Presentation Title: OSD Perspective - Analytic Challenge: Global War on Terror Analysis

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SPECIAL SESSION 2:  OTHER:

SPECIAL SESSION 3:  Sponsor Hot Topics: GWOT

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OSD Perspective - Analytic Challenge: Global War on Terror Analysis

OSD-PA&E Simulation Analysis Center 1401 Wilson Blvd. Suite 300 Arlington, VA 22209

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OSD Perspective - Analytic Challenge: Global War on Terror Analysis

Preston Dunlap

75th MORS Symposium
June 2007
Irregular Warfare

“A violent struggle among state and non-state actors for legitimacy and influence over the relevant populations. IW favors indirect and asymmetric approaches, though it may employ the full range of military and other capabilities, in order to erode an adversary’s power, influence, and will.”

-Irregular Warfare Joint Operating Concept

• Counterinsurgency (COIN)
• Counterterrorism (CT)
• Stabilization, security, transition, and reconstruction operations (SSTRO)
• Unconventional warfare (UW)
• Foreign internal defense (FID)

• Strategic communications
• Psychological operations (PSYOP)
• Information operations (IO)
• Civil-military operations (CMO)
• Intelligence/counterintelligence activities
• Transnational law enforcement

Irregular Warfare analysis includes physical science but emphasizes social science phenomena
Framework for Irregular Warfare Analysis

Planning and Programming

DoD/Ally/Partner Actions
- Diplomatic
- Information
- Military
- Economic
- Financial
- Intelligence
- Law Enforcement

Operational Assessments

Emerging Support Tools

Existing tools insufficient to examine Irregular Warfare

Effects
- Political
- Military
- Economic
- Social
- Information
- Infrastructure

Structured Wargames

- Strategy
- Defense Planning Scenarios
- Multi-Service Force Deployment
- Studies & Wargames
- End strength, O&M, Acquisition

Future Year Analytical Baselines

OUSD (P) Joint Staff PA&E, Joint Staff, Services, COCOMS, others

DoD/Ally/Partner Actions

- Diplomatic
- Information
- Military
- Economic
- Financial
- Intelligence
- Law Enforcement

Emerging Support Tools

Existing tools insufficient to examine Irregular Warfare

- Diplomatic
- Information
- Military
- Economic
- Financial
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- Law Enforcement

Emerging Support Tools

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- Diplomatic
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- Military
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- Financial
- Intelligence
- Law Enforcement

Emerging Support Tools

Existing tools insufficient to examine Irregular Warfare
Approach to Irregular Warfare Analysis

No single tool sufficient to examine Irregular Warfare: Conduct Subject Matter Expert wargame informed by suite of tools

- **Conduct subject matter expert wargame**
  - Counterterrorism: GWOT X-Game
  - Counterinsurgency: Algernon commercial wargame derivative
  - Unconventional Warfare: Algernon
  - SSTR Operations: Peace Support Operations Model (PSOM)

- **Informed by suite of analytic support tools** (e.g., agent-based, game theory, system dynamics, expert systems)
  - System Dynamics: (M, E)
  - SEAS: (P, S, Info)
  - Generic rulesets derived from existing X-Game and COIN analyses (M: supplement models)

*Lists are not exhaustive*
Application of GWOT X-Game to IW Analysis: GWOT Extended “X” Game Purpose

Identify, assess, and prioritize capabilities used to prosecute the GWOT

• Help operationalize the GWOT CONPLAN and the regional GWOT plans
  – Identify types of WOT activities (location, frequency, duration)
  – Examine the relative contribution of activities to achieving WOT objectives
  – Identify resources needed to support activities (focus on Special Operations Forces - SOF)
  – Suggest activities where General Purpose Forces (GPF) might be fully/partially substituted for SOF

• Scope
  – Timeframe: 2007-2014
  – Multiple countries and terrorist groups
Application of GWOT X-Game to IW Analysis: GWOT Extended “X” Game Methodology

DIMEFIL Actions: Diplomatic, Information, Military (Direct and Indirect), Economic, Financial, Intelligence, Law Enforcement

