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MARITIME STABILITY OPERATIONS GAME

GAME REPORT



**U.S. Naval War College
Newport, Rhode Island**

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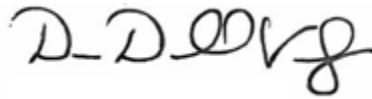
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January 18, 2012

The War Gaming Department of the U.S. Naval War College hosted the Maritime Stability Operations Game on 6-8 December 2011. The following document was prepared by the War Gaming Department faculty and has been reviewed by the appropriate game sponsor staff personnel. The findings in this report reflect the observations, insights and recommendations that were derived from the participants during game play.

The War Gaming Department conducts high quality research, analysis, gaming, and education to support the Naval War College mission, prepare future maritime leaders, and help shape key decisions on the future of the Navy. The War Gaming Department strives to provide interested parties with intellectually honest analysis of complex problems using a wide range of research tools and analytical methodologies.

Game reports are developed for the game sponsor; however, the game report and related data may be available on an as-requested basis. For additional information please contact the Chairman, War Gaming Department, Naval War College, 686 Cushing Road, Newport, RI 02841 or via electronic mail at wargaming@usnwc.edu. Further information may be found on our website, located at www.usnwc.edu/wargaming.



David A. DellaVolpe
Chairman
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EXECUTIVE SUMMARY

Introduction

During the period of 6-8 December 2011, the United States Naval War College (NWC) in Newport, Rhode Island hosted the Maritime Stability Operations Game (MSTOG). The MSTOG was developed and executed at the request of the game sponsor, the Navy Irregular Warfare Program Office (NIWO).

The purpose of the MSTOG was to explore how to conduct maritime stability operations (MSTO) in order to prevent and respond to instability, thus building upon previous NIWO-sponsored efforts, such as the Irregular Challenges 2010 Game. Based on NIWO's areas of interest and informed by this literature review, the MSTOG was structured to explore the three research areas concerning implications to (1) emerging MSTO doctrine, (2) future force structure, and (3) the overall maritime strategy relative to MSTO. Consequently, the following overarching research questions were developed:

- How do missions associated with maritime stability operations prevent and respond to instability?
- How do maritime stability operations contribute to achieving broader strategic considerations?

Game Structure and Participants

MSTOG was a two-sided game played over a three-day period. Approximately 63 players were divided into four focus groups (or cells), representing different actors associated with the scenario. A fictional scenario was used to prevent players from relying on real-world plans and to ensure ~~that~~ game results could be generalized to a wide array of global regions and challenges.

The Blue Cell represented a coalition task force assigned a mission to assist a host nation. The Purple Cell represented non-Department of Defense entities that provided capabilities beyond those inherent in the coalition task force. The Red Cell represented illicit actors (insurgents and criminals) that could impede the Blue Cell's efforts while the White Cell represented the host nation (Green), higher headquarters for the United States and its partners, a rising regional competitor (Orange), world opinion, and the environmental conditions.

Players were invited from a wide variety of organizations and commands and were selected for their experience and expertise at the operational level for missions associated with MSTO. Players were sent the draft MSTO doctrine as read-ahead material.

The game consisted of three moves with each move exploring a separate phase of MSTO. Move 1 explored the mission of assisting a host nation to build maritime capacity and understand the underlying conditions that allow irregular threats to emerge. Move 2 explored how maritime forces can respond to a disaster and provide foreign humanitarian assistance. Move 3 explored how to transition MSTO responsibilities to a host nation. For each move, players participated in a series of activities including facilitated discussions, preparation of operational plans, plenary sessions, and submission of player surveys.

Themes

During post-game analysis, NWC researchers utilized numerous analytic techniques to triangulate credible findings from the data. The following player-derived themes emerged during this process:

Comprehensive Approach

Players supported the assertion that a comprehensive approach was required for effective and efficient MSTO. This comprehensive approach described unified action in terms of assessment, strategic communication, and the conduct of civil-military operations. Players recognized that stability operations were not the purview of maritime forces alone. Government agencies, coalition partners, and the host nation played critical lead roles, because the sources of instability often originated from ashore where these actors had better situational awareness than maritime forces due to their persistent presence in the region. Players perspective concerning a comprehensive approach seemed aligned with the new strategic guidance for the Department of Defense proposing that “the United States will emphasize non-military means and military-to-military cooperation to address instability and reduce the demand for significant U.S. force commitments to stability operations...operating alongside coalition forces whenever possible” (DOD, 2012, p. 6).

The previous perspective of interoperability of maritime forces with other entities concerned the ability to leverage the capabilities from other agencies, organizations, and nations in pursuit of maritime stability objectives (NWC Irregular Challenges Game Report, 2010). However, this game produced an emergent paradigm concerning how maritime forces could provide capabilities in support of other agencies, organizations, and nation in pursuit of their maritime stability objectives. This emergent paradigm seemed consistent with guidance that “U.S. forces possess rapidly deployable capabilities...in supplementing lead” (DOD, 2012, p. 6) agencies and organizations.

Flexible and Responsive Capabilities

Players asserted that MSTO capabilities consisted of more than just platforms. These capabilities included the ability to conduct a comprehensive approach enabled through training and education as well as information dominance. A comprehensive approach required maritime forces to work in civil-military and coalition environments. Stability operations tended to present challenges with complexity and intensity equivalent to combat operations, requiring specialized training to operate in these diverse and complex environments. However, players assessed that maritime general purpose forces lacked the training necessary to conduct MSTO on a persistent basis, possibly explaining why MSTO has been done in an ad hoc fashion.

Players indicated that resources must be multi-mission in terms of flexibility and responsiveness. Maritime forces had to provide flexible options to overcome the complexity associated with sources of instability and align with the strategic message desired. Moreover, maritime forces had to transition rapidly from steady state operations to crisis response. The need for responsiveness suggested that maritime forces must do multiple missions and be forward deployed.

Forward-Presence

Game findings suggested that forward presence represented the critical requirement for MSTO. Players indicated that forward-deployed maritime forces had to do three missions, consisting of maritime governance and participation, foreign humanitarian assistance, and deterrence. Maritime governance and participation concerned the enforcement of foreign domestic law and regulations pertaining to seas, bays, estuaries, rivers, and ports with due regard to international law. Specifically, maritime governance

included law enforcement activities in the maritime domain to enhance economic stability, such as the regulation of fisheries and management of waterways. Maritime participation concerned strengthening governance through regional maritime security cooperation and foreign security assistance through training and assisting host nation security forces.

Players identified foreign humanitarian assistance as closely associated with disaster response and necessary in order to address sources of instability and set conditions for crisis response when needed. Game play reflected the value of maritime forces as credible capabilities to prevent escalation through deterrence of state and non-state regional actors.

Forward-deployed maritime forces conducting these mission areas required access to a region of instability. Additionally, players felt that maritime forces that conducted these mission areas effectively contributed to the ability to gain and maintain access to a region of instability. Upon transition from steady state operations to crisis response, access would enable maritime forces to conduct disaster response or combat operations as necessary. MSTO capabilities by forward-deployed maritime forces enhanced access to potential regions of instability in support of overall maritime strategy.

Recommendations

Based on the game findings, the following recommendations are offered to inform each research area:

- (1) MSTO Doctrine. Given the ability to maintain access with minimal footprint ashore in regions of instability, the MSTO doctrine should highlight forward presence as the role of maritime forces in stability operations. The MSTO doctrine should continue to emphasize that a comprehensive approach as the most effective and efficient means for maintaining forward presence for MSTO. However, the need to work with partners and allies, as well as the critical role of building capacity of the host nation, should be stressed in order to increase the legitimacy, share the cost, and establish relationships for MSTO.
- (2) Force Structure. Games are poor at identifying and prioritizing specific forces and capabilities associated with missions since it is difficult to discern whether results are a function of the scenario employed or the bias of players. However, games are good at identifying attributes of capabilities that emerge based on how the players made decisions and employed forces in the game in order to achieve effects. Based on game findings, capability investment decisions should be assessed according to the following attributes in terms of the ability to: maintain forward presence, conduct foreign humanitarian assistance, conduct maritime governance and participation, provide deterrence, provide situational awareness for assessment as part of information dominance, conduct civil-military operations, operate in coalition operations, and work with host nations. Investment for general purpose forces in enabling capabilities that enhance the ability to understand and build relationships in potential regions of instability will ensure access on a persistent basis for both steady state operations and crisis response. These enabling capabilities include information dominance, training and education, and civil-military operations.
- (3) Maritime Strategy. As DOD Instruction 3000.05 (2009) states that “stability operations are a core U.S. military mission that the Department of Defense shall be prepared to conduct with proficiency equivalent to combat operations” (p. 2), the successive maritime strategy should consider maritime stability operations as an equivalent and enabling mission area to maritime combat operations. Since potential adversaries may be more likely to confront maritime forces through indirect methods that capitalize on

sources of instability, maritime forces must prevent escalation and set conditions for responding to crises. The linkage between MSTO and the overall maritime strategy concerns the ability of forward-deployed forces operating in a comprehensive approach to gain and maintain access through maritime governance and participation, foreign humanitarian assistance, and deterrence.

I. INTRODUCTION

The sponsor for the Maritime Stability Operations Game (MSTOG) was the Office of the Chief of Naval Operations of the Navy (OPNAV N3N5 IW), Navy Irregular Warfare Program Office (NIWO). The game was held at the U.S. Naval War College, Newport, Rhode Island, from 6-8 December 2011. Section III(a) of this report contains a demographic summary for the players and subject matter experts for this three-day event.

Game play afforded the following benefits for participants:

- Demonstrated how a complex and dynamic security environment requires a range of maritime capabilities for contributing to stability and responding to instability;
- Demonstrated a transition from steady state engagement to crisis response while building host nation capabilities, deterring near-peer challenges, and addressing a range of irregular threats;
- Identified ways to improve Navy interoperability with U.S. Marine Corps, U.S. Coast Guard, Special forces, and multi-national partners; and
- Identified new ideas for improving collaborative planning and coordination with country teams, multi-national, and NGO partners.

In addition to the benefits for the game's participants, the Data Collection and Analysis Team (DCAT) of the War Gaming Department rigorously examined tangible, analytical data in the post-game process. These MSTOG data were analyzed in order to provide the sponsor with insights grounded in game play regarding the nexus between maritime stability operations and accomplishing the broader, full spectrum of Navy missions. Building on the findings of the 2010 Irregular Challenges Game, the DCAT produced this post-game report to provide NIWO with a better understanding of the relationships needed to prevent and respond to instability, and the interrelationships between stability operations and full spectrum of U.S. Navy missions.

At a more structural level, this MSTOG report seeks to inform (1) future force structure; (2) emerging maritime stability operations (MSTO) doctrine; and (3) the overall maritime strategy relative to maritime stability operations.

a. Statement of Sponsor's Interest in this Topic

The Office of the Chief of Naval Operations of the Navy (OPNAV N3N5 IW), Navy Irregular Warfare Program Office (NIWO) requested that the Naval War College (NWC) develop and execute a game that explored the operational-to-strategic-level challenges posed by engaging in varied maritime stability missions using a range of multi-mission capabilities. This Maritime Stability Operations Game (MSTOG) also sought to inform Navy doctrine germane to this topic.

NIWO's interest in this subject stemmed from two stated hypotheses: First, the risk of U.S. and allied interests in open conflict with a peer-competitor and its partners could be lessened if all parties develop a

shared experience through coordinated responses to crises. Second, that balance should be sought between U.S. efforts to strengthen its ally while pursuing a cooperative security relationship with a peer competitor's partner nation.

Faculty assigned to the NWC's War Gaming Department (WGD) within the Center for Naval Warfare Studies (CNWS) engaged in a preliminary literature review in order to delve into NIWO's areas of interest. This review examined technical and scholarly sources ranging from the Department of Defense directive for stability operations (DODI 3000.05, 2009) and Watson (2008) to multi-mission enabling capabilities (Biddle, 2004) and interoperability (Hurra as cited in Weerakkody, Janssen, & Dwivedi, 2009). Lastly, the concepts of information dominance (Waltz, 2003) and situational awareness were explored.

A previous NIWO-sponsored game, Irregular Challenges 2010, explored why and what activities are needed to prevent and respond to instability caused by a confluence of irregular challenges (NWC, 2010). This game was designed to explore how to conduct maritime stability operations in order to prevent and respond to instability. Based on NIWO's areas of interest and informed by this literature review, the MSTOG was structured to explore the three overarching objectives found in this section.

b. Objectives Relevant to Overarching Navy Missions

There were three overarching objectives for the Maritime Stability Operations Game, as follows:

1. Inform future force structure;
2. Inform emerging Maritime Stability Operations Doctrine; and
3. Inform the overarching maritime strategy

Each of these three objectives is addressed in the MSTOG report.

c. Overarching Research Questions

In order to explore the objectives relevant to overarching Navy missions, the following research questions and subsidiary questions were developed:

- Overarching Question #1: In what ways do missions associated with maritime stability operations prevent and respond to instability?
- Overarching Question #2: What are the relationships and interrelationships between maritime stability operations and achieving broader strategic considerations?

d. Subsidiary Research Questions

These questions focused on the three imperatives for integrating Confronting Irregular Challenges (CIC) capabilities into Navy full spectrum operations:

- How does the mission area referred to as maritime stability operations reinforce understanding of the U.S. Navy's full spectrum of operations as part of the broader national security strategy?
- How do multi-mission capabilities for confronting irregular challenge (CIC) contribute to the full spectrum of operations?
- How does interoperability of maritime forces with other agencies, organizations, and partners enhance partner security capacity and the U.S. Navy's regional access?

e. Identification of Hypotheses

To address the sponsor's concerns regarding the inextricable relationships between nations, maritime stability operations, and accomplishing broader Navy missions, the following hypotheses were proffered in this game:

- *Hypotheses #1 (HA1)*: The risk of Blue-Orange open conflict could be lessened if all parties develop a shared experience through coordinated responses to crises.
- *Hypothesis #2 (HA2)*: Balance should be sought between Blue efforts to strengthen Green while pursuing a cooperative security relationship with Orange.

f. Identification of Independent and Dependent Variables

The independent variables in this game were the identified MSTO missions sought by the Blue, Purple, and Red cell leaders (x1(a),(b),(c)) and multi-mission capabilities (x2(a),(b),(c)) employed the Blue, Red, and Purple player cells in this game. The dependent variables were comprised of the ability to accomplish mission (y1(a),(b),(c)) or attain the desired effects of employing these capabilities (y2(a),(b),(c)).

In order to better assess the impact of these independent variables on the dependent variables, a series of mediator variables (Orange and Green cell actions), referred to as (z1) and (z2) respectively, were introduced with oversight from the White (Control) cell. The mediator variables were also employed in order to suppress the natural inclination found in hypothesis testing to assume direct or causal relationships between the independent and dependent variables (i.e., commit a Type I error).

g. Definition of Key Terms

Enabling Capability: "The...[activity needed]...to achieve a stated mission objective with the greatest benefit to the key stakeholders using the minimum force necessary to achieve maximum desired effect. (Biddle, 2004, pp. 5-6)

Information Dominance: "Superiority in the generation, manipulation, and use of information sufficient to afford its possessors military dominance. It has three sources...Command and control...Intelligence...[and] Information warfare." (Waltz, 2003, p. 16)

Interoperability: The ability of systems, units, or forces to provide services to and accept services from other systems, units, or forces, and to use the services so engaged to enable them to operate efficiently

together.” (Kausnic & Anderson, (2004), and Hurra, (2000), as cited in Weerakkody, Janssen, & Dwivedi, 2009).

Irregular Challenges: Irregular threats and the underlying conditions that allow irregular threats to emerge. (NWC, 2010)

Irregular Warfare: “A form of warfare that has as its objective the credibility and/or legitimacy of the relevant political authority with the goal of undermining or supporting that authority.” (USJFCOM, 2006)

Maritime Stability Operations: “Military and civilian activities within the maritime environment conducted across the spectrum from peace to conflict to establish or maintain order in States and regions.” (Watson, 2008, p. xiii [adapted from DODI 3000.5, 2009])”

Multi-Mission Capabilities: Flexible or adaptable platforms able to achieve multiple mission objectives of higher headquarters (NWC, 2010)

Platform: Tangible entities that can be tasked, such as a person, team, unit, center, ship, or aircraft. From the perspective of the Purple cell, this could also include programs or resources.

Situational Awareness: “Knowledge and understanding of the current situation which promotes timely, relevant, and accurate assessment of friendly, enemy, and other operations within the battlespace in order to facilitate decision making. An informational perspective and skill that fosters an ability to determine quickly the context and relevance of events that are unfolding.” (USMC HQ, 1998)

II. GAME DESIGN & RESEARCH METHODOLOGY

a. Discussion of Game Design

The Maritime Stability Operations Game (MSTOG) was designed to explore how maritime stability operations (MSTO) can prevent and respond to instability. Moreover, game findings could serve to inform future force structure, emerging doctrine, and the overall maritime strategy relative to MSTO.

As an applied research study, this mixed methods approach would contribute to the existing body of knowledge concerning MSTO. Although characterized as mixed methods, the approach employed was more qualitative focused than experimental. This approach afforded researchers the ability to explore and identify concepts and relationships not previously considered in projects, such as the 2010 Irregular Challenges Game.

The game was designed to be information-rich, therefore, participants (Appendix A) represented a purposeful sample who were invited based on their experience and expertise at the operational level for missions associated with MSTO. Activities conducted were experiential, involving a diverse range of issues that would stimulate critical analysis and creative thinking among the players. Based on this common experience during game play, players derived themes associated with conducting MSTO.

Participants played a two-sided game over a three-day period (Appendix B) in which they used their expertise to assist a host nation and confront irregular threats in the context of a fictional scenario. The fictional scenario (Appendix C) was chosen over a real-world scenario in order to aggregate the attributes from many nations. In this way, results could be generalizable to a wide array of global regions and challenges. This approach prevented players from reliance on real-world plans at the expense of identifying ideal strategies desired to confront problems.

Players were sent the draft MSTO doctrine as recommended reading. The game sponsor kicked off the game with a challenge to players to assess whether the draft doctrine was written in a way that supports working with and through international allies and partners. He also offered as areas of inquiry: Do metrics really matter, and if so which ones matter most? How do we reduce the ad hoc nature prevalent in Stability Operations? And how can C2 be better achieved (C2 defined as “*collaboration and coordination*” vice “*command and control*”)?

b. Game Mechanics

Following briefs on administrative and gaming procedures, approximately 63 players were divided into four focus groups (or cells), representing different actors associated with the scenario. The four groups, or cells, looked at the same scenario from different perspectives.

A detailed summary of the players’ backgrounds, including subject matter expertise, education, and years of experience is found in section III(a) of this game report. In general, the Blue cell consisted of participants representing maritime organizations divided into four functional areas (Navy, Coast Guard, Marine Corps/Special Operations, Partner Nations) and represented a coalition task force assigned a

mission to assist a host nation. The Purple cell consisted of participants representing non-Department of Defense entities divided into three functional areas (government agencies, non-government/international organizations, commercial industry) assigned to identify requirements and capabilities available outside the coalition task force. The Red cell consisted of participants with counter-terrorism, counter-insurgency, and law enforcement expertise and was divided into two functional areas (insurgents, criminals) that represented illicit actors that could impede the Blue cell's ability to achieve its objectives. The White cell represented the host nation (Green), higher headquarters for the United States and its partners, a rising regional competitor (Orange), world opinion, and the environmental conditions.

The game consisted of three moves (Appendix B) in order to explore three separate phases of MSTO. Move 1 occurred on day 1 and explored the mission of assisting a host nation to build maritime capacity and understand the underlying conditions that allow irregular threats to emerge. Move 2 occurred on day 2 and explored how maritime forces can respond to a disaster and provide foreign humanitarian assistance. Move 3 occurred on day 3 and explored how to transition MSTO responsibilities to a host nation.

Each move consisted of three sessions. The mission analysis session utilized a facilitated discussion to identify problems, activities to address those problems, and a prioritized list of capabilities in each functional area to conduct operations. The adjudication or actions/effects session consisted of dynamic game play whereby players submitted actions and desired effects to the control team. The control team determined the adjudicated effects and provided immediate updates to the other player cells for further planning and actions.

The adjudication process employed for this game is called "running time adjudication." This process differs from the traditional move-step adjudication process in that adjudication occurs simultaneously with player activities. As move cards are submitted by players, the control team adjudicates the effects of those actions and sends the effects to the player cells for further planning and follow-on operations. In this way, the game controllers can explore a range of issues and varied escalation levels associated with MSTO across the spectrum of maritime operations.

The final session for each move consisted of post-move activities to include a plenary session among cells with an individual player survey (Appendix D) plus facilitated discussion using collaborative software. Following move 3, a final combined plenary session (Appendix E) allowed players to share their expertise and game experiences with the game sponsor and identify themes that emerged from game play.

c. Analytic Framing

The overall framing for this research project was triangulation, routed in grounded theory, descriptive statistics, and content analysis. This triangulation process follows current thinking in the field of social science research that suggests a variety of analytic tools maximizes the credibility of the work in behaviorally based activities. This methodology takes advantage of multiple data collection techniques and allows the researchers to derive the same or very similar conclusions using different datasets or methods.

Consistent with this process, the three data streams collected during the MSTOG incorporated mixed methods procedures into post-game analysis. A brief description of each analytic process follows.

