contaminant prevention & protection
  - Disaster and emergency response
  - Environmental resource management

ES Official Definitions

- Despite these responsibilities, only 11% of respondents stated that their Agency / Organization had an official definition of ES
- The only organizations that may have one are:
  - U.S. Army War College
  - U.S. Military Academy
  - The Millennium Project – WFUNA (NGO)
- DOD previously had official definition per DODD 4715.1 but was rescinded in March 2005
- No other official definitions known or identified

ES Policy Mandate Adequate? (1)

- Only 21% of the respondents thought that national and homeland security polices and strategies adequate to support the use of ES to help meet mission goals & objectives
- **U.S. Army** respondents suggested that:
  - Prior NSS addressed ES but mandate has "lost ground" since 2001
  - Current NSS mandate for GWOT doesn't promote effort to proactively mitigate issues that contribute to "unrest, instability, and potentially insurgency"
  - New complementary mandates via NSPD-44, DODD 3000.5, & "Army Field Manual on Insurgencies"
  - New ES policy mandate could help improve "environmental performance" (e.g. reducing energy consumption, HAZMAT use, etc.) and realize "sustainability"

ES Policy Mandate Adequate? (2)

- **USAF** responses acknowledged:
  - Lack of statutory and executive mandate so there is no cohesive framework
  - DOD/USAF mission not oriented on ES but just compliance to continue operation
- **DHS** respondents suggested that:
  - Little regard for environmental issues / factors
  - Funding focused on yesterday's vulnerabilities (aircraft)
- **Federal environmental** professionals stressed:
  - Increased Agency role and capabilities for emergency response (manmade or natural)
  - Old focus on "command & control" mentality so proactive collaboration & communication suffer

New ES Policy Mandate Helpful?

- Some indicated that they do the mission given
- Generally, many respondents stated that an ES policy mandate would be embraced & helpful by:
  - Providing "cover" and visibility with top leadership
  - Making the mission connection for those working with missions that involves environmental components
  - Encouraging proactive communication, awareness, and planning for future mission readiness, incl. OCONUS
  - Consistent effort could prevent or mitigate future conflicts
  - Enabling better interagency and external partnering
  - Requiring obligation of resources to meet mission needs
  - Assist with disaster recovery and resilience goals
- Environmental professionals thought they had sufficient ES mandate & concern over mission / resource encroachment by military

ES Capabilities? (1)

- 90% of respondents indicated their Agency / Organization had ES capabilities
- **U.S. Army** identified ES capabilities for:
  - Defense-relevant ES and sustainability policy research
    - *Energy, climate change, & emerging ES issue updates*
  - Environmental engineering, construction, & monitoring
  - Disaster mitigation and emergency response
  - "For Official Use Only (FOUO)" limited
- **USAF** suggested ES capabilities for:
  - P2, compliance, and clean-up
    - *Noted though more for installations than expeditionary*
  - Conservation and natural resource management
  - Emergency and HAZMAT response

ES Capabilities? (2)

- **Intelligence** comments stated capabilities to support disaster and humanitarian response
- **DHS** respondents suggested water security research capabilities (monitoring, response, recovery)
- **Federal environmental** professionals indicated availability of wide range of science, decision-making, & field support capabilities for:
  - Geology
  - Geography
  - Water and air resources
  - Biology, wildlife, and agriculture
  - Hazardous materials & waste

ES Gaps / Needs? (1)

- 67% of the respondents indicated that their Agency / Organization had ES gaps or needs
- **DOD-**respondents stated gaps / need for:
  - "Metrics & linkage between environmental threats and vulnerabilities and conflict and stability"
    - Insufficient datasets and metrics for political/institutional, economic, and socio-cultural stability / status
  - "Cross-national and cross-agency understanding, policies, and procedures for proactive international ES missions"
  - "For Official Use Only (FOUO)"
  - OCONUS forward bases & operations ESOH capabilities not comparable with CONUS (air, waste, hazmat, etc.)
  - Integration of ES into defense culture, energy security is starting this process

ES Gaps / Needs? (2)

- **DHS** respondents suggested need for additional research and funding for activity in this area
- **Federal environmental professionals** specified needs for several capabilities:
    - Increased laboratory capacity for radiological & HAZMAT sample processing and analysis
    - Environmental response personnel are insufficient and strained during disaster (happened during 9/11)
        - EPA responsible for the long-term recovery
        - Need to maintain multiple teams
        - Currently insufficient resources to maintain adequate teams
    - ES "linkages to decision-makers may not be as clear and strong as they should be"

Some Initial ES Opportunities

- ES mandate could be useful to:
  - Provide policy legitimacy & leadership for existing activities developed through necessity
  - Further enable coordinated development of:
    - Environmental intelligence monitoring
    - Engagement, partnering, & development efforts
    - Disaster resiliency & response mechanisms
  - Support forward deployed bases ES activities
  - Post-conflict & counter-insurgency engagement
    - Recovery methods, resources, & activities
    - "Open Source" approach advocated by J. Robb & S. Beebe

Survey Identified ES Issues

- Sustainability & Human Security
- Energy Security (local, regional, & global)
- Climate Change (threat multiplier)
- Water Resources (quantity & quality)
- Food Security & Land-Use issues
- Hazardous materials, contaminants, & UXO
- Solid and hazardous wastes (Basel Conv.)
- Soldier & local population health protection
- Natural resource management & restoration
- Natural hazard prevention & response

Moving Forward

- Follow up interest:
  - 100% respondents interest in copy of final study report
  - 73% indicated interested in workshop
- Today's workshop is next step
- Any "show stoppers" or major disagreements so far?

Questions?

Next Steps

- Today's workshop outputs will be compiled and developed into new chapter
- Continue report development through though November 2008
- Draft report will be sent to you and comments can be submitted for inclusion in an appendix
- Report finalized and defended late-November 2008
- Final report will be posted on web and you will be sent a URL for downloadable copy

Comments or Suggestions?

- Was the workshop what you expected?
- Using this research and its outputs:
  - Who would be the best audience?
  - Where should its results be directed?
- How could this workshop or research process be improved?
- Other comments?

Send to: envsec@gmu.edu

Thank you!

- My sincere thanks for generously contributing your time and perspective!
- This project would not have been possible without it!

Jeremey Alcorn

George Mason University

301-848-8117

envsec@gmu.edu