PMESII Conditions: Political, Military, Economic, Social, Information, Infrastructure

GWOT Global Synch Conference
P, E, S, I
Fund for Peace
Failed State Index
Info: Pew Public Opinion Poll

Interagency
US Military Direct/Indirect
Allies/Partners

Starting Conditions

Actions
Red
Brown

Failed State Index Questionnaire
Conditional Rules
Generic Rules
SME Discussion
Adjudication Rules

Incident Tracker
AQN Tracker
PMESII Tracker

8 Years
15 terrorist groups
21 countries

White Cell Adjudication
Terrorist Tracker
Incident Tracker
**What is PSOM?**
- Peace Support Operations Model developed by the UK MOD/DSTL
- Multi-sided, time-stepped, tool-assisted “war” game incorporating human players representing coalition, indigenous, threat, and NGO elements
- Incorporates UK historical case study analysis
- Success measured by progress against level of consent (legitimacy), security, and stability

**How has PSOM been used?**
- Prototype used in joint/combined exercises
  - UK OIF wargame included allied participants (e.g., OSD/Policy SSTR, OSD/PA&E, Joint Staff participation)

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**Support adjudication of Political, Military, Infrastructure effects**
Application of System Dynamics to IW Analysis

• What is System Dynamics Modeling (SDM)?
  – Invented at MIT during 1950s by Jay Forrester
  – Simulates whole system behavior to help identify best levers to generate desired changes – not for point prediction
  – Enables rapid development of a working hypothesis of underlying drivers and tradeoffs over time
  – Organizes assumptions to facilitates discussion and iterative improvement to the model

• How has SDM been used?
  – Conceptual system dynamics models for counterinsurgency developed at Naval Postgraduate School and MIT
  – PA&E/GMU COINS Model
  – DARPA Fallujah case study
  – OA-07 GWOT analysis

Support adjudication of Economic and Military effects
Application of SEAS to IW Analysis

• What is SEAS?
  – Synthetic Environment for Analysis and Simulation developed by Simulex, Inc
  – Agent-based DIME and PmESII (non-kinetic) simulation, where each entity from
    national governments, organization leadership and members, to individuals is
    modeled as an agent

• How has SEAS been used?
  – Commercial business development and advertising
  – Proctor & Gamble and Army Recruiting Command to assess effects of marketing
    campaigns on population attitudes
  – JFCOM warfighting experiments (e.g., Urban Resolve series)
  – DARPA PCAS case study
  – OA-07 GWOT analysis

Support adjudication of Political, Social, and Information effects
Summary: OSD Perspective

• Analysis of Irregular Warfare requires a new modeling approach to represent
  – DIMEFIL actions by Red, Blue, and Green: Diplomatic, Information, Military, Economic, Financial, Intelligence, Law Enforcement
  – PMESII effects for all actions: Political, Military, Economic, Social, Information, Infrastructure

• Possible approach
  – Structured subject matter expert wargame supported by analytic tools and social science models
  – System dynamics and agent-based models like SEAS appear to be promising capabilities to support wargame adjudication of DIMEFIL-PMESII interactions

• Irregular Warfare MORS Workshop (11-13 December 2007)
  – Improving Cooperation Among Nations in Irregular Warfare Analysis
  – Naval Postgraduate School
  – Working Groups: insurgency, terrorism, SSTRO, maritime ops
Backup
GWOT Extended “X” Game Study Findings

How do we support long term needs of the GWOT?