Content Analysis: Described as a method in which a researcher seeks objectively to describe the content of communication messages that people have previously produced, content analysis involves identifying coherent and important examples and patterns in the data and subdividing data into coherent categories, patterns, and themes.

Grounded Theory: A more detailed and methodical approach to analysis than content analysis, grounded theory employs systematic, hierarchical procedures to develop inductively derived theory grounded in data. Grounded theory directs researchers to look for patterns in data so that they can make general statements about the phenomena they examined. For the purposes of the MSTOG, both induction and deduction were employed, thus allowing the team to use a theory discovery methodology that allowed the researchers to develop a theoretical account of the general features of a topic while simultaneously grounding the account in empirical observations or data. Selective, in-vivo, and serendipitous (emergent) coding were conducted on these data using the ATLAS.ti software application.

Descriptive Statistics/Hypotheses Testing: Descriptive statistics measured central tendency including mean, median, mode, standard deviation, variance, and skew, on the Likert-scale individual survey responses. The DCAT used single-factor Analysis of the Variance (ANOVA) in order to accept or reject the sponsor's hypotheses (alpha of .05). Specifically, hypotheses #1 was that the risk of Blue-Orange open conflict could be lessened if all parties developed a shared experience through coordinated responses to crises. Hypothesis #2 was that balance should be sought between Blue and strengthening Green while pursuing a cooperative security relationship with Orange. These ANOVAs were employed for the three individual Likert-scale surveys presented to player cells during the final session of each move.

Data Visualization: Using i2 Textchart and ATLAS.ti software, the research team was able to identify patterns, associations, networks, trends, and anomalies pertaining to the missions, multi-mission capabilities, and actions/effects in this game.

d. Collection Approach

As an applied research project, the MSTOG focused on capturing insights derived from the game participants' actions garnered from subject matter expertise and real-world experience grounded in a common scenario. This methodology proved valuable to open the aperture and allow the participants to explore issues in a grounded manner from many angles free from their inherent biases.

The MSTOG featured the use of a multi-sided gaming design, during which players in the Blue (friendly), Red (opposing) and Purple (interagency and nongovernmental interests) cells performed situational assessment during mission analysis and identified multi-mission capabilities in order to engage in MSTO in support of broad spectrum Navy missions.

To explore the game's research questions and hypotheses, the MSTOG captured data at the time of move submission via each cell's electronic game card. This game card provided insights into the multi-mission capabilities sought by the players. After each of the three moves, participants individually completed an

electronic, structured post-move survey comprised of fixed-choice, Likert-style, and open-ended questions.

In addition to submitting electronic move cards and individual surveys, participants engaged in facilitated discussions with open note/threaded discussion capabilities in WEB IQ after each of the three moves. Additional insights were also captured by ethnographers from facilitated discussion in the Blue/Purple and Red/White plenary sessions.

On the final day of the MSTOG, ethnographers captured insights from the final combined plenary session consisting of senior leaders, cell leads, and the event sponsor (NIWO).

The four primary data streams analyzed in this game were descriptive, because they revealed the nature of certain situations, settings, processes, relationships and systems. Because they were descriptive, the focus of post-game analysis was to present these datasets to the sponsor, and aggregate and assess them in order to clarify the information that was gathered.

The post-game research team aggregated the primary datasets in priority order. This order was (1) cell move sheets, (2) post-move individual participant surveys, (3) open facilitator/threaded discussions notes captured via WEB IQ, and (4) ethnographer notes for the post-move plenary sessions (Blue/Purple and Red/White) and final session with senior leaders, cell leads, and the event sponsor.

Before, during, and after the game, members of the post-game research team ensured the following parameters for these data streams strictly adhered to quality assurance/quality control requirements. These included the following:

- Formatting, standardization, and internal validity: Collection instruments were designed to ensure that accurate conclusions could be drawn from the data. To ensure their proper use during the MSTOG, specific internal validity issues with these instruments and the information they were designed to collect was identified during an alpha test on 1-2 November 2011. All of the questions included in the individual surveys were pre-tested (along with assessing overall instrument efficacy) during the alpha test with a small sample of individuals from the population being studied, or one very similar to it. These survey questions were vetted to ensure they did not presuppose a desired outcome on the part of the researchers or skew the agenda. Lastly, these instruments were further revised prior to the game's beta test on 8-9 November 2011.
- External validity: Due to the inherent challenges posed by ensuring consistent, accurate measurement in events such as the MSTOG, criterion validity was used to see if the results from an item or set of measures (a scale) were similar to some external standards or criteria. External validity applies predominately to the baseline questions that were asked in the individual participant surveys collected after each of the three moves on 6-8 December 2011. In order to provide quality controls on data collection, these questions were evaluated by an internal focus group as part of the Alpha and Beta testing processes, prior to being deployed in this game.

A summary of the datasets derived from this game, and their corresponding analytic methodologies and assigned tools is included in Table 2.1.

Dataset Name	Inherent Value of Data	Primary Analytic Technique & Tools
Cell-Based Move Sheet	Collective Insights/Macro-level Themes	Grounded Theory using selective coding with ATLAS.ti and Data Visualization using i2 Analyst Notebook
Post-Move Participant Survey (Likert Scale Questions)	Individual Insights	Descriptive Quantitative Statistics using Microsoft Excel/Hypothesis Testing
Post-Move Participant Survey (Open Ended Questions)	Individual Insights	Grounded Theory using selective and in-vivo coding using ATLAS.ti
Facilitated Discussion Session Threaded Discussions/Open Notes (Cell-Based and Plenary)	Macro-Level Insights	Content Analysis and Grounded Theory using selective coding, in-vivo and serendipitous coding with ATLAS.ti
Ethnographic Notes from Blue/Purple and Red/White Plenaries Sessions and Sponsor/Cell Leads/Senior Leaders Group Session	Macro-Level Insights	Content Analysis and Grounded Theory using selective coding, in-vivo and serendipitous coding with ATLAS.ti

Table 2.1 – Survey and Environmental Notes Data Streams and Follow-on Analytic Approach

III. ANALYSIS & RESULTS

a. Player Demographics

The subsequent demographic statistics were compiled from self-reported responses garnered during the baseline player survey questionnaire administered during the move 1 session. The 50 players who contributed demographic data consisted primarily of mid to senior-level military, civilian government, and non-governmental officials as well as industry experts. While a majority of the players represented U.S. civilian and government organizations, senior-level representatives from several partner nations (Germany, Columbia, Denmark, and Chile) also participated. All players had ample knowledge and experience to draw upon when developing insights into relationships and capabilities needed to prevent and respond to instability, and the interrelationships between stability operations and full spectrum of U.S. Navy missions. The players were selected based on their specialized knowledge of national and maritime security strategy, stability operations, and the geo-political environment. A majority of the players in the Blue cell represented military and academia, while players in the Purple cell consisted primarily of academia, non-governmental, and industry representatives.

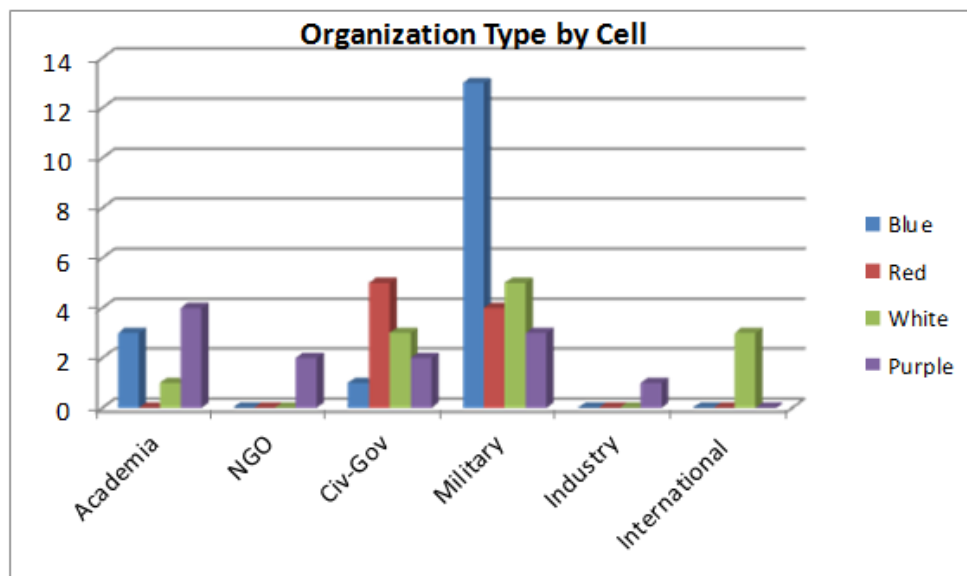


Figure 3.1 – Organization Type by Cell

Overall, players self-reported to have a high level of experience in their respective fields. The 50 players averaged more than 20 years of experience in their respective area of expertise. The data shown in figure 3.2 reflect the proportion of player responses across each of the four player cells.

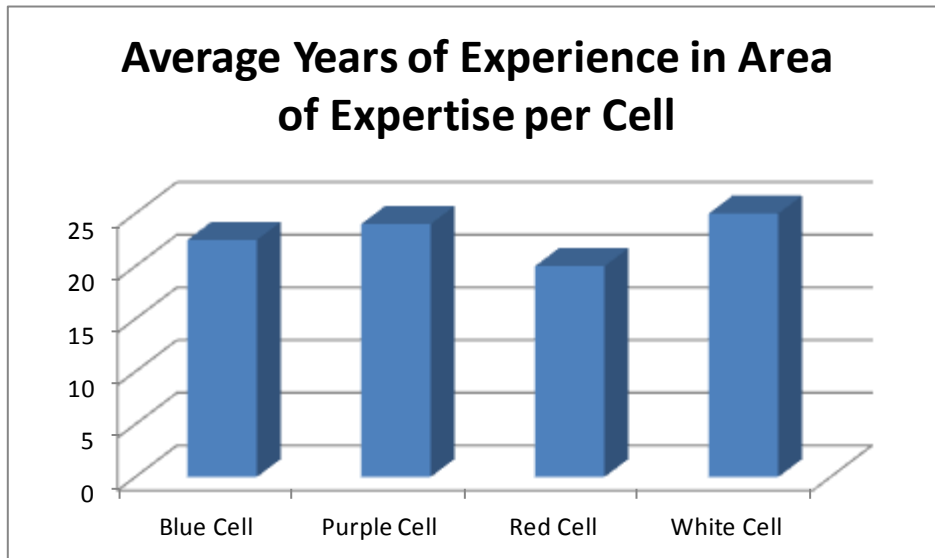


Figure 3.2 –Average Years Experience

The overall education level for the MSTOG players was moderately high relative to other games conducted at the Naval War College, with more than 65% of the players possessing postgraduate degrees, including 6% with an earned doctorate (PhD, EdD, etc.) and 6% with a law degree (JD).

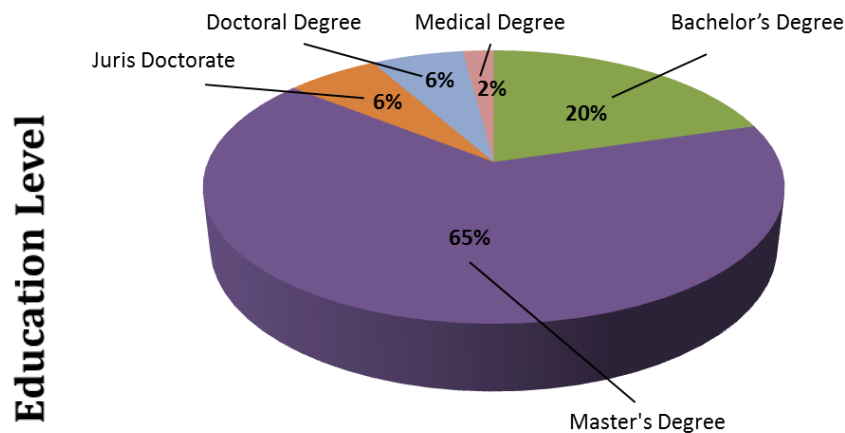


Figure 3.3 - Summary of Game Players' Education from Baseline Survey

The overall Joint Professional Military Education (JPME) level for Maritime Stability Operations Game (MSTOG) players was average when compared to other games conducted at the Naval War College, with almost fifty percent of the players completing some type of JPME. Responses indicated that international players, industry, and non-governmental representatives who did not complete the traditional JPME had completed some type of joint professional education as noted as 'other.' However, these data may also reflect the large number of civilian non-governmental players who are not required to enroll in JPME courses of study.

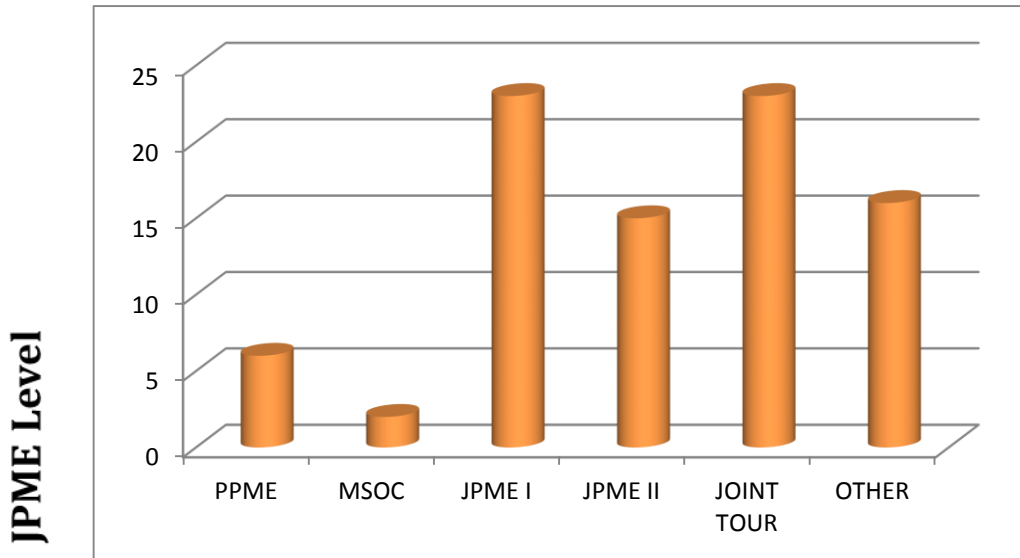


Figure 3.4 - Number of Game Players and Completion of JPME from Baseline Survey

Each player was assigned a primary functional area of expertise for game play. Table 3.1 summarizes the primary functional area of expertise as self-reported by the players. However, the majority of players had extensive experience in more than one discipline, so the actual diversity of expertise is even greater than shown. These characteristics suggest that the players reflected the intended characteristics (mid to senior level military and civilian defense, nongovernmental, industry, and international subject matter experts with diverse backgrounds in the disciplines related to stability operations) desired by the game sponsor (NIWO) and the game design team.

Functional Area of Expertise	Total # of Players
Stability Operations/Irregular Warfare	4
Surface Operations	7
Air Operations	1
Special Operations	3
Intelligence & Law Enforcement	14
Logistics	2
Legal	2
Medical	1
Engineering	1
National Security/ Foreign Affairs	3
Strategy & Policy	2
Wargaming & Analysis	3
Civil Affairs/Diplomacy	6

Table 3.1 – Summary of Player Primary Functional Areas

b. Summary of Game Moves

The MSTOG play was conducted over a three-day period, with one day being dedicated to each “move” or scenario phase. For each day’s move, player cells could initiate as many “move cards” as needed in order to generate the desired effects and help shape the battle-space.

The following summary outlines who the players represented:

PURPLE Cell: the Purple cell was divided into multiple teams comprised of IND (Industry), NGO (Non-Government Organizations), IGO (UN and other Intergovernmental Organizations), and GOV (Government Agencies). The cell was organized as a modified Embassy Country Team led by a fictitious Ambassador to country Green, but incorporating the NGO/IGO/business community in its membership and deliberations. Players identified problems and possible coordination requirements to combat the Natural Disaster, Pandemic, Government Instability, and issues that arose from each.

BLUE Cell: The Blue cell represented a coalition task force (CTF) and consisted of U.S. Navy, Marine Corps, Coast Guard forces, as well as maritime forces from partner nations.

RED Cell: The Red consisted of players representing the perspectives of criminal elements and insurgents, identified as the Democratic Insurgent Group (DIG). Both groups had different goals and motivations.

The following tables and discussion summarize the problems and activities that the player cells focused on during each move:

PURPLE MOVE 1:

Problems	Activities/Capabilities
Disease (Building Pandemic)	OCHA and NGOs conduct emergency evaluation and develop a crisis map. Develop picture of mitigation for developing containment strategy for pandemic (health) and humanitarian need (food, water, shelter).
Natural Disaster (Volcano/Seismic Threat)	Mass evacuations and humanitarian assistance. Coordinate to ensure ramp space, airport security, and infrastructure support. Public notification.
Security (Embassy, Non-official AMCITS, Public)	UN set the conditions for security under the Minimum Operational Safety and Security (MOSS) program.
Maritime Security	Maritime domain awareness. Deter piracy and smuggling operations.
Public Perception	Information sharing (keep public informed of disease and volcano situations). Persuade Government of Green (GOG) to publicly request support from the International community. Counteract insurgent attempts to misrepresent GOG and international community.

Table 3.2 – Purple Move 1 Summary

During Move 1, Purple cell players focused on responding to and quarantining the growing pandemic. Activities focused on containing the disease and addressing the corresponding humanitarian issues, along

with the migration of people within Green due to growing volcanic activity. Purple immediately started planning for an emergency evacuation and developing a crisis map of Internally Displaced Persons (IDPs) from the pandemic and natural disasters. The goal was to develop a picture of migration and a containment strategy for the pandemic (health) and be able to respond to humanitarian needs (food, water, shelter). Purple and Blue started coordinating ramp access, airport security, and infrastructure support.

Government of Green (GOG) made an emergency declaration requesting assistance from the international community. In response, Purple declared an emergency, informed Washington of its release of the Ambassador’s Disaster Fund and requested USAID initiate a Disaster Assistance Response Team (DART) mission to Green. The Embassy issued a travel warning for US citizens and issued a Warden message to American Citizens (AMCITs) in-country, asking them to prepare to shelter in place and monitor developments. Though Purple requested that GOG announce a quarantine of the island, Green decided not to take it for action. Blue staged a P-3 maritime patrol aircraft at Billory International Airport to provide maritime domain awareness (MDA) and assist Green with the growing piracy and smuggling problems. Maritime assets began tracking fishing vessels suspected of smuggling weapons into Green. Red insurgents announced they were holding 8 hostages from a hijacked vessel.

Red began an information campaign against Green. Green maritime forces intercepted a ship believed to be smuggling weapons. Upon questioning and searching the ship and crew, Green forces released the crew, ship and cargo. Despite this, insurgents televised a video purporting to show Green hostile actions against the ship and crew. Red insurgents also began conducting peaceful anti-Green protests in Mitta as they attempted to build public support.

BLUE MOVE 1:

Problems	Activities/Capabilities
Pandemic, Green Maritime Capabilities	Law Enforcement Training - Conducted training with Green maritime forces on maritime patrol ops IOT control borders and prevent pandemic spread; Pre-stage Blue coalition forces IOT respond to tasking’s related to the epidemic; Maritime containment and Maritime Interdiction Operations (MIO) actions designed to limit disease spread and prevent pandemic; conduct Intelligence, Surveillance, and Reconnaissance to monitor shipping traffic and control epidemic
Maritime Security	Maritime Patrol; Intelligence, Surveillance and Reconnaissance (ISR) activities to monitor shipping activities in and out of Green ports IOT prevent a pandemic; Anti-piracy operations
Natural Disaster (HA/DR)	Crisis planning, preparing the battle-space for future HA/DR tasking
Coordination between Purple, Blue and	Insert Blue coalition planning cell with Purple to aid Blue coalition planning and synching efforts; establish a Civil Military Operations Center (CMOC) between Blue coalition and Green government to aid

Green Government	Blue coalition planning and synching efforts
AMCITs	NEO coordination and planning with Purple and Green, lease vessels (primary) for surface evacuation, plan strategic lifts (secondary) for air evacuation operations

Table 3.3 – Blue Move 1 Summary

Move 1 activities centered mainly around gathering battle-space awareness, positioning assets so they could be readily tasked, establishing coordination between Blue/Purple planners and Green decision makers, and planning for humanitarian assistance and disaster relief efforts.

Early activities attempted to overcome a lack of maritime domain awareness (MDA) and intelligence by conducting maritime patrol and ISR activities using a variety of platforms. These activities served to gain battle-space awareness and contain the spread of the highly contagious disease affecting Green. Other major activities during move 1 included crisis planning and coordination activities, such as the creation of a CMOC with Green and embedding a coalition cell with the Purple embassy. Other activities included limited anti-piracy efforts off the west coast of Green and evacuation planning for non-combatants and AMCITs.