1. The wargame fully utilized most Special Operations capabilities
   – The wargame was limited to a subset of GWOT activities and did not account for other SOF force structure demands
   – The wargame accounted for planned SOF force structure increases

2. This suggests that continued force management actions will be needed to sustain the long term needs of the GWOT; options include:
   – Rebalancing tasks between SOF and GPF and possibly within SOCOM
   – Reducing demand (e.g., reduce level of effort, decrease concurrent activities, increase contribution from allies and partners)
   – Increasing supply (e.g., accept higher deployment tempo, increase access to Reserve Component, continue to grow SOF force structure)
Application of Wargaming Tools to IW Analysis

- GWOT X-game developed extensive rule set to assess GWOT over 21 countries, 2007-2014
  - Fund for Peace Failed State Index employed to adjudicate Political, Economic, Social, and Infrastructure effects
  - Study also developed extensive:
    - Generic rulesets: “If-then”
    - Conditional rulesets: “If x under specific conditions, then y”
- Algernon developed extensive rule set to assess COIN/UW
  - Based on “Algeria The War for Independence 1954-1962” commercial wargame
  - Multi-player, limited intelligence war-game at the operational & strategic levels of war
  - Incorporates information operations, combat operations, resources, and the impact of political will on Red, Green, and Blue operations
  - Permits analysis of differing offensive and defensive strategies
- Structured Subject Matter Expert wargames with developed rule sets facilitate analysis and can be informed by a suite of tools
Tools that address the Gaps in IW modeling

• **War-gaming**
  – Insight is gained by walking through situations
  – However, analysis needs statistically significant results, which are hard to get with Human-In-The-Loop techniques
    • So, war-games may be branched
    • Computer can assist in rapid adjudication and “keeping all else the same”
    • Statistics can tease out the effect due to the interactions from bias brought to the game

• **Agent-Based Simulation**
  – Works same way as war game: by walking through situations
  – However, can do many more micro simulations than war games can, and compute macro level effects, for green PMESII simulation
  – Agents are essential for simulating networked relations
  – Agents are needed to simulate game theoretical and artificial intelligence based techniques
Tool: Agent Based Techniques

• **Game Theory**
  – Agents can react to each other based on their perceptions of other agents’ perceptions … modeling modelers as needed in IO warfare
  – Agents can find equilibria
    • Nash equilibria…- solutions where no competing party can do better
    • Shelling points – cooperative solutions
    • These are great states to cajole a situation into for COA analysis
  – Signaling theory finds payoffs for communication, needed in IO warfare

• **AI techniques**
  – Expert systems: agents can hold modular rulesets that represent behaviors of social groups they belong to
  – Uncertainty: agents can have perceptions and actions based on probability theory (bayesian networks) or “qualitative” reasoning (fuzzy systems)
  – Machine learning techniques: Agents can learn how to deal with new situations and generalize about them using neural networks and genetic algorithms, or more advanced co-evolutionary techniques
Tools: Integrative Methods

- **System Dynamics Techniques**
  - Captures homeostatic nature of natural and social systems
  - Integrates phenomena through modeling the feedback between phenomena
  - But not good for modular switching in and out: more of a static “spaghetti” program
  - Can’t simulate networks and change in structure, but good for simulations that use “even mixing”
  - Good for macro level processes that do not need feedback from the micro level

- **Integrative Toolkits**
  - Since so many theories and strategies need recombination for exploration of the IW space, toolkits must address integration issues
  - Models of different social phenomena are interdependent, and are different ways of viewing the same thing
  - Models of micro and macro level (multi resolution) phenomena are also different ways of viewing the same thing
  - Integrative toolkits need to find consensus and resolve conflicts between models that are different ways of viewing the same thing
  - Feedback, as in the NSF DDDAS (Dynamic Data Driven Application Systems) program is promising
## Current Irregular Warfare M&S Tools

<table>
<thead>
<tr>
<th>Mission Types</th>
<th>M&amp;S Tools</th>
<th>Campaign Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>Counter Proliferation</td>
<td>Direct Combat Model (JCATS)</td>
<td>Not Directly Applicable</td>
</tr>
<tr>
<td>Counter Terrorism</td>
<td>Direct Combat Model (JCATS)</td>
<td>Not Directly Applicable</td>
</tr>
<tr>
<td>Foreign Internal Defense</td>
<td>PMESII (SEAS, MIT System Dynamics Model, Agile)</td>
<td>JICM, JWARS, JTLS</td>
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<tr>
<td></td>
<td>Diamond-US</td>
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</tr>
<tr>
<td>Special Reconnaissance</td>
<td>Direct Combat Model (JCATS)</td>
<td>JICM, ITEM, THUNDER, JTLS, JWARS, Diamond-US</td>
</tr>
<tr>
<td></td>
<td>Pythagoras</td>
<td></td>
</tr>
<tr>
<td>Direct Action</td>
<td>Direct Combat Model (JCATS)</td>
<td>JICM, ITEM, THUNDER, JICM, JTLS, JWARS, AMP, JTLS</td>
</tr>
<tr>
<td></td>
<td>JTLS</td>
<td></td>
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<tr>
<td>Psychological Operations</td>
<td>System Dynamics</td>
<td>JICM</td>
</tr>
<tr>
<td></td>
<td>SOF Behavioral Analysis Tool (Pythagoras)</td>
<td></td>
</tr>
<tr>
<td>Civil Affairs Operations</td>
<td>PMESII-TBD</td>
<td>JTLS</td>
</tr>
<tr>
<td></td>
<td>JTLS</td>
<td></td>
</tr>
<tr>
<td>Unconventional Warfare</td>
<td>PMESII (SEAS, MIT System Dynamics Model, Agile, IGS/EBW, IBC)</td>
<td>JICM, JWARS? (during latter phases of the UW Campaign Only)</td>
</tr>
<tr>
<td></td>
<td>Direct Combat Model (JCATS)</td>
<td></td>
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<tr>
<td></td>
<td>Tabletop Irregular Warfare Derivative</td>
<td></td>
</tr>
<tr>
<td></td>
<td>UK’s Peace Support Model (PSOM)</td>
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<tr>
<td></td>
<td>Diamond-US</td>
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<tr>
<td></td>
<td>Pythagoras</td>
<td></td>
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<tr>
<td></td>
<td>Interim Semi-static Stability Model</td>
<td></td>
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<tr>
<td>Information Operations</td>
<td>PMESII-TBD</td>
<td>ITEM, THUNDER</td>
</tr>
<tr>
<td></td>
<td>SOF Behavioral Analysis Tool (Pythagoras)</td>
<td></td>
</tr>
</tbody>
</table>

* COSMOS is a mission level ISR model being evaluated in the SAC

### SOF Tools:
- **Green** = Planned SAC Tool – on hand or readily available
- **Blue** = Potential SAC Tool
- **Orange** = SAC Tool requiring validation and development effort
- **Purple** = Candidate SAC Tool requiring further assessment
- **Red** = Future DARPA capability
## Analyzing the DPS: TOols Considered

<table>
<thead>
<tr>
<th>Tool</th>
<th>Pol</th>
<th>Mil</th>
<th>Econ</th>
<th>Soc</th>
<th>Info</th>
<th>Infra</th>
</tr>
</thead>
<tbody>
<tr>
<td>Synthetic Environment for Analysis and Simulation (SEAS)</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>System Dynamics</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Diplomatic and Military Operations in a Non-Warfighting Domain (DIAMOND)</td>
<td>X</td>
<td>X</td>
<td></td>
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<td></td>
<td>X</td>
</tr>
<tr>
<td>Algeria-based COIN/UW Wargame</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Integrated Semi-Static Stability Model (ISSM) – tracks stability levels</td>
<td>-</td>
<td>-</td>
<td></td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>GWOT Extended “X” Wargame</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>
GWOT X-Game Methodology
Methodology

• Extended “X” Wargame
  – Eight 2-week game turns; each turn representing one year of activity

• Working Groups (action officers)
  – Blue/Green: developed yearly campaign plans/CONOPS by quarter
  – Red: developed yearly campaign plans/CONOPS by month
  – White: adjudicated each year

• Oversight
  – 06 Level (Senior Steering Group)
  – 1 Star / OPSDEPS / JCS TANK (Operational Availability-07)

• Participants
  – Program Analysis & Evaluation
  – Policy International Security Affairs
  – Policy Special Operations/Low intensity Conflict
  – J8 Warfighting Analysis Division
  – J5 Deputy Director for the War on Terror
  – US Special Operations Command
  – Regional and Unified Commands
  – Services
  – Defense Intelligence Agency
  – National Counter Terrorism Center
  – Central Intelligence Agency
  – Department of State