RED MOVE 1:

Problems	Activities/Capabilities
Resources	<p>Criminals – Establish safe smuggling lines of operations with insurgents</p> <p>Insurgents – Generate resources from the sale of cash crops (to criminals) to continue insurgent movement, improve HA situation, gain supporters</p>
Lack of Intelligence	<p>Criminals - Organize, coordinate, establish covert communications; spoof AIS; conduct HUMINT and SIGINT to gain situational awareness over Coalition vessels and operations</p> <p>Insurgents – Use HUMINT with sympathetic fishing vessels to notify insurgents of Coalition vessels operations in Green EEZs</p>
Green Governance	<p>Insurgents – Conduct broad and focused Information Operations (IO) and Deception Operations designed to 1) monitor Green response, 2) undermine Green authority/legitimacy, and 3) distribute propaganda promoting the Democratic Insurgent Group’s (Dig) cause. Conduct protests against Green programs and conduct low-level attacks against Green’s security and military forces in order to erode Green support and disrupt Green’s security efforts. Use deceptive IO to force Green to shift security and military forces from populated northern centers to more rural, southern areas. Probe Green government facilities in the west to</p>

	encourage redeployment of Green security forces to other areas.
Green Force Laydown	Insurgents – Use deceptive IO to force Green to shift security and military forces from populated northern centers to more rural, southern areas. Probe Green government facilities in the west to encourage redeployment of Green security and military forces to other areas.

Table 3.4 – Red Move 1 Summary

Red cell players identified problems from a criminal and insurgent perspective and determined how to address those problems.

From the start of move 1, both criminals and insurgents took on a strategy of avoiding direct conflict with Blue coalition forces. The criminal element focused on its goal of increasing the criminal network’s wealth while insurgents focused on becoming a legitimate government of the pro-insurgent areas of Green, namely the Dargo Province. Criminal efforts during move 1 were primarily developed to overcome two problems: 1) a lack of resources with the criminal network, and 2) a lack of situational awareness. Actions and activities throughout day one were centered around the establishment of safe smuggling routes and organizing and coordinating its fleet of fishing vessels to carry out HUMINT and SIGINT in order to determine the locations/operations of Green and Blue forces. The criminals also provided vessels with automated information system (AIS) spoofing software and equipment.

Insurgent activities during move 1 also focused on a lack of resources and maritime domain awareness (MDA). However, the insurgents identified Green’s legitimacy and viability as a government and Green’s security and military forces as obstacles to be overcome. Insurgent activities centered on generating funds through the sale of cash crops to the criminals. HUMINT, obtained from insurgent sympathizers, was used to determine Green and Blue force laydowns and strength. Insurgents used Information Operations and Deception Operations designed to undermine Green government’s authority/legitimacy, monitor Green response to insurgent actions, highlight any Green over-reaction to insurgent activity, and use this as propaganda to sway public opinion away from Green. Insurgents staged protests and conducted low-level attacks against Green during this pre-crisis phase. To counter Green’s force laydown, insurgents attempted to use deceptive IO tactics to shift Green’s forces from populated centers to more rural areas. Insurgents tried somewhat overt probing of Green government facilities in the western part of the island to force Green to redeploy security and military forces away from insurgent-friendly areas.

Figure 3.5 depicts a summary of the moves from day one for PURPLE, BLUE, and RED cell players in a linked-node representation. Central nodes are the various player cells. Outer nodes are problems that each cell tried to address during move 1. The links represent the activities/capabilities that the players used to try and overcome their perceived problems.

During move 1, Purple and Blue cell players were mainly concerned with the pandemic. Red did not address the same problems that Blue and Purple did suggesting that Red embarked on a low-profile strategy avoiding the attention of Blue/Purple activities.

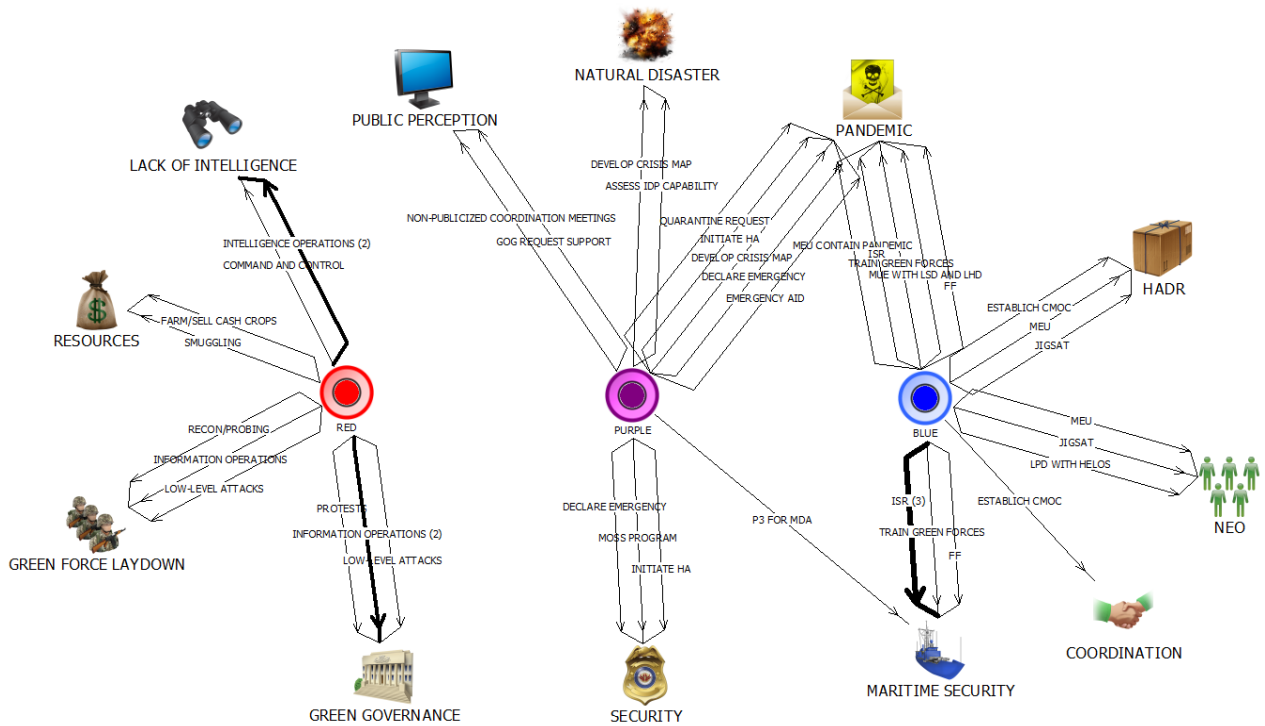


Figure 3.5 – Link Analysis Diagram of Move One for PURPLE, BLUE, and RED Cells

PURPLE MOVE 2:

Problems	Activities/Capabilities
HA/DR (Pandemic Threat and Natural Disaster)	International assistance requested. OCHA and USG bpt move 30 tons emergency relief supplies to affected areas. Implement shelter in place policy for AMCITS and Warden message informing no evacuations taking place. WHO take lead for pandemic response. USAID DART deployed. Supplies delivered to emergency camps established by Care, Oxfam and Mercy Corp. Medical equipment, ground transportation, civil engineering, essential services, raw materials, water production and filtration, food, support for IDPs. Build comprehensive plan for clean-up and recovery.
Public Perception	WHO and GOG launch strategic communications to provide public information.
Security	Green increased military posture and presence for relief shipments. Blue provide protection for USAID DART, embassy facilities, and ports.
Maritime Security	Green increased military posture and presence for relief shipments. Inform commercial vessels to transport persons in

	distress at sea to the nearest Green port of entry.
Refugees	Per SOLAS agreement, refugees underway to Orange found in distress are returned to Green. Beach patrols to prevent small boats from departing. Coordinate with GOO for use of ports/airports to stage HA supplies and to accept refugees at Barrow Island.

Table 3.5 – Purple Move 2 Summary

Purple cell players identified problems and possible coordination requirements to continue to combat the effects of the natural disaster, pandemic, and continuing government instability. Since volcanic activity was ceasing; aftershocks were stopping; and the pandemic threat were receding, Green believed that they were to initiate a recovery phase. Purple players focused on the requirements for humanitarian assistance, rebuilding infrastructure and swaying/ maintaining positive public opinion of GOG and the efforts of the international community as a precursor to promotion of a political approach to resolving underlying conditions driving the insurgency. As support for humanitarian efforts, especially related to logistics and security, combined with a diminution of concern for the threats faced by the pandemic, Purple’s guidance to Blue changed to allow/require more Blue engagement at sea and, especially in the Green littoral.

Orange responded to Green’s request for international assistance (move 1) by offering support via shipping. Purple approached the Government of Orange (GOO) and urged a non-politicized approach to humanitarian situation in Green in exchange for commitment (from US and international community) to address insurgency issues. GOO agreed to assist with HA efforts by acting as an intermediate staging base for humanitarian relief supplies and accepting refugees through Barrow Island. Green increased their military posture and presence to protect/support relief shipments from criminal/insurgent disruptions.

World opinion showed growing favor towards Orange and their relief efforts, but reports suggested Blue was possibly staging for conflict against the insurgents, leading to growing distrust of Purple’s supposed neutrality. Purple launched a strategic communications program in order to provide information to the population about the pandemic, the need to shelter in place, and the Purple/Blue plans to assist GOG and the NGOs to deliver food, water, and medical supplies. GOG invited the Democratic Insurgent Group (DIG) to the table to coordinate relief and request a temporary truce in light of the ensuing HA/DR needs. Refugees in distress at sea became a growing concern, so Blue was tasked to intercept refugees underway from Green and to return those in distress at sea per the Safety of Life at Sea (SOLAS) Convention to Green. Purple released a media message to convince people not to attempt to leave Green for Orange by boat due to the hazardous nature of the marine environment, but Red countered by accusing Purple of indifference to the welfare of the affected population (by keeping them from fleeing Green) while Green was only concerned with international image. Purple released an information campaign to praise the international response to the humanitarian crisis and how they would continue to work with the local population to alleviate suffering and move towards long term recovery.

BLUE MOVE 2:

Problems	Activities/Capabilities
Infrastructure (HA/DR)	CMOC established to coordinate HA/DR efforts and reconstruction; MDSUs clear harbors for shipping; NMCBs logistic hubs, build shelters and refugee camps.
Security	Green request cease-fire from insurgents for HA/DR effort; Port security units patrol/protect ports; MPAs conduct continuous ISR
AMCITs/TCNs/Refugees	LCSs sent to Bunda Strait to block ingress/egress of refugees. Refugee camps established; JHSVs and MEU available for NEO
Maritime Security	Continuous ISR by MPA and UAV assets; SBT partner with Green forces to conduct FID; Coalition FF with UHs to deter/interdict smuggling

Table 3.6 – Blue Move 2 Summary

Blue cell players coordinated with Purple and determined the primary focus for Move 2 would be the ongoing HA/DR situation. Blue requested additional capabilities to help address the continuing HA/DR concerns as well as be readily available to respond to Purple’s guidance for more Blue engagement at sea and in the Green littoral. Blue forces put assets on station to conduct counter-piracy and counter-smuggling operations as the focus shifted to maintaining stability in the maritime environment.

In order to try to protect/assist the HA/DR efforts, Blue/Purple requested Green negotiate a cease-fire with insurgents in order to deliver humanitarian assistance to the Green population. Orange began assisting in the HA/DR efforts by allowing waterborne supplies enter their ports so that the NGOs and GOG could ensure the movement of supplies into the interior of Green based on priority of need. Blue established a CMOC in Townsville to coordinate civil/military entities involved in stabilization, human assistance, disaster relief, and reconstruction activities. Blue deployed multiple assets to assist with the rebuilding and security of HA/DR efforts: USCG Port Security Units provided security for HA/DR logistic operations; Mobile Diving and Salvage Units (MDSUs) cleared harbors for the ingress and egress of commercial and military shipping; Naval Mobile Construction Battalions (NMCBs) built shelters and refugee camps; Joint High Speed Vessels (JHSVs) provided transportation for AMCITS during relocations, supplies, Marine Civil Affairs Teams (MCATs) for harbor assessments and Non-combatant Evacuation Operations (NEO) planning; Consequence Managements Teams to protect public health and safety, restore essential government services and provide emergency relief in case of a terrorist attack.

Maritime patrol aircraft and Unmanned Aerial Vehicles (UAVs) were deployed to provide persistent ISR in the Dargo Province to locate and monitor insurgent camps/movements and provide air space control/ISR in vicinity of the Bunda Strait. Littoral Combat ships (LCSs) were deployed to the Bunda

Strait to assist with the refugee situation by blocking the mass egress of refugees from Green and, if authorized, direct/escort refugee boats to Green. ISR assets observed fishing boats off the northern coast of Green smuggling weapons to Gunbar, so Blue partnered with Green maritime forces to conduct Foreign Internal Defense (FID) and ensure free flow of HA/DR supplies.

RED MOVE 2:

Problems	Activities/Capabilities
Resources	<p>Criminals – Piracy of vessels carrying HA supplies and oil; kidnapping vessel crewmembers; smuggling HA supplies; counterfeiting money and weapons; sell illicit items to insurgents.</p> <p>Insurgents – Smuggling arms, ammo, and explosives in Orange HA shipments; NEO activities (selling seats to AMCITS for evacuations); hijacking Green controlled HA convoys;</p>
Lack of Intelligence	<p>Criminals – Conduct HUMINT and SIGINT operations to gain better situational awareness.</p> <p>Insurgents – HUMINT operations for situational awareness of Blue and Green military forces; kidnap/capture Green military for intelligence gained through interrogation</p>
Green Governance	<p>Insurgents – IO, Cyber, Social Media, Propaganda activities designed to highlight Green’s failure to properly address the disaster; Jamming Green transmissions; Overwhelm and riot at Green controlled HA/DR distributions points to demonstrate Green’s inability to control the situation; use Propaganda and media used to discredit Green officials and expose corruption within Green’s government</p>
Public Perception (DIG not a viable competitor to GOG, Purple support of GOG)	<p>Insurgents – IO, Cyber, Media, Propaganda campaign highlighting DIG’s success and Green’s failures; Show Purple backing of Green is occurring at expense of Green citizens; Provide Maritime Stability by ensuring unrestricted vessel transit on the eastern side of Green (Dargo Province) and no piracy activity in this area; Ensure stable Logistic distribution of HA supplies to pro-DIG areas</p>

Table 3.7 – Red Move 2 Summary

Red Cell players continued to identify the ongoing problems faced by the criminals and insurgents, some of which carried over from move 1. Criminals continued to focus on overcoming two main perceived problems: a lack of funding for the criminal network and a lack of intelligence on Green and Blue actions.

Many actions taken during move 1 were continued in move 2, while adding activities that leveraged the changing conditions in Green that resulted from the disease epidemic, volcanic eruption, and earthquake. Criminals used these conditions to offer American citizens (AMCITs) a method to evacuate (for a fee) from the country of Green. Kidnapping was also introduced as a way to destabilize the maritime environment and generate revenue from the ransom of crews.

Insurgent perceived problems remained a lack of resources, Green governance and Green force laydown. However, additional problems identified by the insurgents included a public perception that DIG was not a viable competitor to Green’s government, and the further bolstering of Green government’s status caused by Purple’s support of Green during the HA/DR efforts. As in move 1, insurgents continued smuggling and intelligence operations to combat their lack of resources and battle-space awareness. During move 2 insurgents significantly increased their Information Operations, Cyber, and Media efforts to sway public opinion. Insurgents began diplomacy with Purple to pressure Green’s security and military forces out of pro-DIG areas. Direct diplomacy with Purple was also seen to help legitimize the DIG. Insurgents continued attacks on soft Green security/military targets. Both criminals and insurgents continued to avoid any direct contact with Blue forces.

Figure 3.6 depicts the interactions of Purple, Blue, and Red problems/activities through a link-node analysis. In this move, three common problems (Security, HADR, and Refugees) are aggressively addressed by both Purple and Blue activities. Move 2 seems to highlight very good cooperation and coordination between Purple and Blue to pool their capabilities and potentially enhance their effects. Red and Purple also shared a common problem of public perception, although for different reasons.

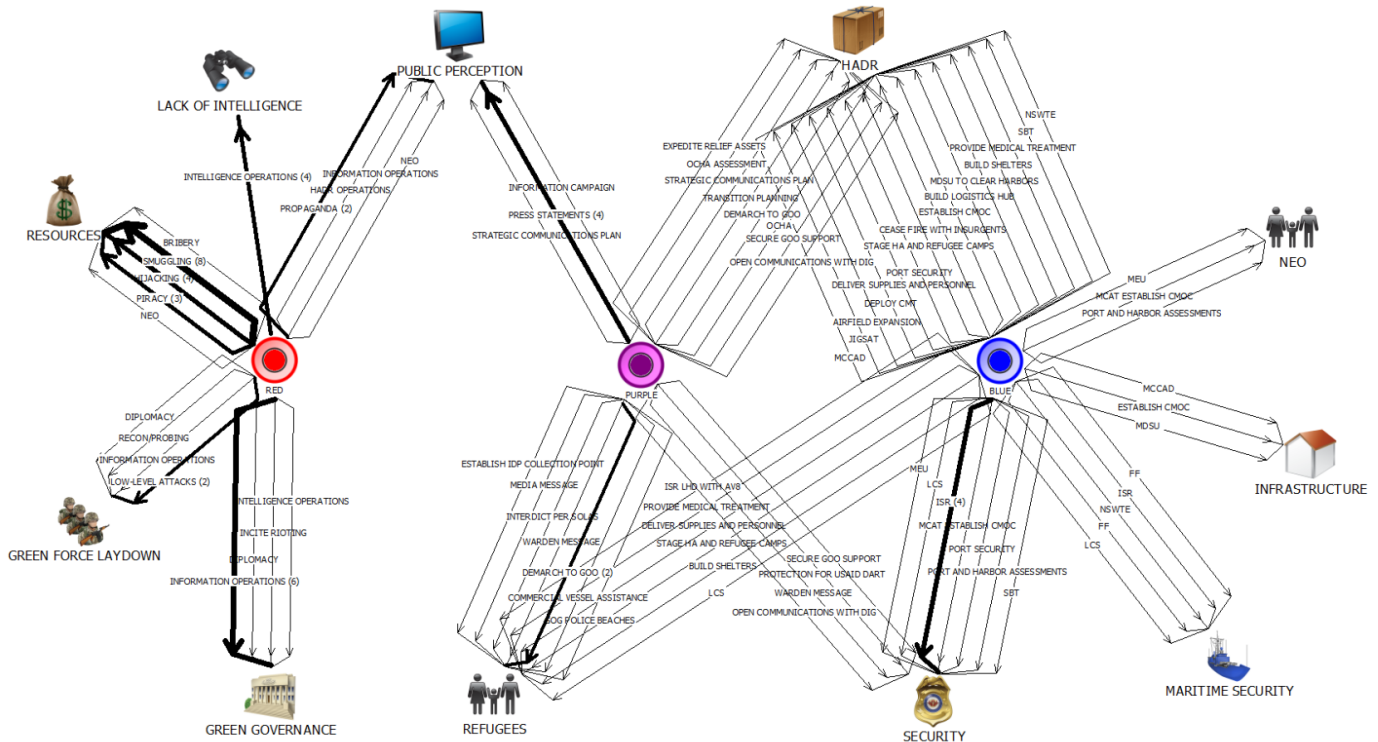


Figure 3.6 – Link Analysis Diagram of Move Two for PURPLE, BLUE, and RED Cells

PURPLE MOVE 3:

Problems	Activities/Capabilities
Security (Public Safety)	Host informal discussions on renouncing violence for political resolutions.
Maritime Security/Maritime Stability	Deter/intercept criminal smuggling and neutralize pirate outposts. Issue Notice to Mariners. Work to ensure return of hijacked crew. Work to ensure Maritime Stability can be maintained once Blue forces depart.
Green Governance	UN facilitate meeting between DIG and GOG. Convince insurgents to renounce violence and work towards a political resolution. Show GOG's ability to take care of population needs and maintain control.
Public Perception	Public statement - international community continues to support HA to Green and call all parties to facilitate safe movement of relief supplies/assistance.
HA/DR	Though the volcano activity has ceased and pandemic started receding, focus on the long term needs of the population of Green.

Table 3.8 – Purple Move 3 Summary

Purple cell players saw Move 3 as a re-visit of Move 1, but without the crippling effects of the pandemic threat. Move 3 was the chance to allow Purple to pursue a political solution to the insurgency while Blue worked with both GOG and DIG to improve the security and stability atmosphere in Green. Purple tasked Blue with undertaking stability operations that would promote the HA/DR efforts of the NGO/IGO communities as well as beginning to cooperate with DIG in DIG-controlled areas. Purple and Blue made strong efforts to combat Red IO campaign aimed at discrediting Purple/Blue and GOG HA efforts. Move 3 started with a reassessment of the situation regarding the pandemic (threat significantly reduced) and the aftermath of the volcanic eruption, allowing Purple and Blue to refocus efforts on supporting the international and GOG efforts to reach and care for displaced populations and to address maritime stability. Purple then focused on laying the groundwork for a political dialogue and approach to quelling the insurgency.

DIG announced their gratitude for the Blue/Purple humanitarian assistance, but requested Blue forces depart Green; they blame Blue for propping up a failed government, noting GOG's inability to meet the needs of the Green population and the widespread corruption of the government. DIG called for free elections to replace the corrupt GOG. Purple issued a public statement intending to reinforce diplomatic efforts to bring DIG and GOG together and address maritime stability issues. Purple and Blue offered to host informal discussions between Green and DIG to agree to a political resolution, renounce violence,

and improve the human rights situation in Green. Purple, through informal channels, asked DIG to cooperate in a joint task force to neutralize pirate outposts and to release the hijacked crew from Move 1 or provide information on who was holding them. Purple accepted that allowing formal DIG participation in security operations provided political legitimization to the insurgency, but decided that the need for cooperation to control piracy activities and get the hijacked crew released overshadowed this consideration (in fact, doing so could support Purple efforts to bring about dialogue and a political solution between GOG and DIG).