Wargame-based analysis: Results specific to scenario and participants
Game Turn Process (2 Week Cycle per Game Year)

**Day 1**
White briefs Blue/Red on results of the previous year’s adjudication

**Days 1-3**
Red identifies actions for each group by month; Blue identifies actions for each country by quarter

**Day 4**
White meets to discuss adjudication plan

**Days 5-6**
White team adjudicates Blue actions

**Days 7-9**
White adjudicates Red actions

**Day 7**
White sends results of Blue adjudication to DoS & Policy ISA for validation

**Day 9**
White meets w/ OGA or e-mails results for validation

**Day 10**
White integrates results and builds turn outbrief

Involves updating ~35 PMESII fields per country, 7 fields per terrorist group, and adjudicating 200+ incidents

Blue and Red teams develop yearly plans throughout cycle

Involves updating ~35 PMESII fields per country and adjudicating 150+ actions across the DIMEFIL
Red: Major Categories of Activities

- Intel / surveillance
- Counterintelligence / operational security
- Recruiting / retention
- Training
- Financing
- Developing safe havens
- Information operations / propaganda
- Criminal activities
- Acquiring CBRNE
# Blue X-Game Activities

## Military Activities

<table>
<thead>
<tr>
<th>Activity</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coercive Campaign</td>
<td>MAS (WMDI) – Maritime Approach Security WMD Interdiction</td>
</tr>
<tr>
<td>Counter Insurgency</td>
<td>MIO - Maritime Interdiction Operation</td>
</tr>
<tr>
<td>Counter Terrorist Support &amp; Networks</td>
<td>MLE - Military Liaison Elements</td>
</tr>
<tr>
<td>Cooperative WMD Elimination</td>
<td>NFZ - No Fly Zone</td>
</tr>
<tr>
<td>Cooperative WoT</td>
<td>SoF – Show of Force</td>
</tr>
<tr>
<td>Enhanced Maritime Interdiction Operation</td>
<td>SSTR - Stability, Security, Transition and Reconstruction</td>
</tr>
<tr>
<td>TSC Exercises</td>
<td>STRK - strike -air, maritime or ground raid</td>
</tr>
<tr>
<td>Foreign Humanitarian Assistance - Relief</td>
<td>T&amp;E - TSC Train and Equip</td>
</tr>
<tr>
<td>Foreign Internal Defense</td>
<td>UW - Unconventional Warfare</td>
</tr>
<tr>
<td>TSC Information Operations</td>
<td>WMDE – WMD Elimination</td>
</tr>
<tr>
<td>Joint Combined Exercise for Training</td>
<td>WMDI – WMD Interdiction</td>
</tr>
<tr>
<td>Locate, Tag and Track [WMD, terrorists, equipment]</td>
<td></td>
</tr>
</tbody>
</table>

## Interagency Activities (Examples)

### Diplomatic
- Dialogue, coordinate, and convince countries to initiate/expand/cooperate on military operations, train and equip, border control, economic aid, WMD control/elimination
- Normalize/strengthen or cut/degrade diplomatic, economic, and trade relations with a country or non-state actor

### Information
- Fund faculty exchanges, cultural exchanges, university scholarships
- Conduct counter propaganda operations, PSYOP, OPSEC, public affairs, Internet

### Economic
- Provide economic development aid, disaster relief aid, foreign direct investment, favorable trade agreements, funding for FMF, IMET, Counter Terrorism Fellowship Program

### Financial
- Locate, track, and interdict financial transfers to terrorist organizations

### Intelligence
- Engage in information sharing, intelligence training, regional intelligence centers

### Law Enforcement
- Build/upgrade/expand law enforcement capabilities and/or judicial system (local, regional, national) on a unilateral/bilateral basis and/or in conjunction with NGO
- Conduct multilateral and/or bilateral anti-illegal immigration
  - narcotics/corruption/criminal operations
White: Adjudication Overview

The White team maintains the following spreadsheets throughout the duration of the extended wargame:

- Red Incident Tracker (Blue and Red versions)
- Blue Incident Tracker (Blue and Red versions)
- PMESII Tracker
- Terrorist Group Tracker (Blue and Red versions)
White: Red and Blue Incident Trackers

• Each incident that takes place during a given year is tracked in two Incident Trackers
  – Blue Version: tracks Blue’s perspective of the result of each incident or action
  – Red Version: tracks Red’s perspective of the result of each incident or action

• Each version includes:
  – Incident description (e.g., surveillance, training, attacking, kidnapping)
    – Date
    – Location
    – Magnitude
  – White adjudicated result

Example

<table>
<thead>
<tr>
<th>Red Incident</th>
<th>Date</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attempt surveillance, video taping, and documenting of Military Liaison Element (MLE) activity to collect evidence of U.S. military presence in country X</td>
<td>Jan 20XX</td>
<td>No detection of MLE activities</td>
</tr>
</tbody>
</table>
The PMESII tracker is the primary method for determining the effects of every Blue and Red action on conditions within each country.

<table>
<thead>
<tr>
<th>PMESII Factor</th>
<th>Adjudication Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Political Stability</td>
<td>FSI Indicator Tool and SME Rule Set</td>
</tr>
<tr>
<td>Military Capability</td>
<td>SME Rule Sets and White Cell Discussion</td>
</tr>
<tr>
<td>Economic Stability</td>
<td>FSI Indicator Tool and SME Rule Set</td>
</tr>
<tr>
<td>Social Stability</td>
<td>FSI Indicator Tool</td>
</tr>
<tr>
<td>Infrastructure Levels</td>
<td>FSI Indicator Tool</td>
</tr>
<tr>
<td>Information (Public Support Levels)</td>
<td>White Cell Discussion</td>
</tr>
</tbody>
</table>

FSI = Failed State Index
SME = Subject Matter Expert

PMESII Tracker 2.0

<table>
<thead>
<tr>
<th>Country</th>
<th>Political Stability</th>
<th>Military Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</tr>
</tbody>
</table>

FSI = Failed State Index
SME = Subject Matter Expert
### DIMEFIL Effects on the PMESII Tracker

#### Blue Military Adjudication Rules

<table>
<thead>
<tr>
<th>Rule Set</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>CC - Coercive campaign</td>
<td>P: 0 M: 0 E: 0 S: 0</td>
</tr>
<tr>
<td>DI - Counter insurgency</td>
<td>P: 0 M: 0 E: 0 S: 0</td>
</tr>
<tr>
<td>CS - Cyber strike</td>
<td>P: 2.1 M: 0.9 E: 0.6 S: 0</td>
</tr>
<tr>
<td>CS:R Cyber strike response</td>
<td></td>
</tr>
<tr>
<td>CTSN - Counter, terrorist support &amp; networks</td>
<td>P: 0 M: 0 E: 0 S: 0</td>
</tr>
<tr>
<td>C-WMD - Cooperative WMD elimination</td>
<td>P: 0 M: 0 E: 0 S: 0</td>
</tr>
<tr>
<td>CWST - Cooperative WST</td>
<td>P: 0.1 M: 0 E: 0 S: 0</td>
</tr>
<tr>
<td>EMIO - Enhanced maritime interdiction operation</td>
<td>P: 0 M: 0 E: 0 S: 0</td>
</tr>
<tr>
<td>Exer - TSC Exercises</td>
<td></td>
</tr>
<tr>
<td>FHA/R - Foreign Humanitarian Assistance - Relief</td>
<td>P: 0 M: 0 E: 0 S: 0</td>
</tr>
<tr>
<td>FID - Foreign Internal Defense</td>
<td>P: 0 M: 0 E: 0 S: 0</td>
</tr>
<tr>
<td>ID - TSC Information Operations</td>
<td></td>
</tr>
<tr>
<td>JCE - Joint Combined Exercise for Training</td>
<td>P: 0 M: 0 E: 0 S: 0</td>
</tr>
<tr>
<td>LTT - Locate, tag and track vessel, equipment</td>
<td>P: 0 M: 0 E: 0 S: 0</td>
</tr>
<tr>
<td>MIO - Maritime interdiction operation</td>
<td>P: 0 M: 0 E: 0 S: 0</td>
</tr>
<tr>
<td>MLE - Military fusion elements</td>
<td>P: 0 M: 0 E: 0 S: 0</td>
</tr>
<tr>
<td>NFZ - No fly zone</td>
<td>P: 0 M: 0 E: 0 S: 0</td>
</tr>
<tr>
<td>SDF - Show of Force</td>
<td>P: 0 M: 0 E: 0 S: 0</td>
</tr>
<tr>
<td>SSTR - Stability, security, transition and reconstitution</td>
<td>P: 0 M: 0 E: 0.3 S: 0.9</td>
</tr>
<tr>
<td>STRK - Strike, maritime or ground raid</td>
<td>P: 0 M: 0 E: 0 S: 0</td>
</tr>
<tr>
<td>TSE - TSC Train and Equip</td>
<td>P: 0 M: 0 E: 0 S: 0</td>
</tr>
<tr>
<td>UW - Unconventional warfare</td>
<td>P: 0 M: 0 E: 0 S: 0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>2 0 0.6 0.6 0.9</td>
</tr>
</tbody>
</table>

#### Blue Non-Military Adjudication Rules

<table>
<thead>
<tr>
<th>Rule Set</th>
<th>P</th>
<th>M</th>
<th>E</th>
<th>S</th>
<th>l(mfr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Diplomatic</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Convene partner nation(s) to</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>- Initiate or expand troop commitment to combined operations</td>
<td>0</td>
<td>0</td>
<td>0</td>
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</tr>
<tr>
<td>- Initiate or expand train and equip operations in a third country with US or third party funding</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
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</tr>
<tr>
<td>- Coordinate joint control to include maritime elements</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>- Initiate or expand financial/economic aid to a third country</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>- Resolve military ad hoc legal restriction issues (e.g. Article 19, Convene country(s) to)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>- Improve civil-military support for other countries, NGOs</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>- Accelerate facilitation peace agreement implementation</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>- Grant concession to a third party</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>- Modify/make public internal policies</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
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</tr>
<tr>
<td>- Normalize/strengthen or cut/degrade diplomatic, economic, trade, and general relations with a country or non-state actor</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>- Theoretical military action up to regime change if the country does not comply with US desired action</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>- Offer economic, military, or other incentives for compliance with US objectives</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>2. Information</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Fund faculty exchanges, cultural exchanges, university</td>
<td>0.12</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>- Promote education/collaborative projects</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>- Conduct Counter Propaganda Operations</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>- Conduct Media Disinformation</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>- Execute PSYOP</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
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</tr>
<tr>
<td>- Enforce OFAC sanctions</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
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</tr>
<tr>
<td>- Conduct Counterterrorism Use of Internet Operations</td>
<td>0.06</td>
<td>0</td>
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<td></td>
</tr>
<tr>
<td>- &quot;Debrief&quot; satellite photos with suspected,核实的 violent groups based in noncoercive Islamic doctrine</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>3. Economic</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Provide economic development aid</td>
<td>0.2</td>
<td>0.2</td>
<td>0.2</td>
<td>0.3</td>
<td></td>
</tr>
<tr>
<td>- Encourage foreign direct investment (FDI)</td>
<td>0.11</td>
<td>0.01</td>
<td>0</td>
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<tr>
<td>- Negotiate favorable trade agreements and/or WTO status</td>
<td>0.4</td>
<td>0.07</td>
<td>0</td>
<td>0.1</td>
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<tr>
<td>- Channel aid to development programs that visibly show international NGO and Western government involvement</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>- Provide additional aid for reconstruction efforts after natural disaster</td>
<td>0</td>
<td>0</td>
<td>0</td>
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</tr>
<tr>
<td>- Encourage economic development and humanitarian aid in an affected area</td>
<td>1.0</td>
<td>1.0</td>
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<td></td>
</tr>
<tr>
<td>- Provide funding for FMF, IMET, Counter-Terrorism Fellowship Program</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>- Implement financial controls on groups providing financial support to terrorist organizations</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>4. Financial</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>- Conduct banking reforms</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
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<tr>
<td>- Provide foreign currency loans during exchange rate crisis</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
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<tr>
<td>- Control inflation</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
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<tr>
<td>- Restructure debts</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>- Extend credit</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>5. Intelligence</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Conduct Counter Intelligence</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
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<tr>
<td>- Engage in information and intelligence sharing</td>
<td>0</td>
<td>0</td>
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<tr>
<td>- Establish regional intelligence center</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
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<tr>
<td>- Establish intelligence training</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
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<tr>
<td>6. Law Enforcement</td>
<td></td>
<td></td>
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<td></td>
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<tr>
<td>- Build up law enforcement capability and/or the development of a security force that can be used to control violence, crime, and/ or terrorism</td>
<td>0.2</td>
<td>0</td>
<td>0</td>
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<tr>
<td>- Conduct multinational and/or military anti-terrorism and/or anti-criminal organizations</td>
<td>0</td>
<td>0</td>
<td>0</td>
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<td></td>
</tr>
</tbody>
</table>