Finally, Purple requested the CIA support the independence of DIG in exchange for proprietary access of Blue to energy resources in tax-free Stewart Island. Purple was tasked to support industry efforts to arm and train insurgents to defeat GOG and bring a swift end to the conflict while increasing US fuel resources and denying access to international competitors.

BLUE MOVE 3:

Problems	Activities/Capabilities
Infrastructure (HA/DR)	MCATS access infrastructure; Rebuild key population centers and transition reconstruction over to Green.
Security	SBTs, PSUs, MSRON train and equip Green forces. Use coalition forces to assist with security until Green can take over.
Maritime Security	P-3 and LCS conduct maritime surface surveillance iso anti-piracy and anti-smuggling operations; SBTs, PSUs, MSRON train and equip Green forces; UAVs orbit above DARGO to continue to monitor insurgent activities
Green Governance	US and Coalition forces train and build Green forces to be able to take and maintain control. Slowly withdraw Blue forces.

Table 3.9 – Blue Move 3 Summary

Blue Cell Players focused on transitioning control back to Green during Move 3 while still maintaining security and maritime domain awareness and stability. Blue began standing down forces and bringing in teams to train Green forces to take and maintain control.

P-3 aircraft and an LCS were tasked to continue conducting maritime surface surveillance as directed by the partner led TF Commander in vicinity of the Bunda Straits in support of anti-piracy and anti-smuggling operations. SBTs were tasked to provide enabling and capability development to Green security forces and provide protection for personnel and equipment involved with the freedom of movement of relief assets. Marine Corps Civil Affairs Teams were tasked to access host nation infrastructure in selected key population centers that had been destroyed and rebuilt as a result of recent insurgent attacks and volcanic activity in order to transition reconstruction operations over to Green and USAID (where Green needed assistance). MSRON and PSUs were stationed in Townsville, Mitta, Port Albert, Gunbar to provide port security while developing/enhancing Green port security capability.

USCG was tasked to train/work with Green to develop a maritime regulatory and enforcement schemes in order to develop a maritime governance structure. UAVs continued to orbit over Dargo to monitor smuggling and piracy activities. Multiple units were moved to assist with maritime security.

RED MOVE 3:

Problems	Activities/Capabilities
Resources	Criminals – Hijack HA supply convoys for sale to DIG or black market; Sale of weapons to DIG; Sale of pirated oil/gas on black market; Bribe Green port officials to ease Smuggling and black market operations
Long-Term Goals	Criminals – Bribe Green officials to win contracts for long-term business opportunities; hire workers from competing, legitimate business’
Green Governance	Insurgents – IO, Media, and Political activities to pressure Blue coalition forces and Purple governments, NGOs to depart; Campaign for new, free elections; IO, Cyber actions to discredit Green officials; turn public opinion against Blue coalition efforts of building up Green’s military capabilities
Public Perception	Insurgents – IO, Media, Public perception campaign highlighting DIG’s success’ handling HA/DR efforts, embed international media to change world opinion of DIG; Political Diplomacy efforts to work with Purple to ensure safety of NGOs in DIG controlled areas, encourage Purple monitoring of fair elections Criminals – Bribe Green officials/media to downplay criminal activities.
Green Force Laydown	Insurgents – Conduct low-level attacks against soft Green military targets in western and central areas of Green
Green Military Strength	IO, Media campaign to turn public opinion against Blue Coalition efforts of building up Green’s military capabilities

Table 3.10 – Red Move 3 Summary

Red Cell criminal actions during move 3 (post-crisis phase) continued to address the recurring problem of a lack of resources through the use of criminal activities such as hijacking, smuggling, distribution and sale of humanitarian supplies, pirated oil/gas, and weapon sales to either insurgents or on the black market. New problems arose for the criminals in that they lacked long-term goals and their network and its activities were become more public. Criminals attempted to address these perceived problems by going

after construction and service contracts in an attempt to legitimize some of their activity. Bribes were also attempted to persuade Green officials and the media to downplay organized criminal activity.

With the shift to a post-crisis phase of operations, move 3 saw the insurgents concentrate efforts on thwarting the legitimacy of Green’s government, boost the public and international perception of DIG as a viable competitor to Green and combating any attempts to boost or strengthen Green’s military capabilities. Again, Information Operations, media, and a propaganda campaign were the primary tools employed by the insurgents to overcome obstacles. Insurgents continued their use of diplomacy with Purple to portray themselves as a legitimate government. The insurgents also negotiated for fair elections that were to be monitored by the international community and pressed for the Blue to cease efforts to bolster Green’s security and military forces. Insurgents continued the use of Information Operations to show that Blue was supporting a corrupt and ineffective government.

In move 3, the link-node analysis diagram (Figure 3.7) represents Purple and Blue addressing five common problems: Maritime Stability, Maritime Security, Security (ashore), HADR, and Green Governance. Once again, Purple and Blue activities reflect good cooperation in pooling their capabilities to overcome similar problems. All player cells seemed to be actively addressing a single common problem concerning Green Governance. This critical node proved important for the success of each player’s cell and each cell’s activities addressed the issue in completely different ways based on their capabilities and perception of the problem. As described above, Red cell attempted to undermine Green Governance through a heavy use of Information Operations and Political activities. Purple cell attempted to use diplomacy in an effort to bring DIG and the Government of Green together for talks. Blue Cell focused on training Green’s military forces to be able to maintain security in the region upon Blue’s withdrawal.

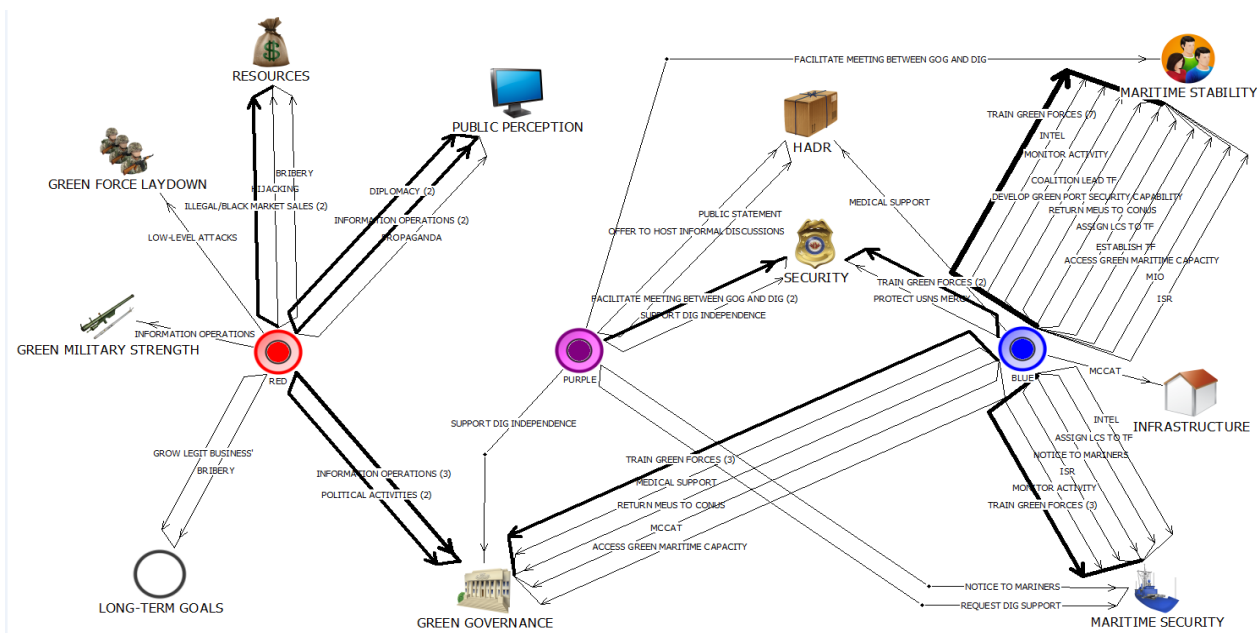


Figure 3.7 – Link Analysis Diagram of Move Three for PURPLE, BLUE, and RED Cells

c. Analysis of Game Moves

Players completed a survey questionnaire (Appendix D) after each move to provide candid feedback on their actions. The Purple and Blue cells answered one survey questionnaire with 10 Likert-style, fixed-choice questions. The Red and White cells answered another survey with 9 Likert-style, fixed-choice questions. Answers were assigned a value on a scale from 1-5 (strongly disagree to strongly agree).

Descriptive quantitative analysis (mean, median, mode, standard deviation, and variance) was performed in order to determine if there were any significant results along three lines of inquiry:

- Are there any questions that have uniform agreement or disagreement?
- Are there any questions on which there is great disparity between the cells?
- Do answers for specific questions change in any significant way from move to move?

Figure 3.8 depicts the list of statements and highlights those questions in which there was strong agreement or disagreement among the surveyed respondents in the Blue/Purple cells and Red/White cells, respectively. A graphical depiction of survey responses is found in Appendix F of this game report.

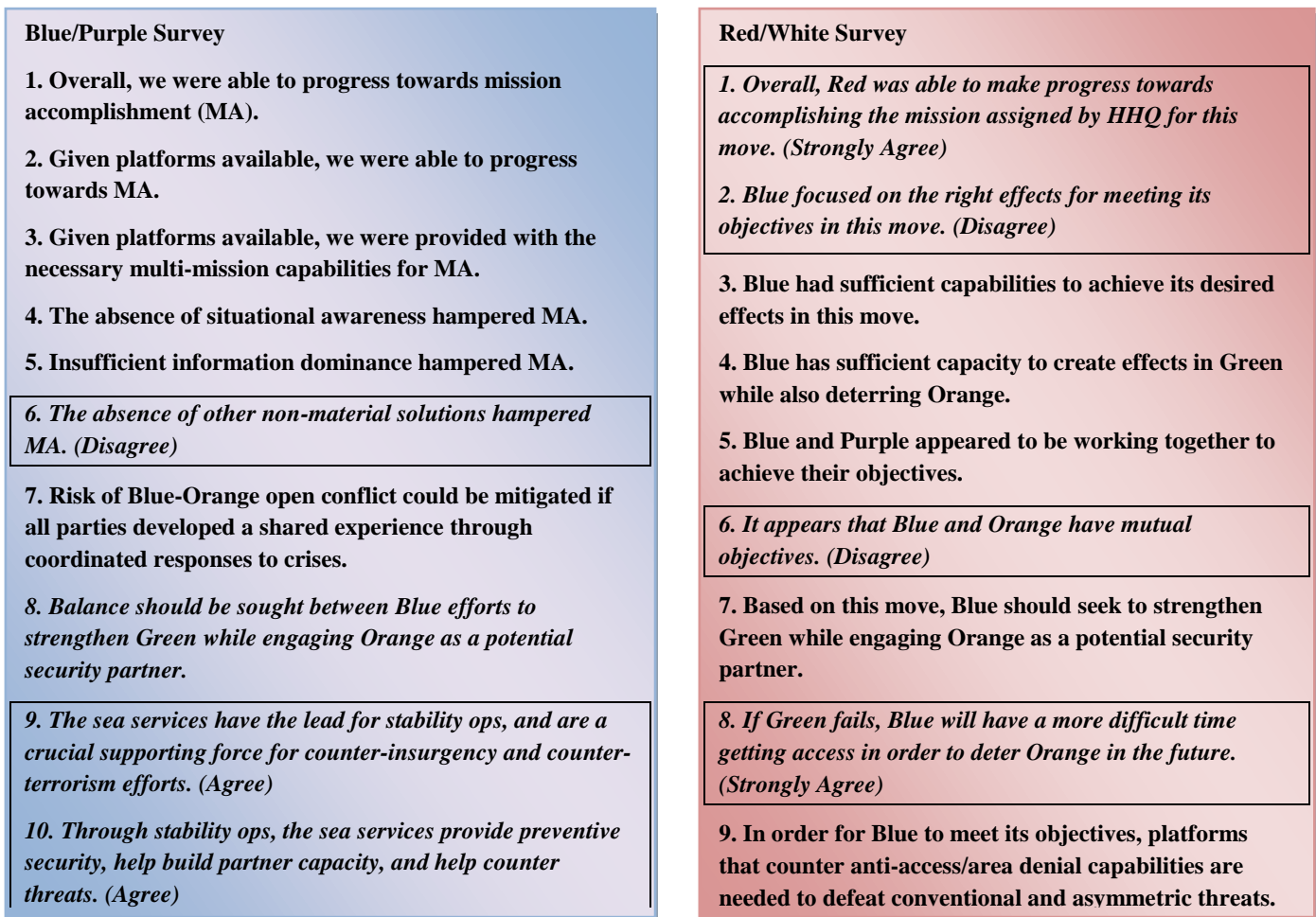


Figure 3.8 – Summary of Blue/Purple and Red/White Responses

Based upon the entire three days of game play, the strongest agreement (mean > 4.0) was found among responses for Blue/Purple cell questions 9 and 10 and Red/White cell questions 1 and 8. It is worth noting that, overwhelmingly, the Red/White cells appeared to enjoy unity of effort with respect to seeking higher headquarters (HHQ) objectives whereas the Blue/Purple cells did not report similar findings based upon their individual player surveys. Blue/Purple cells also asserted the important (leading) role that the sea services play in maritime stability operations and counter-insurgency efforts, as well as the criticality of stability operations in “building partner capacity” and helping to “counter threats.”

The Red/White cells findings with respect to question 8 support the sponsor’s hypothesis that “If Green fails, Blue will have a more difficult time getting access in order to deter Orange in the future.” From a quantitative statistical perspective, single-factor analysis of the variance (ANOVA) between Red and White survey responses yielded a p-value of .0308 at a .05 alpha, suggesting that from the perspective of Red/White respondents based on game play, the null hypothesis should be rejected, thereby supporting the hypothesis that a relationship exists between Green failure and Blue access for future deterrence of Orange.

<i>RW8. If Green fails, Blue will have a more difficult time getting access in order to deter Orange in the future.</i>		
	Red	White
Mean	4.18	3.79
Variance	.0169	.0265
P-Value	.0308 (.05α)	

Table 3.11

The strongest disagreement across the three move surveys (mean < 3.0) came from the Blue/Purple cells on question 6 and the Red/White cells on questions 2 and 6. Question 2, “The absence of other non-material solutions hampered mission accomplishment,” fostered near unanimous disagreement from the Blue/Purple cells. Red/White responses across the three move surveys suggest that, from their perspective, Blue was not focused on the right effects to meet its objectives. Additionally, Red/White players near unanimously perceived disconnects between Blue and Orange objectives.

<i>BP7. Risk of Blue-Orange open conflict could be mitigated if all parties developed a shared experience through coordinated responses to crises.</i>		
	Blue	Purple
Mean	3.84	3.67
Variance	.0105	.0192
P-Value	.169 (.05α)	

Table 3.12

<i>BP8. Balance should be sought between Blue efforts to strengthen Green while pursuing a cooperative security relationship with Orange.</i>				
	Blue	Purple	Red	White
Mean	3.96	3.78	3.65	3.32
Variance	.0637	.0646	.0602	.1356
P-Value	.425 (.05α)		.266 (.05α)	

Table 3.13

Further exploring the game’s two hypotheses from a quantitative basis, neither hypothesis #1 (Question 7 for Blue/Purple survey), “the risk of Blue-Orange open conflict could be lessened if all parties develop a shared experience through coordinated responses to crises,” nor hypothesis #2 (Question 8 for Blue/Purple survey), “balance should be sought between Blue efforts to strengthen Green while pursuing a cooperative security relationship with Orange,” were supported by respondents in either cell through the use of ANOVA. Blue/Purple results for Question 7 yielded a p-value of .169(at a .05 alpha). Blue/Purple

results for Question 8 and Red/White results for Question 7 yielded p-values of 0.425 and .266 (at a .05 alpha) respectively.

In short, quantitative analysis of these survey data suggests that establishing relationships prior to a conflict and maintaining coordinated responses with allies and partners in time of crisis are important when engaging a peer-competitor. Moreover, such efforts could be far more effective than trying to bolster allies or develop cooperative security relationships with the adversary's prospective partners after conflict has already begun. Survey responses also suggest that solutions to maritime stability challenges are not found through specific platforms, but rather at a broader multi-mission capability level, especially in the information dominance arena of strategic communications.

Players derived key themes and phrases from their game play experience as a form of in vivo coding to identify concepts. Researchers attempted to ground these concepts in the data according to grounded theory protocol (Glaser and Strauss, 1967). In this way, emergent themes were “grounded both empirically (in the data) and conceptually (linked to the wider analytic context)” (Charmaz, 2000, p. 525). Using i2 Incorporated's

TextChart (version 8) software application, the open-ended responses in the individual survey questionnaires and WEB IQ-based threaded plenary session discussion data were searched for these concepts. Based on player-derived themes, coordination between the maritime forces and government agencies are needed for effective maritime stability operations. Repetitive searches yielded the nodal/link relationships depicted through data visualization in figure 3.9. Each parenthetical entry indicates the number of times a word or phrase appeared in the data collection.

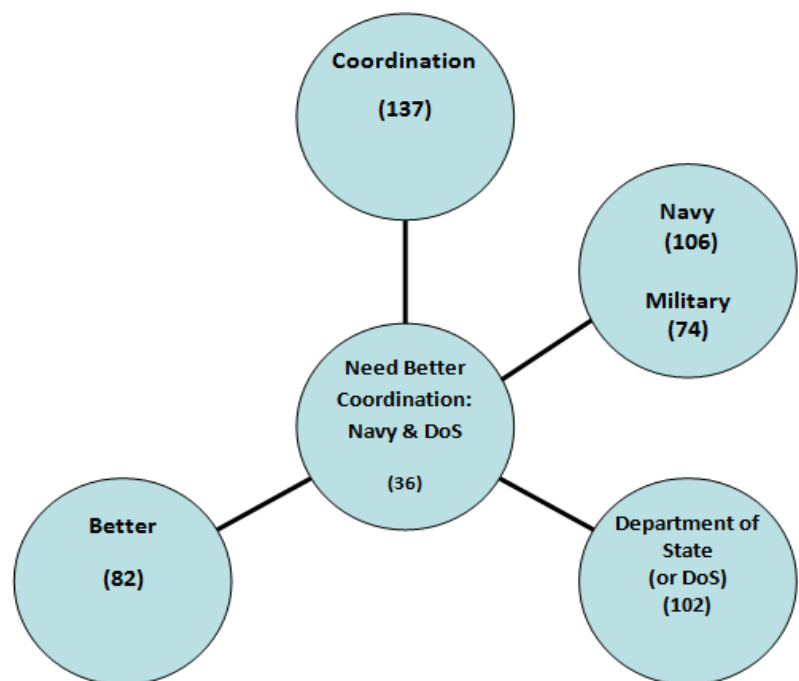


Figure 3.9 – Data visualization based on in vivo grounded theory using i2 TextChart

Given that the concepts of coordination, Navy, and DoS are mentioned within immediate proximity of each other in the game data, Figure 3.9 suggests that better coordination was warranted between the Blue and Purple cells in the MSTOG. Therefore, the player-derived themes were grounded in the actual game data. Extrapolating these findings toward a more macro-level, these conclusions are consistent with data analyzed in the 2010 Irregular Challenges Game and 2010 Global Maritime Partnerships International Game, which yielded similar inferences regarding the present-day relationship between the U.S. Navy and the Department of State, as well as other “whole of government” functions.

At a more operational level, subsequent analysis of platforms and capabilities from searching game data using i2 TextChart software suggests that success in maritime stability operations is not achieved at the platform level; but rather, by employing the appropriate multi-mission capabilities. This was especially true with respect to information dominance capabilities to situational awareness of the operating environment.

Navy is total platform centric and not well versed in "effects" for this type of operation. Even most of our TSC is based on old theater OE. We have difficulty learning about the current OE or seeing ourselves beyond MCO, such as A2AD. (Blue Cell Player)

Red cell players focused less on technological capabilities and proceeded with a complex and responsive strategy focused on strategic communication to achieve objectives. Moreover, their successful use of strategic communication capabilities within the information dominance domain is reflected not only in survey responses and plenary sessions, but also via running time adjudication in the White cell.

I contend if the red center of gravity is the population's affection there is no reason to disrupt BLUE/PURPLE Strategic Communications. Red's goal is to make the green government look bad. Failing to find a clear chance to achieve that objective should have meant they did nothing. They should play a long game, the volcano will stop, BLUE/PURPLE will leave and they can go back to picking away at Green. (White Cell Player)

While grounded in the data, player-derived themes suggest that multi-mission capabilities are not platform-centric, such as information dominance in terms of providing situational awareness and the need for strategic communication to be embedded in planning.

d. Comparative Analysis of Game Data and Doctrine

The purpose of this line of analysis was to identify themes or insights derived by the players that could directly inform the draft maritime stability operations (MSTO) doctrine. As part of the post-game analysis, the process started with identifying 21 concepts that were listed in the draft doctrine, as depicted in figure 3.10.

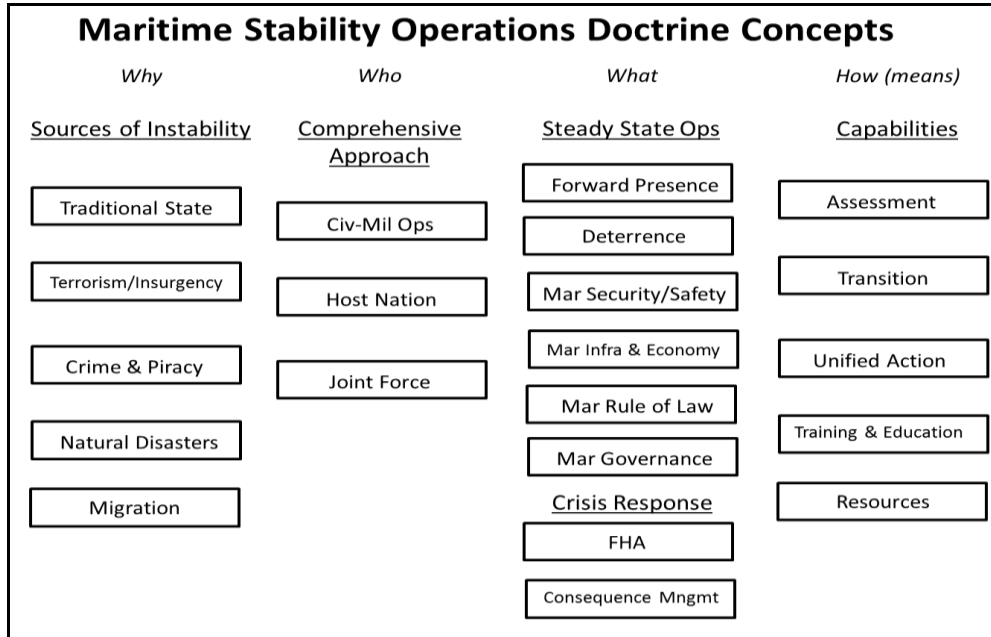


Figure 3.10 – Concepts from MSTO doctrine

An operational definition for each concept (Appendix G) was created using the draft MSTO doctrine and related references. The game data from player-entered threaded discussion sessions for each move and ethnographer notes from the final combined plenary session were coded for occurrences of these concepts in player discussion. Once the data were coded using Atlas.ti software, relationships were identified by detecting those concepts that were most discussed in the same context with other concepts. These instances of concept co-occurrence were further examined to determine the context of the relationships. A number of themes emerged based on the context of the relationships among the concepts, as depicted in figure 3.11.

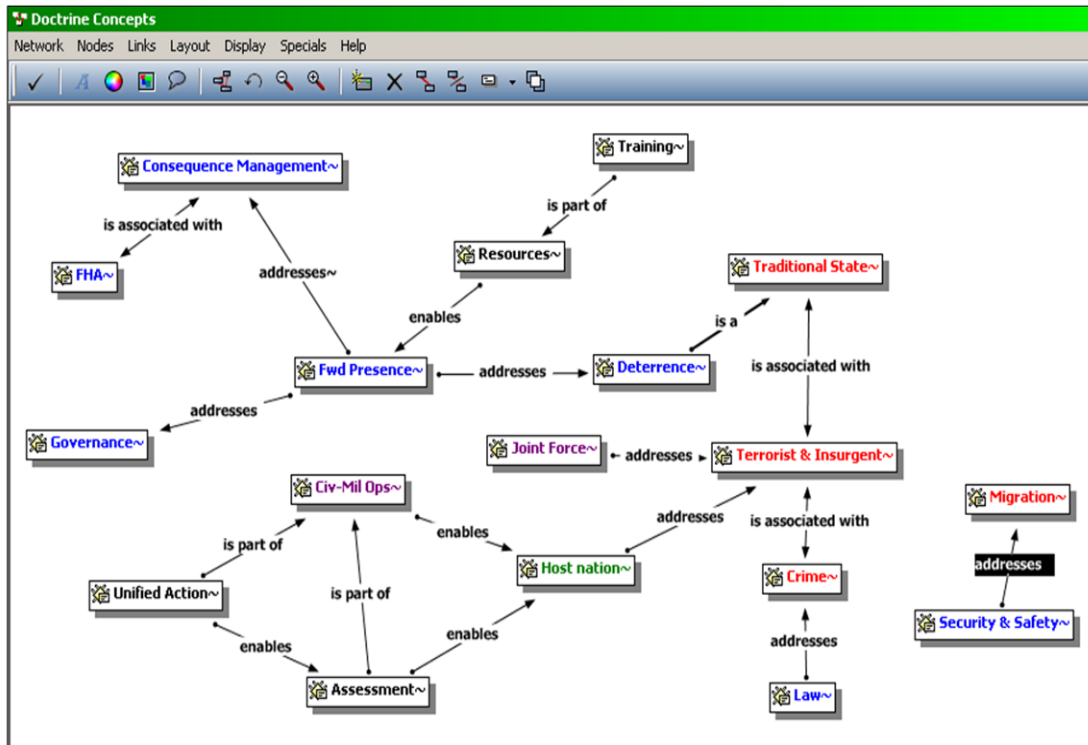


Figure 3.11 – Relationships among MSTO Doctrine Concepts

The six themes that emerged from this process include:

1. Forward presence,
2. Host nation,
3. Assessment,
4. Unified action,
5. Strategic communication, and
6. U.S. national security interests associated with maritime stability operations.

Three themes (#1, #2, and #4) are based on the strong relationships among the concepts. Theme #3 focuses on a concept (assessment) that occurred most often in the data. Theme #5 emerged in the data that is not fully addressed in the doctrine. The final theme was derived from an examination of the underlying premise for the MSTO doctrine and its alignment with the overarching maritime strategy.

Theme 1

The importance of forward presence in maritime stability operations

The draft MSTO doctrine lists forward presence as a core capability of the Cooperative Strategy for 21st Century Seapower (CS21) as a means to prevent war and build capacity to respond to a variety of crises. CS21 (2007) defines forward presence as maritime forces forward deployed to become familiar with the environment and build relationships in order to effectively respond to crises, disasters, and to combat terrorism far from the homeland. The draft MSTO doctrine further espouses the value of persistent presence to conduct military engagement, build partnerships, deter conflict, communicate intent, and conduct crisis response. As Rear Admiral Sinclair Harris stated in a testimony on 3 November 2011 that “the future vision of the Navy in meeting the uncertain challenges around the globe remains a force forward, present, and persistent in areas critical to the national interests of the United States” (p. 8).

Based on game data, the relationship of forward presence to other concepts is depicted in figure 3.12.

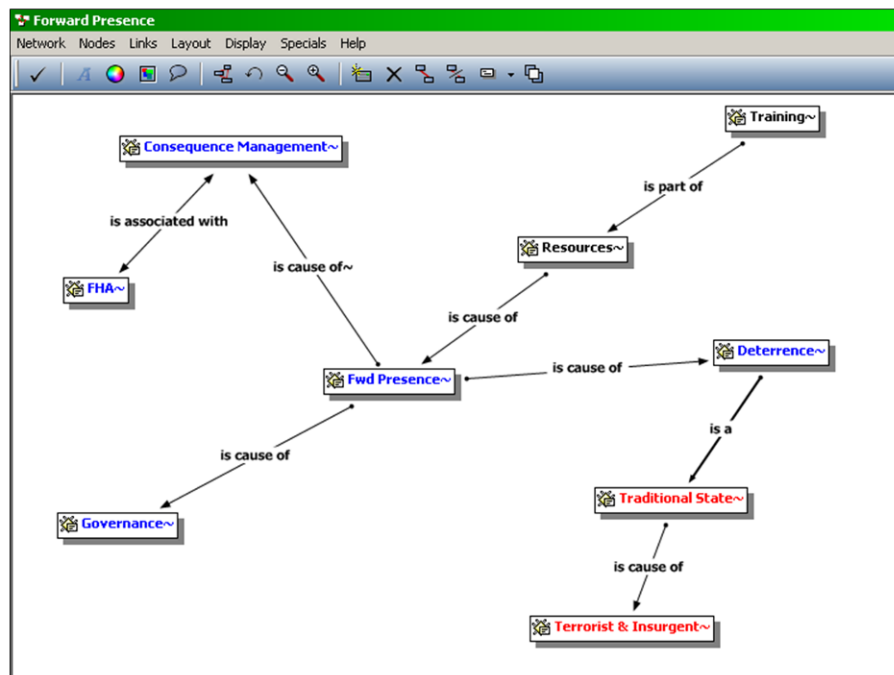


Figure 3.12 – Relationship of forward presence to other MSTO concepts

Players identified forward presence as a core capability that enables maritime forces to conduct other tasks associated with MSTO. These tasks include consequence management, maritime governance, and deterrence.

For analysis purposes, the working definition for consequence management (CM) refers to measures to protect public health and safety, restore essential government services, and provide emergency relief to governments, businesses, and individuals affected by the consequences of terrorist acts or natural disasters. It is a form of disaster response and closely aligned with foreign humanitarian assistance (FHA).

Having forces forward-deployed helps to respond to disasters or humanitarian crises. “USMC sees forward presence as an enabler for the US (writ USMC) to conduct crisis response and project power”

(Blue Cell Player). Players assessed that forces are better prepared to respond to disasters if they are resourced, postured, and aligned to providing FHA mission.

It's often too late to address training and education of partner nations personnel involved in a HA/DR / MSO issue - but by getting engaged in nations HA/DR capacity early - before catastrophe strikes (sitting together with other partner nation students to share experiences) can create a "pool" of international SME from which to draw ISO regional HA/DR/MSO events. (Blue Cell Player)

This argues for narrowly tailoring our interventions to those unique enabling capabilities only the Military brings. The problem of scale means we are wasting our time handing out bottles of water unless as a PR event. (White Cell Player)

Players felt that forward-deployed forces must be trained and equipped to be expeditionary in nature. Merely having forces forward-deployed does not suffice and these forces need to have special capabilities in order to conduct appropriate actions in the littorals and ashore. Given the premise that stability operations are as complex as, if not more than, combat operations, then maritime forces must be trained for maritime stability operations to an equivalent degree as combat operations.

Capabilities are more important than platforms. Stability Operations capabilities are not a lesser included set of Combat Operations capabilities. You need Civil Affairs Teams, Consequence Management Teams, Security Force Assist Teams, Medical Teams, non-combatant platforms, etc. for Stability Operations.(Blue Cell Player)

The Navy must truly buy-into the idea that Stability Operations are equivalent to Combat Operations and that each require tailored capabilities to accomplish their objectives. It is no longer War and MOOTW. You cannot design a hammer and then treat every problem like a nail. It will be far more affordable to design a set of capabilities for Stability Operations with the same or greater effectiveness than a set of capabilities for Combat. We cannot afford to not do both. It does not have to break the bank. (Blue Player)

Consequence management concerns crisis response. The key capabilities that enable consequence management are also needed for foreign humanitarian assistance during steady state operations. The capabilities need to be forward-deployed and in position to rapidly response and facilitate the initial assessment of the situation.

Maritime governance is defined as supporting domestic laws and regulations with due regard for international law. The functions of maritime governance include administration of maritime governance, improvement of commercial ports, regulation of fisheries, promotion of regional maritime security cooperation, management of waterways, provision of intelligence and communication support, and training and assisting of host nation security forces. Players identified maritime governance as a means to have effects on the land to address the underlying conditions of the sources of instability.

Maritime stability is inherently land based. Have problems on the water because something is wrong on land ... need to have rule of law, port security, proper care of resources. Front-end work will take place on land. (Blue Cell Player)

Deterrence is a core capability of CS 21 that is viewed in global, regional, and transnational terms via conventional, unconventional, and nuclear means. Players assessed that the concept of forward presence concept enables deterrence. Deterrence based on preventive activities and theater security cooperation (TSC) represents a form of extended deterrence.

Yes; because someone else [China, Russia, insurgent group, etc...] will fill the gap in MSTO and not only gain the access, but prevent USG access. (Blue Cell Player)

Parking an Aircraft Carrier off the coast of any country, always gains Maritime Security... (Red Cell Player)

Blue personnel on the ground. If killed, their death would serve as a strategic tripwire for secondary implications. (White Cell Player)

In the maritime stability context, deterrence serves to counter the effects of a traditional state or competing nation in the region. According to the draft MSTO doctrine, the traditional state may be a source of instability and is defined as global and regional powers that exhibit nationalism and assertiveness to test the resolve of the U.S. and its partners. (For contextual purposes, the game's traditional state actor was played by country Orange which had close ties to the insurgency movement played by Red in the country of Green. Green was the host nation in this game.)

Orange's ability to stage press visibility ICW Orange access operations is a potent Orange/Red weapon. Any action by Green to hamper bringing relief supplies into Green, including Dargo, can be characterized to Orange national and global international press representatives as Green placed more value on politics than on relief for the people. (White Cell Player)

There is always a degree of instability as a result of the routine peaceful competition among states. (White Cell Player)

In the scenario, the deterrence of Orange was critical in order to degrade the support for the insurgency in Green. However, Orange was not an overt threat to Green. Therefore, the traditional 'force-on-force' deterrence lacked utility as a means for players to disrupt the covert nature of Orange's support to the insurgents.

What Red actions were viewed by Blue as a threat? (Red Cell Player) None were viewed as a threat. (Blue Cell Player 1) From a general force protection threat, DIG was seen as a potential threat. (Blue Cell Player 2)

Red and Orange were essentially in league against Green, certainly with Blue coming alongside Green. Mutual exploitation was more a future concern than a current requirement. (White Cell Player)

There was an option of getting weapons etc. from an outside party, Yellow. If Orange used this option, it could pass weapons to Red, and the local population would know who the aid was from, but Orange would have plausible deniability as to where the weapons came from. (White Cell Player)

Players felt it was insufficient to merely have forward-deployed forces for deterrence of a traditional state in waging conventional conflict and influence in a region. For maritime stability, forward-deployed forces must be capable of conducting maritime governance and ready to conduct consequence management. Players identified the capabilities needed for these missions are beyond the use of a platform-centric approach. Doctrine and specialized training play a key role in providing the requisite resources to conduct maritime stability operations.

Stability operations are people centric not platform centric (White Cell Player)

Weakness: Neither Blue nor Purple understand or appreciate the spectrum of platforms and capabilities that exist in each other's sub-organization. This leads to potential for both over-allocation of similar resources and limited employment of vital assets (because decision makers don't know they exist). (Blue Cell Player)

The doctrine should address maritime capacity building. (Recorder notes)

Ultimately, resources are needed to enable forward presence and are defined as the material, personnel, and facilities dimensions of DOTMLPF framework as well as the funding to develop, integrate, sustain these capabilities. They represent tangible capabilities in terms of platforms, organizations, units, groups, teams, and individuals. Players felt resources needed must be appropriate and flexible given the complexity of MSTO.

The irregular warfare enablers developed over the last 10 years are required to stay. It is all about the enablers. Need platforms that provide the capabilities required in these environments - it's not Aegis Cruisers. (White Cell Player)

Recommend leveraging the permissiveness afforded to the USCG. The USCG blue hull projects a different (albeit, less threatening) image than a grey hull. (Blue Cell Player)

Ultimately, the importance of forward presence in MSTO concerns the ability to provide deterrence of sources of instability while simultaneously engaging with a host nation in maritime governance and foreign humanitarian assistance activities. Moreover, resources needed for forward presence are not just platforms, but include specialized capabilities based on training, education, and doctrine that enhance the ability to gain access to a region, rapidly respond to disasters, and prevent regional crises from further escalation.

Theme 2

The role of the host nation in maritime stability operations

“Host Nation Involvement. To the maximum extent possible, countries experiencing instability must actively participate in the planning and execution of stability operations with the goal of expeditiously resuming their authority and governance” (Draft MSTO manual, 2011, p. 12).

While the draft maritime stability operations doctrine addresses the need and goal for host nation involvement, it fails to outline how the maritime services should involve the host nation. According to the

analysis of game data, some key linkages are identified for a host nation in the context of stability operations. These relationships are depicted in figure 3.13 and based on a comparison of doctrinal concepts with insights discussed by players during plenary sessions.

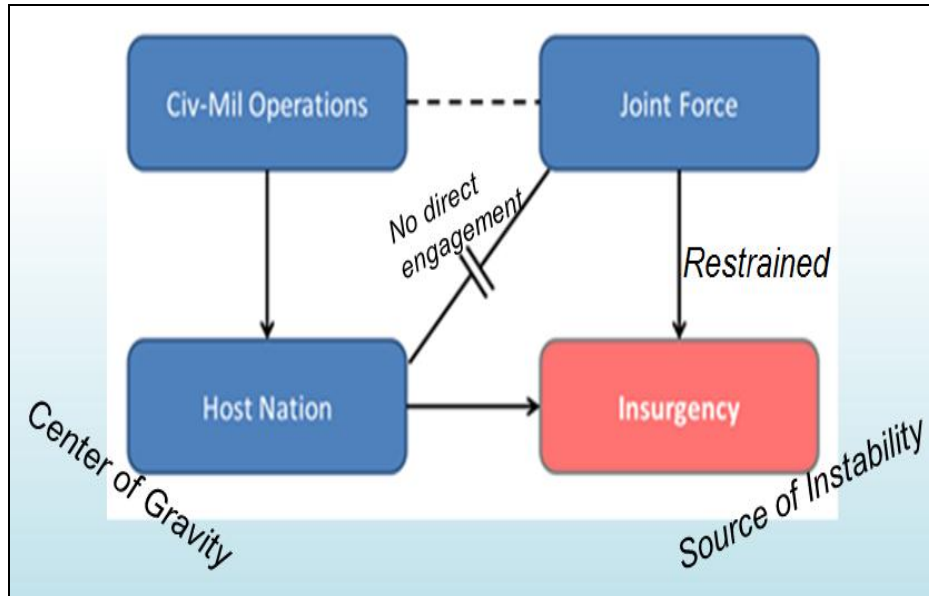


Figure 3.13 Host nation linkages

The strong linkage between host nation and insurgency can be explained by the scenario that places the insurgency as source of instability that the host nation had to deal with. Due to this insurgency, the host nation requested support from the joint maritime force that was established. Players assessed the insurgency as mainly a land-centric problem and this relationship between joint maritime forces and the host nation in dealing with insurgency is not fully addressed in the draft MSTO doctrine.

Green knew they were competing with red for legitimacy with the population. All decisions were tested against that understanding. (White Cell Player)

The doctrine insufficiently addresses MSO in an insurgent scenario. Except for natural disaster events, the US is most likely going to implement MSO in an environment where there is an active force opposing a dysfunctional government. (Blue Cell Player)

Insurgency is a political process. Influence of the people. Brutality is used by this insurgent group is focused on Green Military Forces. (Red Cell Player)

Red's main goal is to discredit the Green government (Red Cell Player)

Players further noted that activities associated with MSTO may be preferable for working with the host nation since a minimal footprint can be attained through sea basing as a means of confronting an insurgent threat.

However sea basing does not mean no footprint, it means minimal footprint. This might be entirely necessary in order to build partner capacity and demonstrate to their people that they are in control

of the situation and are only supported by external forces and sources. Too heavy of a footprint enables insurgency. (Blue Cell Player)

The joint force has a direct link to the insurgency threat since it realized that it needed to be addressed in order to eliminate the source of instability and since it has the means by which it can deliver capabilities to address it. For this game, however, the joint force proceeded in a restrained manner and did not engage the insurgents with direct actions. “Insurgents actions and effect on Green” (Blue Cell Player) were capabilities assessed to be too difficult for the joint force to overcome. Moreover, the joint force discovered the need to work through the civil-military operations as opposed to working directly with the host nation to address the insurgency threat.

Blue intentionally did not engage DIG (Ethnographer notes)

“We were asked by Green to target DIG but we said no.” (Blue Cell Player)

We are unlikely to see insurgent/terrorist maritime strikes against US or Coalition naval forces. (Red Cell Player)

Red feels as if Blue did not engage DIG, but were able to get Purple to invite DIG to negotiate. (Red Cell Player)

Leveraging the capabilities of the host nation and the civil-military (civ-mil) actors may be critical to maritime forces. The ability of maritime forces to coordinate efforts with the civil element that may have years of experience in understanding the host nation’s desires, restrictions, capabilities, culture and, most importantly, in developing relationships and trust. Blue cell players seemed to defer to Purple cell leadership in coordinating assistance for the host nation (Green).

Didn’t notice any Blue interaction with Green... being a liaison with Purple is different than military to military. (Ethnographer notes)

For the game, the joint force worked through civ-mil operations to create effects to influence insurgents and address the underlying conditions that allowed the insurgency to emerge. In turn, the host nation served as the center of gravity for defeating the insurgency. According to the COIN manual (2006), the “primary objective of any counterinsurgent is to foster the development of effective governance by a legitimate government” (p. 1-16). Players assessed that interaction with the host nation through civ-mil operations was the key to defeating the insurgency.

Blue/Purple ought to have taken into account the Host Nation! (Move 1 Discussion, White Cell Player)

The military is in a supporting role to the State Department and Ambassador. This changes the way in which the military approaches the problem. We may not be there to take control of the situation and solve the problem in the American Way, but support the Host Nation and enable them to control the mission, operation, and end state. (Blue Cell Player)

As stated yesterday, Purple needs to be overall in charge along with Green. Blue is in a supporting role and should execute the objectives of Green/Purple. (Blue Cell Player)

Civ-Mil-Host Nation-Intl Community coordination - based on common goals/objectives - is critical to successfully addressing the root causes of conflict. (Purple Cell Player)

The assigned maritime forces have capabilities to assist a host nation in defeating an insurgency. Capabilities such as sea based access, transportation, ISR, and communications can augment a host nation's effort. However, there is no need for the joint force to be the lead in this effort or have the sole capabilities to assist the host nation. The joint force needs to work with and through the Department of State and other agencies, government and non-governmental organizations that have established and maintained a long-term relationship and enhanced understanding with the host nation's government, military, and people.