*Information effects are determined by White discussions and heuristics.*
White: Updating PMESII Levels using the FSI Tool

- Each action’s impact on Political, Economic, Social, and Infrastructure stability levels is determined by analyzing whether or not the action results in a rise/fall of one or more of the Fund for Peace’s Failed State Index (FSI) indicators.

**Example**

- **Action:** Well coordinated Red IO plan that aims to highlight the economic differences among sects.

- **Adjudication Process** (example effect on economic levels shown to the right):
  1. White determines (yes=1, no=0) whether or not the action affects the FSI tool questions (Answer column).
  2. FSI tool calculates a random draw from an appropriate range (Adjustment column).
  3. White team inserts final adjustment into the PMESII tracker adjudication matrix (Total Adjustment).
• Each action’s impact on Military / Counter-terrorism (CT) effectiveness levels for each country is tracked on a 1-3 scale where:
  – 1=Inadequate
  – 2=Adequate
  – 3=Strong

• Unique rule sets developed for DIMEFIL activities determined to impact Green CT effectiveness levels (example rule set shown to the right)

• Each action’s impact on Green military/CT levels is calculated using rules developed by SMEs

Example: When Blue conducts a CWOT mission, Green military capabilities are updated according to a table
White: Updating PMESII Levels using Heuristics

• Each action’s effect on Information (public support) levels is determined through white cell discussion

• Heuristics were created to guide the process

Example

• Action: Blue conducts a Joint Combined Exercise for Training (JCET)

• Rule
  – If the Green public does not support Blue and JCET becomes public knowledge, then Green public support falls by X and Blue public support falls by Y where X<Y
White: Terrorist Group Tracker

- Tracks for each of the terrorist groups the following factors:
  1. Defection rates
  2. Financing
  3. IO success rate
  4. Recruitment rates
  5. Training rates
  6. Membership quantity (range)
  7. Locations of operation
  8. Freedom to operate
  9. Overall effectiveness level

- Defections, financing, popular support, recruitment, training, and effectiveness levels are reported as follows:
  - Static/+/- represent the trend of improvement/deterioration in each area
  - Red/Yellow/Green represent group effectiveness in each area (e.g., after several years of trending positively a group may move from yellow to green for a certain category)

- The Blue version tracks Blue perception of capability while the Red version tracks “ground truth”

Example

<table>
<thead>
<tr>
<th>Terror Group X</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
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<tbody>
<tr>
<td>Defection Rates</td>
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<td>static</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
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<tr>
<td>Financing</td>
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<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
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<td>static</td>
<td>+</td>
<td>+</td>
<td>static</td>
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<td>200 to 500</td>
<td>200 to 500</td>
<td>200 to 500</td>
<td>200 to 500</td>
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<td>-</td>
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<td>Overall Effectiveness</td>
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<td>+</td>
<td>+</td>
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