Theme 3

Assessment in maritime stability operations

Assessment was the concept that occurred most often in the game data. For analysis purposes, assessment was defined per the draft MSTO doctrine as a continuous process to measure progress toward accomplishing a task, creating an effect, or achieving objectives, includes measures of effectiveness (MOEs) and measures of performance (MOPs). Also, it provides understanding vital to planning and execution, such as ISR, information sharing, situational awareness, and COP. Three aspects of assessment include initial assessment, operational assessment, and assessment frameworks.

Assessment can be considered a capability to conduct MSTO. Players felt that assessment in MSTO concerns the need (1) for increased understanding of the situation and (2) to determine how to measure effectiveness.

(1) Increased understanding of situation: Players recognized that gaining and assessing information takes time and is laced with ambiguity. The need for civilian authorities to make decisions and set priorities on the most accurate information proves to be the foundation of effective planning in MSTO.

I think we needed more info, it took us a while to get the data that we needed in order to start making rational decisions. (Purple Cell Player)

Country Team needs robust information in order to formulate USG policy / goals to address crisis (Purple Cell Player)

Agree...needed additional situational awareness on what Country Team efforts occurred in the preceding few years. Helps to establish a deeper understanding of the geo-political climate going into a crisis situation. (Purple Cell Player)

Capabilities that enhance shared situational awareness increase civ-mil cooperation.

The COP needed to be utilized by the Blue and Purple cell so that situational awareness could be maintained. Likewise, leadership could have had a visual of how the Blue, NGO and Green forces were arrayed. (Blue Cell Player)

Players felt that there are inherent challenges to gaining situational awareness in a MSTO environment.

I think right now Red might have information dominance b/c we are able to feed false information to Blue to get them to do things we want them to do. Additionally, we are building a network for follow-on activity. (Red Cell Player)

Overreliance on technical collection measures opens Blue for significant information gaps (Red Cell Player)

(2) How to measure overall effectiveness: Players felt that MSTO was a highly ambiguous and subjective mission area that proves difficult to define mutually-agreed outcomes. Planners must recognize that multiple objectives may be possible and operations must be executed with a degree of flexibility.

Our problem was we still desire some measures of effectiveness so we can prioritize. (Blue Cell Player)

The need to clearly define the maritime objective and put enough forces to be successful. (Red Cell Player)

Understand the short- and long-term objectives of all parties involved, and constantly run all information through these lenses. (White Cell Player)

The document is very good; I think “perception” is a key element. You will be dealing with many things that are non-kinetic (i.e. Information). Have to ensure the countries that are participating have same (at least similar) objectives. In my perspective, “doctrine” is very hard to follow this recipe, different situations require flexibility. (Red Cell Player)

Theme 4

Defining unified action in maritime stability operations

In the draft MSTO doctrine, unified action is defined as synchronization, coordination, integration, collaboration, cooperation, and planning activities and operations of governmental and non-governmental entities with military operations to achieve unity of effort. Civilian-military operations are defined as the primary military instrument to synchronize military and nonmilitary instruments of national power, particularly in support of stability, counterinsurgency, and other operations dealing with asymmetric and irregular threats. The concepts of unified action and civ-mil operations were discussed by the players concurrently in 50% of the data. This observation is not surprising since these concepts have very similar operational definitions. However, players supported this close relationship suggesting that civ-mil operations do not simply stand alone. To work properly, civ-mil operations must be synchronized and properly planned. Both the civilian and military elements must try to proceed toward common objectives even if these elements are not part of same organization. Unity of effort is sometimes achieved through established formal relationships with designated authorities, responsibilities, and command structures. Sometimes unity of effort is achieved through established informal relationships based on trust and mutual understanding. Based on the game data, Figure 3.14 depicts the relationship of concepts associated with unified action.

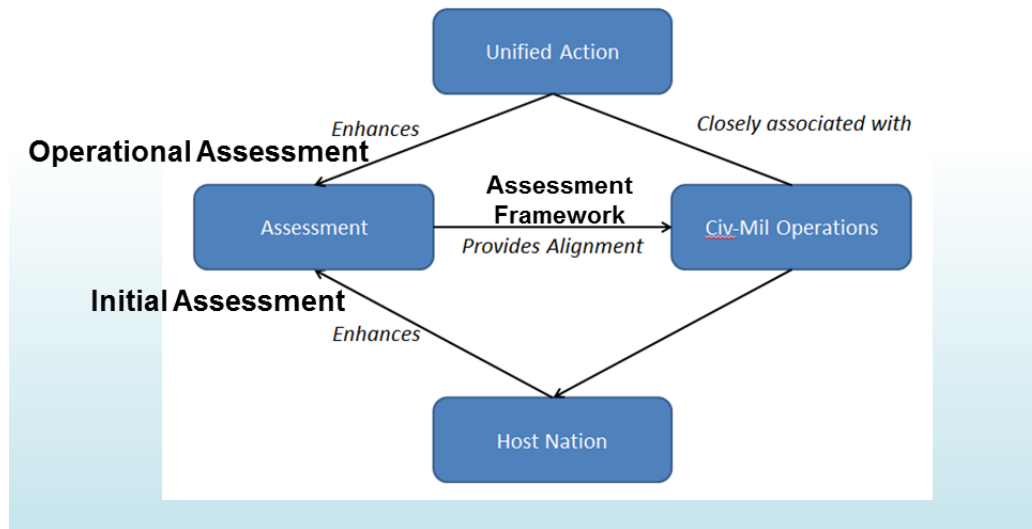


Figure 3.14 Unified action influence in maritime stability operations

While players felt that civ-mil operations were critical to conducting maritime stability operations, the concept of unified action is a key enabler that permits the civ-mil relationships to work more effectively. In basic terms, players assessed that unified action meant coordination between DoS and DoD.

Agree, MSTO is far more than crisis response. It is capacity building and is crucial to an effective TSC plan. MSTO requires close coordination between DoS and DoD; this means the CDR and the Ambassador need to work together on a coordinated strategy. (Blue Cell Player)

Direct civ-mil comms right from the outset is important to building shared situational awareness and unified COA development. (Purple Cell Player)

A means of improving coordination concern establishing common terms of reference between DoS and DoD.

Need to agree on a common language to minimize speaking past one another. Likewise, the DoD needs to understand that they are in a supporting role to DoS and need to learn how to develop a coordinated strategy for accomplishing the desired end states with the host nation. (Blue Cell Player)

Common lexicon, doctrine and language need to be developed to do this effectively. We have a doctrinal gap in the maritime arena. (Blue Cell Player)

Shared responsibility and mutual understanding are keys to building better relationships for interagency coordination.

No single USG organization "owns" the mission to produce effects required for MSO; increased collaboration required going fwd (Blue Cell Player)

S/CRS and other USG coordinating entities do not routinely train with the military. At least not on a sustained basis. we need truly inter-agency training centers, where we routinely train together. (Purple Cell Player)

Unified action requires a formal relationship coupled with informal relationships in order to address the problems in a comprehensive and unified approach.

The military is in a supporting role to the State Department and Ambassador. This changes the way in which the military approaches the problem. We may not be there to take control of the situation and solve the problem in the American Way, but support the Host Nation and enable them to control the mission, operation, and end state. (Blue Cell Player)

For unified action to work more efficiently, conducting initial assessment of the host nation contributes to establishing situational awareness in terms of understanding the history, culture, and environment of the region. Likewise, conducting ongoing operational assessments are required to ensure that the mission objectives and tasks are properly aligned and executed, respectively. In addition, assessments may identify unplanned results that may cause an adjustment of mission and objectives before the present tasking and initiatives are found to be undesirable. In this relationship, assessments are defined as common objectives and measures of effectiveness, ensuring that civ-mil operations are aligned and effective. Unified action describes the context concerning how to conduct effective assessment in terms of creating unity of effort. Players felt that certain attributes enhance the ability to conduct assessment, such as intelligence functions, situational awareness and common operating picture (COP), collaborative tools, organizational framework, coordination of priorities, and understanding alternative perspectives.

Coordination of priorities critical. Initial higher HQ priorities did not match up with political priorities received shortly after scenario started. Therefore, a lot of work went out the window as OBE. (Blue Cell Player)

Agree a common operating picture (COP) is necessary. Need better command and control arrangements (Purple Cell Player)

Blue's (and Purple's) strategic vulnerability in this scenario is the lack of collaborative planning and hence the lack of a coordinated holistic approach to solving their/green's problems. This drives the individual stovepipes to Tactical/Operational level action before a clear 'Grand Strategic' objective is chosen to rank priorities and select Courses of Action. (And we don't have a good mechanism for agreeing on that objective.) (White Cell Player)

Understand the short- and long-term objectives of all parties involved, and constantly run all information through these lenses (White Cell Player)

Unified action is an enabler for assessment that enhances civ-mil operations. The players identified attributes of assessment as aligned with civ-mil operations to include better situational awareness, cultural awareness, synchronized objectives, and collaborative planning.

The COP needed to be utilized by the Blue and Purple cell so that situational awareness could be maintained. Likewise, leadership could have had a visual of how the Blue, NGO and Green forces were arrayed. (Blue Cell Player)

Different perspectives (informed by respective cultures) on the problem (Purple Cell Player)

Players recommended that assessment must be based on unified action in order to ensure host nation success in dealing with the sources of instability. "You've got to figure out how the Host Nation plays in

the mix!” (White Cell Player) Players felt that information dominance was critical in this effort. Attributes of information dominance included having better human intelligence (HUMINT) and improved understanding of public opinion.

For game move 1, information dominance would have been generated by the side with the greatest HUMINT capability. High-tech solutions are not important at this stage (White Cell Player)

You need an effective mechanism to gather accurate data about what is being discussed in the population. The gathering mechanism has to be matched to the target population's manner of doing business as a culture. The next requirement is a way to inject 'true' information into the target populations information system. The routes in need to include ones which are not clearly attributable to the Blue/Green/Coalition. (White Cell Player)

This is consistent with their clear focus on the green population as their center of gravity. (White Cell Player)

Red activities to prevent access by Blue included “win hearts and minds of population.” (Red Cell Player)

Overall, player perspectives concerning unified action in assessment and civ-mil operations reinforce the concept in the draft MSTO doctrine that a comprehensive approach is necessary to overcome the complex environment and address sources of instability.

Theme 5

Strategic communication in maritime stability operations

The draft MSTO doctrine does not address the role of strategic communication in maritime stability operations. However, the strategic communication concept emerged throughout the analysis of the game data. Players felt that strategic communication enhanced the ability to achieve MSTO effects. For example, “there were some great opportunities for information operations & deception operations using the media, etc. worth further investigation” (White Cell Player). The methods recommended to conduct strategic communications included “social media techniques that would likely be available in the real world” (White Cell Player).

Strategic communication requires deliberate planning and must not be done in an ad hoc manner. “To dominate information, you must first have a plan to dominate information. The corollary to this plan is that every action has an associated strategic message attached. Either you lead it or it leads you!” (Red Cell Player) Players assessed that the strategic communication plan must be flexible and durable in the face of an adversary’s strategy. “Red’s strategic message and the fight for national support...was effective at using our strengths against us” (Blue Cell Player). Players identified how adversaries may disrupt the delivery of strategic communications. “Red made an attempt on info dominance by jamming green broadcasting” (White Cell Player).

The theme for deliberate strategic communication planning remains consistent with what players said in the Irregular Challenges 2010 Game conducted at the Naval War College. Basically, strategic

communication articulates a whole-of-government approach to mitigate the underlying conditions that allow sources of instability to emerge. It requires deliberate planning and theater security cooperation in order to build relationships and understanding of the culture necessary to ensure actions and message match effectively.

Blue info dominance supports purple strategic communications which are designed to undermine specific red strategic communications themes. Blue info dominance activities pre-suppose knowledge (situational awareness) of red and then Purple. There is room for improvement in this scenario and real world. (Blue Cell Player)

Data relating to strategic communication emerged from player responses to the question: What did you learn about the role of information dominance in conducting maritime stability operations? Thus, players assessed that strategic communication is required for information dominance. The concepts of strategic communication and assessment seemed to define how players interpreted the importance of information dominance in MSTO.

If information (of any stripe) is a main battery, then managing the strategic message is the fire control and targeting capability required to achieve desired national aims. To amplify, Naval Commanders must be trained for operational/tactical flexibility and leadership, every operation we conduct has a perceived outcome as well as a concrete result, and that every operation will have a perceived outcome as well as an actual outcome. We need to deliberately work to achieve success in both actual operational results and in virtual strategic messaging. (Red Cell Player)

While strategic communication is addressed in the stability operations doctrine (JP 3-07, 2011); these player insights suggest there are unique implications for maritime stability operations. Stability operations require information to be synchronized with operations involving both “words” and “deeds” (JP 3-07, 2011, p. III-2). Maritime forces have a unique role to play in stability operations that may not be fully explained in a generic (Purple) strategic communication plan. If the message is to assist a host nation while not intervening on sovereignty, then maritime forces have the ability to conduct operations with a minimal footprint. If the message is to show support in order to increase hope among the people of a host nation during disaster response, then the expeditionary nature of maritime forces can project assistance ashore. If the message involves deterrence of state or non-state actors, then forward-deployed maritime forces could conduct show of force operations.

Theme 6

U.S. National Security Interests associated with Maritime Stability Operations

The draft MSTO doctrine should clearly state that MSTO is a means that can be employed in pursuit of U.S. National Security Interests. Simply responding to instability wherever it might occur does not provide a reasonable justification for employing MSTO. The draft MSTO doctrine proposes the sources of instability as the objectives for MSTO actions. However, the purpose for confronting these sources of instability may be explained through the underlying premise for maritime stability operations. “The underlying premise is that a stable world presents fewer threats when compared to a world with pockets of

instability” (p. 7). The underlying premise should be changed to “in the event that a situation arises which has the potential to threaten U.S. national security interest, MSTO may be a valid response.”

Post-game analysis attempted to explore this underlying premise in order to answer: how does MSTO relate to larger maritime strategy? The hypothesis that a stable world presents fewer threats when compared to a world with pockets of instability was compared to what the players said concerning why they determined priorities for activities in the scenario. For this analysis, threats are defined as events or conditions that could negatively impact U.S. national security interests. An alternative hypothesis would suggest that a world with pockets of instability does not necessarily have more threats. Real-world events are indicators consistent with this hypothesis, such as Libya, Syria, and Egypt as examples of accepting instability for long-term stability from perspective of impact to U.S. policy. Moreover, Somalia is contained as a pocket of instability to limit the threat to national security interests.

Players felt that the importance and level of effort for conducting maritime stability operations are functions of how the sources of instability relate to U.S. national security interests. “Need a better sense of USG interests in both Green and Orange” (Purple Cell Player). The relationships and interests in the region for the United States prove critical to the amount of intervention and assistance that the joint force is willing to expend.

Sources of instability outlined in MSTO doctrine should be characterized as threats to U.S. national security interests. In this game, pandemic was identified as posing the greatest threat to U.S. national security interests. For this reason, the pandemic was deemed worthy of a response conducted under the MSTO construct.

MSTO, even though it involves asymmetric threats, is, in fact, a national security mission. Today's threats (such as transnational criminal organizations) can be so significant as to pose threats to nation states. Developing a MSTO doctrine will allow these operations to possess the stature and bona fides to be properly resourced. (Blue Cell Player)

MSTO requires more than just maritime capabilities needed to conduct major combat operations; it requires working with other instruments of national power, specialized capabilities, and persistence. If the sources of instability are true threats to U.S. national interests, then it should require all instruments of national power to intervene.

Stability Ops requires a long term commitment and specific capabilities. Unsure whether if US Navy is best suited for these missions or if should fall under DoD at all. Though some of the expertise is in maritime forces -- many of these countries need assistance in coast guard, constabulary, policing forces -- there may be other agencies or another arm of USG that would be better served. (Purple Cell Player)

The draft MSTO doctrine states that “the Department of State (DOS) is charged with leading a whole-of-government approach to stabilization” (p. 20). The game data were consistent with this assertion. However, in conducting MSTO, a coalition approach seems to be most effective in achieving regional effects through the legitimacy of the strategic communication message. Moreover, it is easier to justify the cost of intervention when the cost is shared among partners.

Purple won't have a clear objective as it is a coalition and contains NGOs and PVOs. This means for BLUE support should be metered to those NGO/PVOs who are best at advancing your objectives. Detecting their (non-Blue) objectives should be a priority. (Purple Cell Player)

While the coalition approach is the most effective, it proves to be one of the most challenging aspects of conducting maritime stability operations. Identifying and aligning objectives among partners, agencies, and organizations is necessary to ensure activities will be effective and to ensure leveraging capabilities across the spectrum of interested parties. It is important to keep in mind that a coalition effort is also only a means to an end. If unilateral stability operations are warranted for U.S. national security interests, they should be kept in mind as a valid option.

e. Limitations of Game Design and Analysis

A major challenge for the War Gaming Department concerns development of a game that provides the robust insights into an issue or problem sought by the game's sponsor. Accordingly, managing stakeholder expectations about what the final game report will tell them with respect to broad-based implications is essential. Stakeholders often seek findings that will provide them with predictive conclusions for decision-making purposes. Unfortunately, gaming is a predominately descriptive process because games are not experiments. Even if a game is repeated, it lacks sufficient controls over player inputs and the central limit theorem for a distribution to ensure validity. In other words, sponsors should not attempt to draw inferences beyond what a specific group of players did in a particular game to yield generalizability (the ability to apply the findings observed for a small population to the broader world around us). The Maritime Stability Operations Game is no exception to this premise.

It should be noted that both the quantitative and qualitative datasets analyzed in this game report lack generalizability due to the small sample sizes of participants—none of whom were randomly selected from a population known to be normally distributed. However, through triangulation and meta-analysis, researchers enhanced the reliability and validity of findings that should prove valuable to inform both the sponsor and stakeholders associated with maritime forces.

This game was designed to be highly inductive in order to garner broad-based insights relative to the research questions. Inductive games leverage qualitative data to identify themes based on player decisions during game play. The qualitative nature of data can result in subjective findings. To control for the subjectivity and complexity of the research area, a number of design and analysis measures can be employed. Moreover, the participants in the game represented an accessible and purposeful sample to provide information-rich data. This purposeful sample does not necessarily represent the entire population from the organizations represented at the game. For this reason, meta-analysis should be used, whereby the findings from a single game could be combined or compared to findings from other similar games or studies to yield the greatest value in terms of implications to the research area.

Analysis effectiveness can be measured in terms of internal and external validity. Internal validity refers to the extent that cause-and-effect relationships identified in the game can be inferred from collected data.

External validity refers to the extent that the results in the game accurately reflect the external conditions in the real-world. A number of potential threats to internal and external validity need to be addressed during the analysis effort in order to minimize the effect of these threats.

Two threats to internal validity concern the quality of the data collected and the accuracy of the analytical techniques used to review these data. To ensure quality data collection, the post-game analysis team relied on player-created products, such as individual survey questionnaires, move cards, and threaded discussion transcripts. Insights extracted from these data sources were subsequently cross-checked, or triangulated, with other data sets including ethnographer notes to ensure accuracy and conclusiveness. The accuracy of the analytical techniques was enhanced by using multiple methods, tools, and researchers to review the same data. Methods included content analysis, grounded theory, and constant comparative approaches. Multiple research teams reviewed the same data sets using different approaches. Themes and insights derived from multiple researchers and approaches reflect more validity than a single researcher using a single approach.

To explore the degree of external validity, one must consider whether the data collected can be generalized across the population of subjects. The demographics of the participants provide some measure to assess this attribute. The game was designed to stimulate critical analysis and creative thinking skills. To identify the nature of civilian-military relationships, players were selected to represent a cross-section of military, government, and civilian perspectives. Although the game had a diverse group of participants, it proves to be cost-prohibitive and too complex to have every perspective represented from all stakeholders associated with maritime stability operations. Therefore, some gaps in perspectives can be assumed for any game.

IV. IMPLICATIONS & RECOMMENDATIONS

Given the findings, the researchers explored the implications to the three research areas: (1) emerging maritime stability operations (MSTO) doctrine, (2) force structure, and the (3) overall maritime strategy. This section proposes those implications as well as recommendations to inform force structure, emerging doctrine, and the overall maritime strategy relative to maritime stability operations. Based on the player insights and themes derived during post-game analysis, figure 4.1 depicts how maritime stability operations play a role in these three research areas.

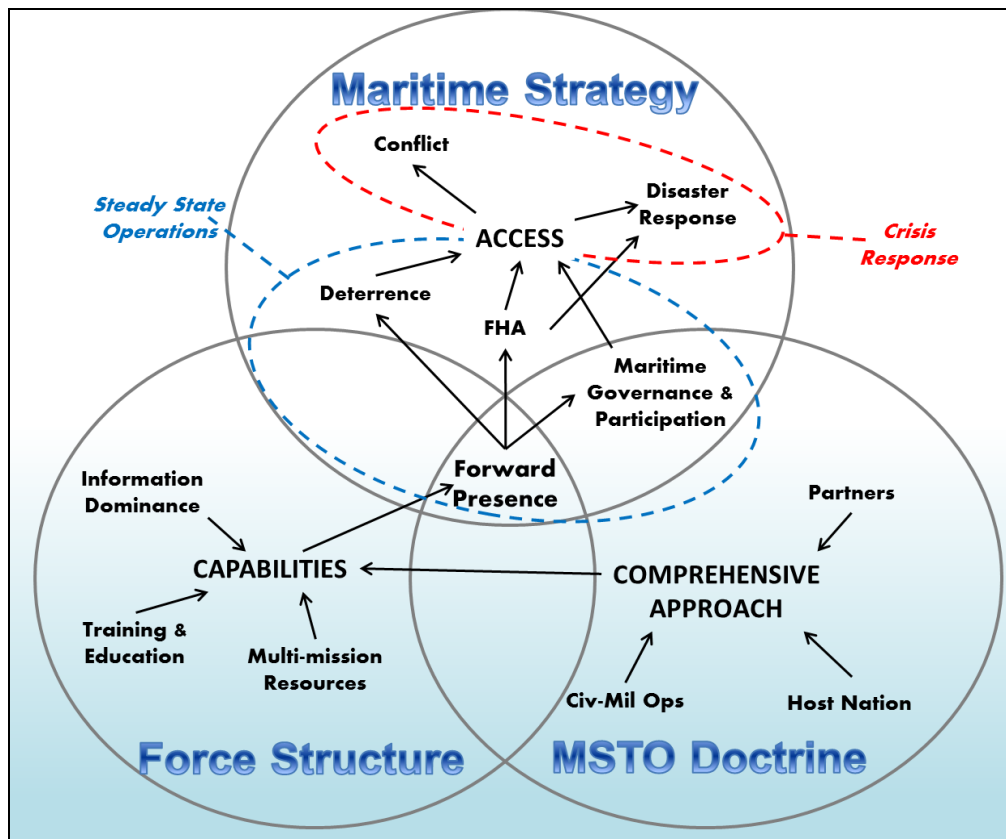


Figure 4.1 – Influence of MSTO on force structure, doctrine, and maritime strategy

Pertaining to (1) emerging MSTO doctrine, players supported the assertion that a comprehensive approach is required for effective and efficient MSTO. This comprehensive approach concerns unified action in terms of assessment, strategic communication, and the conduct of civil-military operations. Players recognized that stability operations are not the purview of maritime forces alone. Government agencies, coalition partners, and the host nation play critical lead roles, because the sources of instability often originate from ashore where these actors have better situational awareness than maritime forces due to their persistent presence in the region. Players perspective concerning a comprehensive approach seems aligned with the new strategic guidance for the Department of Defense proposing that “the United States will emphasize non-military means and military-to-military cooperation to address instability and reduce

the demand for significant U.S. force commitments to stability operations...operating alongside coalition forces whenever possible” (DOD, 2012, p. 6).

The previous perspective of interoperability of maritime forces with other entities concerned the ability to leverage the capabilities from other agencies, organizations, and nations in pursuit of maritime stability objectives (NWC Irregular Challenges Game Report, 2010). However, this game produced an emergent paradigm concerning how maritime forces can provide capabilities in support of other agencies, organizations, and nation in pursuit of their maritime stability objectives. This emergent paradigm seems consistent with guidance that “U.S. forces possess rapidly deployable capabilities...in supplementing lead” (DOD, 2012, p. 6) agencies and organizations.

Pertaining to (2) force structure, players asserted that MSTO capabilities are more than platforms. These capabilities include the ability to conduct a comprehensive approach enabled through training and education as well as information dominance. A comprehensive approach requires maritime forces to work in civil-military and coalition environments. Stability operations present challenges with complexity and intensity equivalent to combat operations, requiring specialized training to operate in these diverse and complex environments. However, players assessed that maritime general purpose forces lack the training necessary to conduct MSTO on a persistent basis, possibly explaining why MSTO is done on an ad hoc fashion.

Capabilities associated with information dominance contribute to the unified action required for an effective comprehensive approach. Players felt information dominance consists of the concepts of assessment and strategic communication. Through assessment, situational awareness becomes available for decision-making, measuring progress, and aligning strategic message. In this way, information dominance serves as an enabler for civil-military operations. Players indicated that resources must be multi-mission in terms of flexibility and responsiveness. Maritime forces must provide flexible options to overcome the complexity associated with sources of instability and align with the strategic message desired. Moreover, maritime forces must be able to transition rapidly from steady state operations to crisis response. The need for responsiveness suggests that maritime forces must do multiple missions and be forward deployed.

Pertaining to (3) overall maritime strategy, game findings suggest that forward presence represents the critical requirement for MSTO. Players indicated that forward-deployed maritime forces must be able to do three missions consisting of maritime governance and participation, foreign humanitarian assistance, and deterrence. Maritime governance and participation concern the enforcement of foreign domestic law and regulations pertaining to seas, bays, estuaries, rivers, and ports with due regard to international law. Specifically, maritime governance includes law enforcement activities in the maritime domain to enhance economic stability, such as the regulation of fisheries and management of waterways. Maritime participation concerns strengthening governance through regional maritime security cooperation and foreign security assistance through training and assisting host nation security forces.

Players identified foreign humanitarian assistance as closely associated with disaster response and necessary in order to address sources of instability and set conditions for crisis response when needed.

Game play reflected the value of maritime forces as credible capabilities to prevent escalation through deterrence of state and non-state regional actors.

Forward-deployed maritime forces conducting these mission areas require access to a region of instability. Additionally, maritime forces that conduct these mission areas effectively contribute to the ability to gain and maintain access to a region of instability. Upon transition from steady state operations to crisis response, access will enable maritime forces to conduct disaster response or combat operations as necessary. MSTO capabilities by forward-deployed maritime forces enhance access to potential regions of instability in support of overall maritime strategy.

Based on the game findings, the following recommendations are offered to inform each research area:

(1) MSTO Doctrine. Given the ability to maintain access with minimal footprint ashore in regions of instability, the MSTO doctrine should highlight forward presence as the role of maritime forces in stability operations. The MSTO doctrine should continue to emphasize that a comprehensive approach as the most effective and efficient means for maintaining forward presence for MSTO. However, the need to work with partners and allies, as well as the critical role of building capacity of the host nation, should be stressed in order to increase the legitimacy, share the cost, and establish relationships for MSTO.

(2) Force Structure. Games are poor at identifying and prioritizing specific forces and capabilities associated with missions since it is difficult to discern whether results are a function of the scenario employed or the bias of players. However, games are good at identifying attributes of capabilities that emerge based on how the players made decisions and employed forces in the game in order to achieve effects. Based on game findings, capability investment decisions should be assessed according to the following attributes in terms of the ability to: maintain forward presence, conduct foreign humanitarian assistance, conduct maritime governance and participation, provide deterrence, provide situational awareness for assessment as part of information dominance, conduct civil-military operations, operate in coalition operations, and work with host nations. Investment for general purpose forces in enabling capabilities such as information dominance, training and education, and civil-military operations, that enhance the ability to understand and build relationships in potential regions of instability, will ensure access on a persistent basis for both steady state operations and crisis response.

(3) Maritime Strategy. As DOD Instruction 3000.05 (2009) states that “stability operations are a core U.S. military mission that the Department of Defense shall be prepared to conduct with proficiency equivalent to combat operations” (p. 2), the successive maritime strategy should consider maritime stability operations as an equivalent and enabling mission area to maritime combat operations. Since potential adversaries may be more likely to confront maritime forces through indirect methods that capitalize on sources of instability, maritime forces must prevent escalation and set conditions for responding to crises. The linkage between MSTO and the overall maritime strategy concerns the ability of forward-deployed forces operating in a comprehensive approach to gain and maintain access through maritime governance and participation, foreign humanitarian assistance, and deterrence.

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APPENDICES AND SUPPLEMENTAL DATA

- a. Appendix A - Attendees**
- b. Appendix B - Schedule of Events**
- c. Appendix C - Scenario and Background Information**
- d. Appendix D - Survey Questions**
- e. Appendix E - Final Combined Plenary Slides**
- f. Appendix F – Likert-Scale Survey Questionnaire Results**
- g. Appendix G – Operational Definitions for Post-game Analysis**

Appendix A - Attendees

Blue Player Cell:

Balaresque, Jorge	RADM(ret)	Chilean Naval War College (Academia de Guerra Naval)
Becker, Mark	CDR	NWC
Bozzelli, Joseph	CDR	N851
Cunningham, Bruce	SBCM	JSOTF-P J3 MCM
Diaz, Guillermo	CAPT	Director of the Chilean Naval War College (Academia de Guerra Naval)
Frederick, Alex	Mr.	Senior Operations Officer, HQ USSOCOM/J7-9 JIW
Hager, David	Mr.	NAWCAD - Chief Engineer – Integrated Communications & Information Systems Division
Hughlett, Frank	CAPT	CO - Marine Civil Affairs and Security Training Command
Hunger, Lyle	Mr.	Deputy OIC - Joint IED Defeat Organization J-7 Navy Detachment (EOD)
Kichman, Michael W.	Mr.	USCG HQ - Senior CT advisor
Kristoffersen, Jens Wenzell	CDR	Denmark Navy
Mahoney, Bill	CDR	CO - Naval Small Craft Instruction and Technical Training School
Merritt, Kirk	Maj	MCCDC - USMC
Meyers, David C	CAPT	Navy Supply Corps - HA/DR Experience
Michel, Chuck	RADM	Director, Joint Interagency Task Force South
Shimkus, Al	Prof	NWC
Shultz, Dan	CAPT	NECC - N7
Sigmon, Lew	LtCol	MCCDC - USMC
Van Horn, Kent	CDR	SOCCOM
Ward, Ken	Mr.	Chief, Office of Counter Terrorism; C-Terrorism and Defense Operations CG HQ

Purple Player Cell:

Brooks, Gene	RDML (ret)	Maersk
Chamberlain, Faith	MAJ	Emergency Unit Fellow – International Rescue Committee
Cohen, David	Mr.	USAID - Global Advisor
Decker, Scott N	CAPT	DHS - Civilian Response Corps
Edwards, Angela	LCDR	MCASTC
Hasdorff, Terri	Ms.	Aidmatrix - Vice President
Hill-Herndon, Catherine	Ms.	DoS Disease SME
Jones, Deborah	AMB	NWC
McBryde, Doris	Ms.	DoS - Transportation in the Bureau of Economic and Business Affairs

Oliver, George F.	Prof	NWC - JMO Stability Ops SME
Perito, Bob	Mr.	Director - Center for Security Sector Governance US Institute of Peace
Stattel, Victoria	Ms.	Program Expert, Security Sector Governance Center, U.S. Institute of Peace
Tucker, Charles	MGen(ret)	World Engagement Institute (NGO)

Red Player Cell:

Bode, Chase	Mr.	ONI
Callahan, Chris	LT	NEIC
Dunn, Grady	Mr.	NWDC - Information Dominance, Irregular Warfare Analyst
Keefer, Michael	Mr.	CIA
Mores, Frank	LCDR	Reserve - FBI Counter-Terrorism Expert
Moss, Mike	Mr.	Managing Member, Intercontinental Defense Technologies, LLC
Nelick, Timothy	LCDR	ONI
Nichols, Steve	Mr.	ONI - Trans-National Threat Department
Wiest, Michael T.	ASAC	NCIS - Counterintelligence/Counterterrorism, NE Office

White Player Cell (Subject Matter Experts):

Almgren, Gunnar	Mr.	Naval Irregular Warfare Office
Alvayay, Enrique	CAPT (ret)	Chilean Naval War College
Anderson, Steven	Mr.	Naval Surface Warfare Center
Ayers, Ferrell	Mrs.	CIA
Barrera, Guillermo	ADM(ret)	CNO Distinguished International Fellow
Brew, Kevin	CAPT	NWC - JAG
Defibaugh, Bruce	CDR	NIWO
DiIulio, Domenic	Mr.	USCG HQ
Dobson, Robert	Col (ret)	MCCDC
Feldt, Lutz	VADM (ret)	Senior Mentor
Gunzel, Charles	CAPT	ONR - Irregular Warfare Advanced Concepts Officer
Harz, Christopher R.	Dr.	VP of Strategic Relations, Virtual Agility
Helm, Stephanie	Ms.	NWC - Information Dominance
Henriques, Errol	CAPT	OPNAV - N3N5 JAG
Luster, Frank	Mr.	NECC - Irregular Warfare Analyst
Lyles, Mark	CAPT	CNWS - Pandemic expert
MacArthur, Sidney	Mr.	NAVAIR 4.0 - S&T
Magleby, Al	Prof	NWC - DOS Instructor
Nugent, Al	Mr.	NECC - N5
Sandoz, John	Mr.	NIWO
Sass, Grady	Mr.	NWDC Concepts - Irregular Warfare Analyst

Appendix B - Schedule of Events

SCHEDULE OF EVENTS

Tuesday, December 6, 2011						
Start	End	Event	Remarks	Location	Who	POC
0800	0900	Check-In	Registration	MLH Lobby	ALL	LT Kaiser
0900	1000	Welcome	Welcome, Admin Remarks	Auditorium	ALL	Prof Ducharme
1000	1200	M1	Move 1 – Mission Analysis	Game Cells	ALL	Facilitators
1200	1300	Lunch	Player Lunch	NWC Cafe	ALL	
1300	1500	M1	Move 1 – Moves/Adjudication	Game Cells	ALL	Facilitators
1500	1630	M1	Post Move 1 Activities	Game Cells	ALL	Facilitators
1800	2100	Social	No-Host Social	O'Club	ALL	LCDR Meagher

Wednesday, December 7, 2011						
Start	End	Event	Remarks	Location	Who	POC
0800	1000	M2	Move 2 – Mission Analysis	Game Cells	ALL	Facilitators
1000	1200	M2	Move 2 – Moves/Adjudication	Game Cells	ALL	Facilitators
1200	1300	Lunch	Player Lunch	MLH Cafe	ALL	
1300	1500	M2	Move 2 – Moves/Adjudication cont...	Game Cells	ALL	Facilitators
1500	1630	M2	Post Move 2 Activities	Game Cells	ALL	Facilitators

Thursday, December 8, 2011						
Start	End	Event	Remarks	Location	Who	POC
0800	1000	M3	Move 3 – Mission Analysis	Game Cells	ALL	Facilitators
1000	1230	M3	Move 3 – Moves/Adjudication	Game Cells	ALL	Facilitators
1230	1330	Lunch	Player Lunch	MLH Cafe	ALL	
1330	1500	M3	Post Move 3 Activities	Game Cells	ALL	Facilitators
1500	1630	Outbrief	Combined Plenary	DSC	ALL	Prof Ducharme

Appendix C – Scenario and Background Information

Scenario: Maritime Stability Operations Game 2011

Executive Summary: A long-running insurgency in the easternmost GREEN province of Dargo is leading to social instability and threatening to spread throughout GREEN's central and western provinces. The insurgency, with tacit approval and possibly clandestine support by ORANGE, has laid the foundation for widespread suffering and disruption. Lack of adequate healthcare services presents a vulnerability to disease transmittal and unwarranted death. The effects of the insurgency coupled with the potential for natural disaster has placed GREEN on the cusp of failure.

Geography/Climate: The fictitious island nations of GREEN and ORANGE are located in the tropical South Pacific and separated by the Bunda Strait. Situated on the western edge of the Pacific Ring of Fire, GREEN and ORANGE experience frequent seismic and volcanic activity, with 22 active volcanoes in the region. As a result, the region is rich in mineral deposits that include gold, nickel, copper and zinc among others.

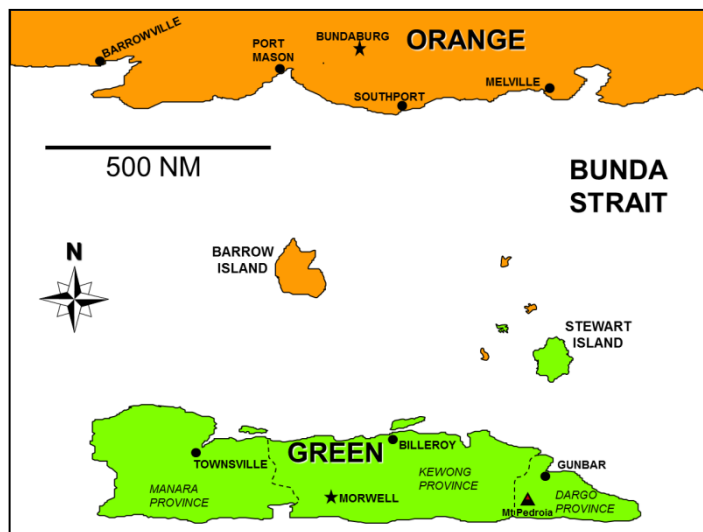


Figure 1. Map of the region

The region experiences a tropical maritime climate that is usually hot and humid. There are three seasons: summer (March-May), the rainy season (June-November), and the cool dry season (December-February). During the rainy season, the region typically experiences annual torrential rains July to October, with an average 23 typhoons entering the surrounding waters and three-to-four making landfall.

Historical Background:

The scenario is centered on two island nations, ORANGE and GREEN, located in the South Pacific. For nearly 200 years, these two large islands formed the country of ORANGE. In 1949 the South Island declared independence from ORANGE under the name GREEN. The new leaders of GREEN drafted a constitution in 1950 which established a democratic government and divided the country into three provinces. GREEN and ORANGE also split *de facto* ownership of the islands in the Bunda Strait, with GREEN claiming control of Stewart Island and ORANGE retaining control of Barrow Island. ORANGE also administers some but not all of the smaller islands in the vicinity of Stewart Island.

Due to a perceived lack of support for ORANGE by Western-aligned nations during the split with GREEN, the ORANGE nation turned to the Soviet Union for support. Not surprisingly, ORANGE evolved under a Soviet style economy and government. As ORANGE established itself in the Soviet camp, the United States began to align itself more than politically with GREEN, citing GREEN's pursuit of democracy and its respect for human rights.

In 1975, animosity between ORANGE and GREEN increased as high-level verbal attacks became a common occurrence between the island nations. ORANGE, which never recognized GREEN's independence, continued to claim that the South Island (GREEN) was sovereign ORANGE territory. ORANGE lacked sufficient military force to take back South Island; ORANGE and GREEN entered into a period of military buildup.

In 1980, a significant portion of the population of Dargo Province (the eastern province of GREEN) began to organize politically. The political and cultural ties of this group, known as the Democratic Insurgent Group (DIG), were closely associated to the people of ORANGE. Throughout the 1980's, the DIG made considerable gains in rallying support within the population of Dargo Province. Dargo Province enjoyed moderate prosperity, but lagged behind Manara and Kewong Provinces. The support for the DIG grew after a geological survey in the Bunda Strait discovered large oil and natural gas deposits in the shelf surrounding Stewart Island in the late 1980's. The discovery reignited the ongoing tensions between ORANGE and GREEN.



Figure 2. DIG rally in Dargo Province

The tensions between the two countries further intensified as a result of the Asian financial crisis in 1997. The GREEN economy entered a prolonged period of recession. Dargo Province, which had never achieved the level of success enjoyed by Manara and Kewong Provinces, was hardest hit. Dissatisfaction among the population of Dargo Province led to a rise in support for the DIG movement. Due to the large number of ORANGE supporters in Dargo Province, the GREEN Government began instituting increasingly stricter social policies that included nightly curfews, food rations, and checkpoints along the Dargo Province border. This only served to fuel animosity in the hundreds of thousands of sympathetic citizens of Dargo Province and the population of Stewart Island.

During this same period in ORANGE, many of the old communist leaders, now calling themselves Democratic Socialists, successfully ran for office on a platform of regional prominence and dominance. The new government successfully transitioned the economy and the ORANGE

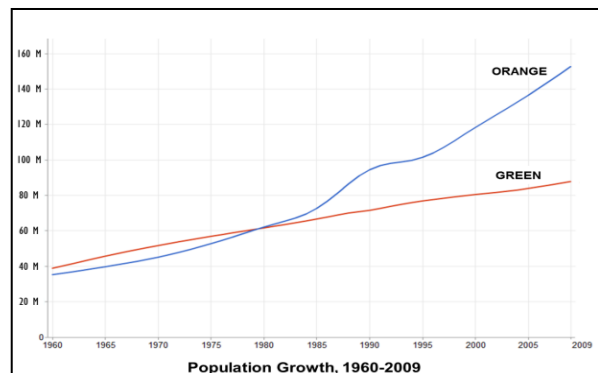


Figure 3. GREEN and ORANGE population growth

economic future began to exponentially grow in complete divergence from GREEN's faltering economy. The population of ORANGE entered a period of increased growth in the early 1980s, resulting in a larger workforce and lower median age in ORANGE today. The current population is estimated to be near 160 million people (compared to approximately 80 million in GREEN).

In 2010, the DIG movement had progressed to the point where they began to initiate small scale terrorist and guerrilla actions against GREEN forces and installations in the cities of eastern Dargo Province. As their forces increased in number, the DIG established base camps in the mountains of the south-central section of the province. GREEN forces attempted to put down the DIG forces but the movement continued to build momentum. The DIG garnered the clandestine support of the ORANGE Government, which supplied them with arms, supplies and technical assistance. DIG leadership emphasized to the population of Dargo Province the economic disparity between GREEN's other provinces and played upon lingering loyalty to ORANGE, gaining influence and support in the western half of the province.

Economy: The national economy of GREEN is agriculture based. Though richly endowed with natural resources, but access has been hampered by high cost of developing infrastructure, corruption, and law and order problems. In the early 2000's, GREEN was downgraded to 'developed country' status due to protracted economic and social stagnation. Over the years, the condition has somewhat worsened in that unemployment has increased to 20% with half of the 80 million citizens living in poverty on the equivalent income of two USD per day or less. Within the past 15 years, internal disputes and violence have lead to foreign investor withdrawal allowing ORANGE to gain competitive advantage. The GDP and national debt have both exhibited negative trends thereby leading to true economic and social instability.

In the early 1990's, the ORANGE economy, with the benefit of foreign direct investment and a state-led drive for industrialization, began to strengthen into a modern regional economic competitor. The ORANGE economy successfully transitioned from one based on agriculture to one based more on services and manufacturing. The unemployment rate as of July 2010 was around 4.2%. The country is a net exporter with a GDP (PPP) estimated to be one trillion US (\$). ORANGE has substantially outpaced the economic growth of GREEN and has become a major economic competitor in the region.

Recent Developments:

By mid 2011, the DIG irregulars had gained enough strength to upgrade their military actions to small unit operations against GREEN military forces. Last year, the DIG captured and took control of the towns of Begar and Orbost at the eastern end of Dargo Province. At the beginning of this year, the DIG controlled about 30 percent of the land in eastern and central Dargo Province, with widespread (but not universal) popular support throughout the province.

GREEN lacks the military strength to decisively rout the DIG forces. Dargo Province appears to be on the brink of political and social fracture. DIG strikes intended to erode GREEN

government control are beginning to impact GREEN's ability to provide basic services such as health-care, clean water, education, and sanitation. Meanwhile, DIG lacks the capability to provide those same services and would be disinclined to help in any case so long as the GREEN government can be blamed for the present hardships.

At this point, the civilian population of Dargo Province is growing desperate for improvement. While there is still popular support for the DIG, and little support for the GREEN "secessionist oppressors", increasing numbers of civilians have begun to attempt to leave Dargo for perceived opportunities in GREEN provinces to the west.

The United States ambassador to GREEN has privately acknowledged that GREEN lacks the resources to effectively address the DIG lead insurgency and wishes to explore possible United States involvement/assistance.

Current Situation:

Maritime Activity: An Average Freight Rate Assessment (Aframax) tanker (80,000 dwt) with a cargo of crude oil from the Stewart Island oil fields was boarded and seized by a group of armed pirates operating from two speed boats. The ship was reportedly taken to the port of Begar, a DIG-held port in the Dargo Province; an one million USD ransom demand has been made for the ship and crew of eight. Through unofficial channels, DIG leadership claims the DIG is not involved.

The waters between Stewart Island and ORANGE include rich fishing grounds, parts of which are in GREEN and ORANGE's exclusive economic zones. Both countries have claimed that fishing vessels from the other are encroaching. In addition to the ORANGE and GREEN fishing disputes, illegal fishing by foreign trawlers has increased with the relaxation of enforcement over the past years. The citizens of GREEN have experienced a significant reduction in their average fishing catch which has resulted in increased cases of nutritional deficiencies due to the lack of



Figure 4. Example of illegal fishing

protein from their fish based diets.

A GREEN coastal patrol vessel intercepted a fishing trawler traveling south toward Dargo Province. During a routine inspection, GREEN personnel discovered narcotics, automatic rifles, ammunition, and high explosives. Although ORANGE involvement is suspected, there is no conclusive evidence aboard. The crew claims to have been smuggling narcotics from Stewart Island to Dargo Province for the past year and professes ignorance of the weapons onboard. They state that their smuggling operations are linked to large container ships making port calls on Stewart Island and they are loaded by apparently legitimate port operations personnel.

Terrorist/Insurgent activity: Outside of Dargo Province, unrealized GREEN government provided social improvements have increased the DIG/ORANGE sympathizers throughout

GREEN. The sympathizers have helped to strengthen DIG influence throughout the island and contribute to increased insurgency in around and around the major cities of Morwell and Billeroy in central GREEN. Major clashes between the GREEN police forces and insurgents are wearing on the sparsely numbered GREEN police forces.

GREEN police reported that eight men were detained and later arrested in the Billeroy international airport for suspected immigration violations which included traveling on false passports. After questioning, it was determined that all were foreign nationals from outside the region with an assessed purpose of entering GREEN to assist the DIG in their insurgency. Due to lack of concrete evidence regarding their intentions the eight men were released and transported off of the island.

The pilot of a commercial airliner on approach to Billeroy International Airport was blinded by laser dazzling, apparently originating from the vicinity of the runway. The aircraft safely landed under emergency conditions and the pilot was not permanently injured. Upon further investigation, 10 other pilots (all of foreign air carriers) reported bright green and red lights when on approach to three local airports. Officials are concerned about the safety of flight operations and are attributing this to either the DIG or DIG sympathizers attempting to minimize international influence to GREEN.

GREEN police/internal defense agents discovered that the DIG has expanded their operations to incorporate more complex tactics. The DIG is using social media as a tool to reach potential recruits and organize gatherings/raids. They have acquired low budget equipment to jam/disrupt national T.V. and radio signals. It is assessed that ORANGE operatives have taught and provided the DIG with these additional tactics, techniques and procedures to increase the complexity of their operations.

Medical Threat: In the years leading up to 2011, the GREEN health care system remained largely under-resourced. Due to the faltering economy and increasing violence in GREEN, most highly skilled healthcare providers left GREEN for more lucrative and stable employment elsewhere. This left GREEN with both a lack of quality and quantity of trained healthcare providers for the GREEN citizens.

In late 2011, healthcare workers noted an increase in dengue fever diagnoses during the subtropical monsoon season, stressing the already fragile GREEN healthcare system further.

Healthcare workers did not initially notice a new viral disease with symptoms similar to dengue hemorrhagic fever. Treatments that were effective for dengue fever are not effective for this new disease. The new disease is spreading rapidly and may have a novel mode of infection that may include a human-to-human transmission making it highly contagious. This new disease form



Figure 5. Dengue fever health clinic

imposes a high fatality rate to its victims. The GREEN healthcare system was genuinely puzzled by the lack of response from existing treatments and accelerated spread when compared to historic dengue hemorrhagic fever patients; it took over two months to realize either the dengue fever virus had mutated or a new virus was spreading through the GREEN countryside.

As the GREEN government became aware of this new virus/disease named Franconiasis, they received an assessment of at least sixteen months for a vaccine to be developed and mass produced, if at all. Widespread panic ensues which leads to population migration to the smaller GREEN offshore islands and areas throughout the region take place. In the following weeks small numbers of the Franconiasis disease show up throughout the region to include two cases in Hawaii, one in Singapore, and one in Hong Kong. It is evident that a pandemic is a real possibility unless the spread of Franconiasis can be contained to GREEN whereby WHO and CDC put out warnings and travel restrictions.

Environmental Threat: On 05 December 2011, the GREEN institute of volcanology and seismology raised the alert level to 4 amid a forecast of an “imminent” eruption of Mount Pedroia. Alert level 4 is noted by the following criteria:

“Intense unrest.

Persistent tremor, many "low frequency"-type earthquakes. SO2 emission level may show sustained increase or abrupt decrease. Intense crater glow. Incandescent lava fragments in the summit area”.



Figure 6. 05 Dec 2011: Mount Pedroia

The alert level change resulted in a mandatory evacuation of residents living with a five-mile radius. At least 250,000 people or 47,000+ families from 80 villages and three cities are in the potential affected area. Monday morning, Mount Pedroia blasted “ash injections” some 1640-5000 feet high at around 7:30 a.m. The ash produced by the eruption is causing widespread breathing problems as well as mechanical contamination. As historical perspective, the volcano has followed a pattern of lava flows and ash injections just prior (1-2 days) of a major explosive eruption.

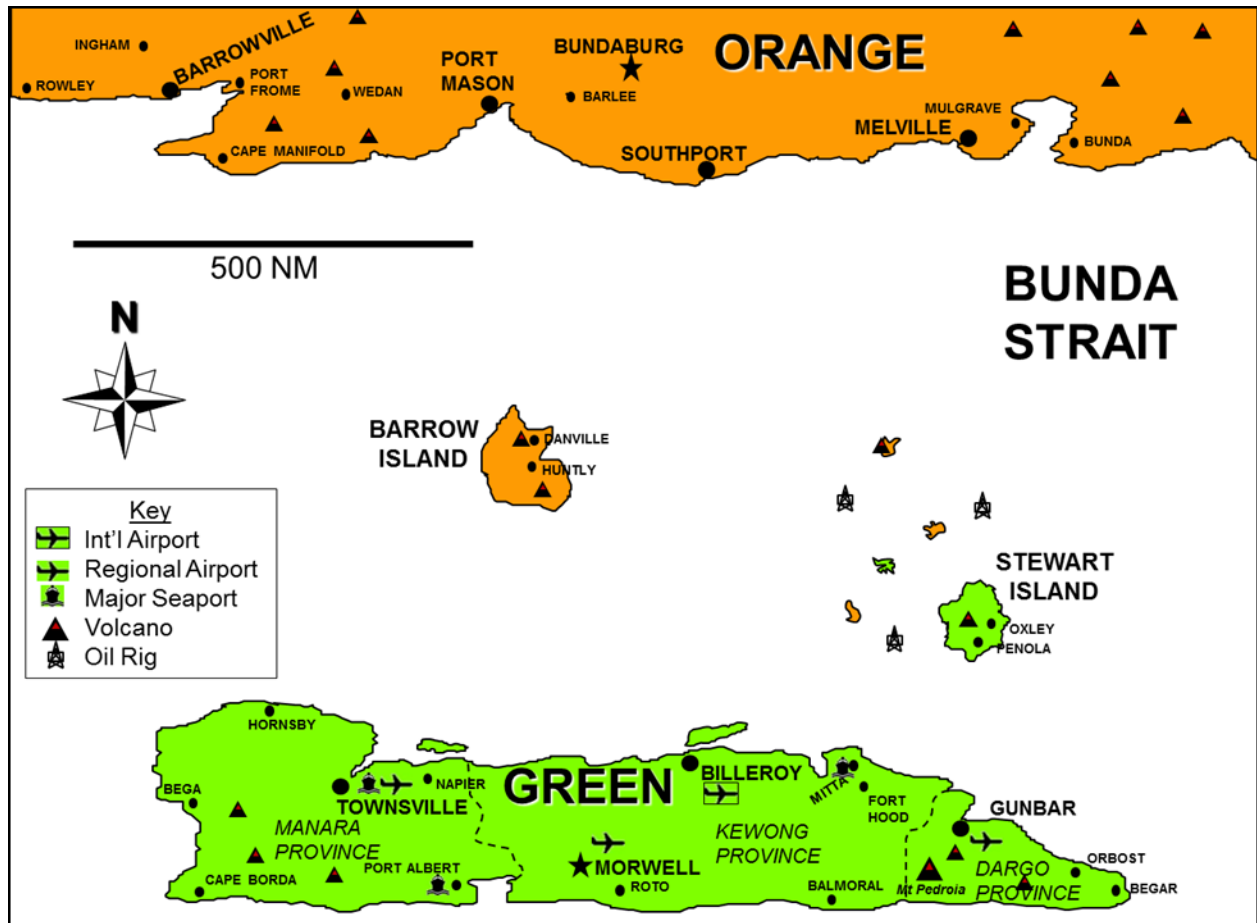
A regional Volcano Monitoring and Eruption Prediction Unit said that an explosive eruption could happen “possibly within the day”. He continued to state, “It is also noted that the citizens of GREEN and the surrounding areas should also prepare for possible earthquakes in the event of a Mount Pedroia eruption”. This was confirmed by the U.S. Geological Survey.

Host Nation Request: GREEN government has reached out to the country of Blue and its coalition partners for assistance with training and equipping their maritime forces in order to protect GREEN’s economic interests in the region and interdict maritime support of the DIG. GREEN has asked for sufficient medical assistance to help contain and suppress the outbreak of the Franconiasis disease. Other neighboring nations have asked that the coalition intervene and minimize the flow of proliferated arms originating from the GREEN insurgency camps.

United States Concern: The deterioration of GREEN's security conditions have been a cause of great concern for the United States government. The disorder and chaos in GREEN poises a real threat to their regional neighbors and the rest of the world. Recent remarks by the U.S. Secretary of State are as follows:

"The country of Blue is a country that recognizes, I think now, that we are not isolated from the world; that when there are countries that are poorly governed or that they are failing states that cannot adequately control their own borders, that cannot meet their own people's needs, when states become like GREEN, we suffer. GREEN became a failing state and it became the home training ground for the DIG and their GREEN people and our regional partners have suffered. This failing state is a real threat to our international community -- to our peace and security."

Map of Bunda Strait Region:



Appendix D – Survey Questions

Blue and Purple Player Cells:

Move _____ Player Survey Maritime Stability Operations Game

INTRODUCTION: The purpose of this survey is to provide timely and candid feedback regarding your actions after move _____. This information will be forwarded to the Naval War College's Data Collection and Analysis Team (DCAT) for post-game analysis. Ultimately, your responses will greatly assist the United States Navy in its ability to better confront irregular challenges, and thus improve its efficacy in accomplishing critical Navy missions. You have 30 minutes to complete this survey.

1. Player cell
 - Purple
 - Blue
2. Assigned functional area within cell

[BLUE CELL ONLY]

USN
SOF
USMC
USCG
PARTNER

[PURPLE CELL ONLY]

USCG
GOVERNMENT AGENCY
NON-GOVERNMENTAL ORGANIZATION
INDUSTRY

For each of the questions listed below, please select the value that mostly closely represents the perspective of your functional area at this point in the game. (Based on Likert scale from 1-5 with 1=strongly disagree, 5= strongly agree)

1. Overall, my functional area was able to progress towards accomplishing the mission assigned by higher headquarters for this move.
 - 1a. Please provide additional clarification of your answer in the space below:
 2. Given the platforms available to us for this move, my functional area was able to progress towards accomplishing the mission assigned to us by higher headquarters.
 - 2a. Please provide additional clarification of your answer in the space below:
 3. Given the platforms available to us for this move, my functional area has been provided with the necessary multi-mission capabilities to meet the mission set by higher headquarters.

3a. Please provide additional clarification of your answer in the space below:

4. During the last move, the absence of situational awareness hampered the accomplishment of my functional area's assigned mission.

4a. Please provide additional clarification of your answer in the space below:

5. During the last move, insufficient information dominance hampered the accomplishment of my functional area's assigned mission.

5a. Please provide additional clarification of your answer in the space below:

6. During the last move, the absence of other nonmaterial solutions (e.g., doctrine, authority, coordination with other organizations) hampered the accomplishment of my functional area's assigned mission.

6a. Please provide additional clarification of your answer in the space below:

7. Based on what occurred during this move, I am confident that the risk of Blue-Orange open conflict could be mitigated if all parties ((Purple, Blue, Green, Orange) develop a shared experience through coordinated responses to crises.

8. Based on what occurred during this move, balance should be sought between Blue efforts to strengthen Green while engaging Orange as a potential security partner.

9. Please review the statement below and provide your level of agreement based on the most recent move in this game.

“The sea services have the lead for maritime stability operations, and are a crucial supporting force for counter-insurgency and counter-terrorism efforts.”

10. Please review the statement below and provide your level of agreement based on the most recent move in this game.

“By focusing on maritime stability operations, the sea services provide preventive security, help build partner capacity, and help counter threats that manifest themselves in fragile maritime areas or in situations where a long-term, scalable and flexible set of capabilities is required.”

Red and White Player Cells:

**Move _____ Participant Survey
Maritime Stability Operations Game**

INTRODUCTION: The purpose of this survey is to provide timely and candid feedback regarding your actions after move _____. This information will be forwarded to the Naval War College's Data Collection and Analysis Team (DCAT) for post-game analysis. Ultimately, your responses will greatly assist the United States Navy in its ability to better confront irregular challenges, and thus improve its efficacy in accomplishing critical Navy missions. You have 30 minutes to complete this survey.

3. Player cell
- Red
 - White

4. Assigned functional area within cell

[RED CELL ONLY]

- INSURGENT
- CRIMINAL

[WHITE CELL ONLY]

- ANALYSIS
- ADJUDICATION
- SME

For each of the questions listed below, please select the value that mostly closely represents the perspective of your functional area at this point in the game. (Based on Likert scale from 1-5 with 1=strongly disagree, 5= strongly agree)

1. Overall, RED was able to make progress towards accomplishing the mission assigned by higher headquarters for this move.
2. BLUE focused on the right effects for meeting its objectives in this move.
 - 2a. Please provide additional clarification of your answer in the space below:
3. I believe that BLUE had sufficient capabilities to achieve its desired effects in this move.
 - 3a. Please provide additional clarification of your answer in the space below:
4. I believe that BLUE has sufficient capacity to create effects in GREEN while also deterring ORANGE
5. BLUE and PURPLE appeared to be working together to achieve their objectives.
6. It appears that BLUE and ORANGE have mutual objectives.

7. Based on what occurred during this move, BLUE should seek to strengthen GREEN while engaging ORANGE as a potential security partner.
8. If GREEN fails, BLUE will have a more difficult time getting access in order to deter ORANGE in the future.
9. In order for BLUE to meet its objectives, platforms that counter anti-access/area denial capabilities are needed to defeat conventional and asymmetric threats.


Appendix E – Final Combined Plenary Slides



The logo for the Maritime Stability Operations Game is a yellow triangle with a black border. Inside the triangle, there is a central black and white compass rose. Surrounding the compass rose are several circular icons representing different maritime threats: a ship, a person, a globe, and a person in a hard hat. The text "Maritime Stability" is at the top left, and "Operations Game" is at the bottom right. The triangle is labeled with various threats: "SMUGGLING" (top left), "POVERTY" (top right), "INSURGENCY" (right side), "PIRACY" (bottom right), "PANDEMIC" (bottom left), and "NATURAL DISASTER" (left side).

Final Out-Brief
08 December 2011

1



Outline

- Game design overview
- Summary of game moves / player insights
 - Move 1 themes
 - Move 2 themes
 - Move 3 themes
- Review of research questions
 - Areas identified for further analysis
- Open facilitated discussion

2



Game Objective

- To explore how maritime stability operations prevent and respond to instability
- To reinforce the three imperatives for integrating IW/CIC capabilities in Navy full spectrum operations
 - Increase understanding of irregular challenges
 - Increase multi-mission capabilities
 - Increase interoperability with other agencies, organizations, and partners

3

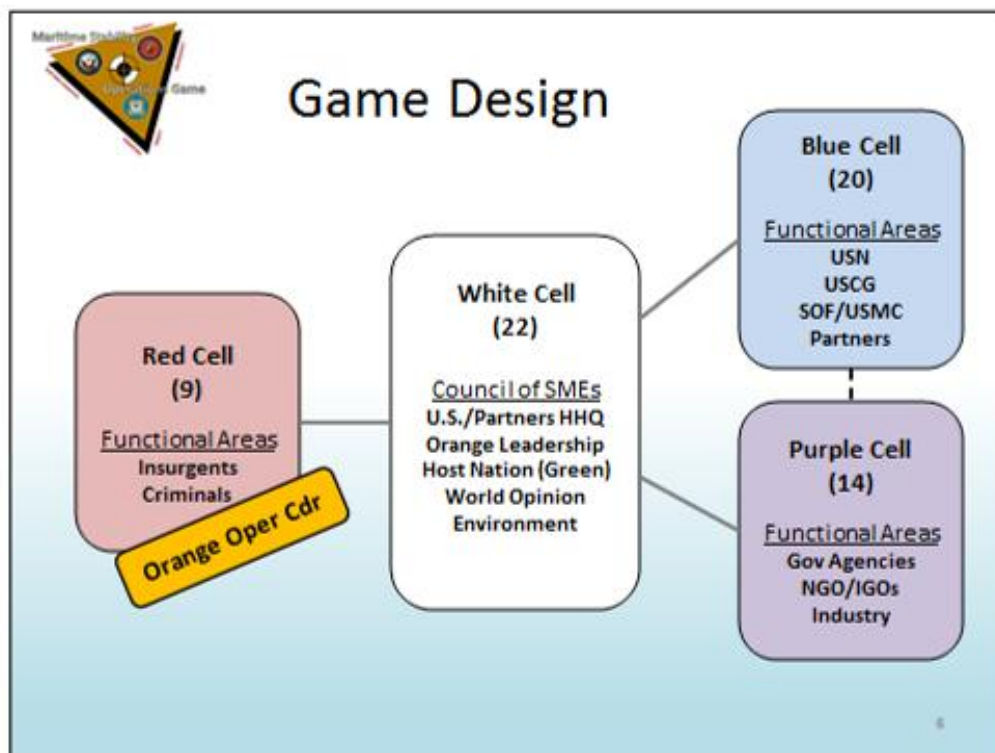



Gaming Approach

- Fictional Scenario
- Two-sided
- Multi-cell
- Three multi-stage moves
- Running Adjudication



4





Day 1 Move 1

Summary of Moves

Focus on regional maritime security cooperation and building partner capacity

Mission Analysis
- identify problems and activities

Request for Capabilities

Actions/Effects
- assign missions and assess effects

↓

Post-Move
- surveys and threaded discussions


- Blue initial priorities based on HHQ guidance
- Purple top priority was containment of pandemic
- Red CONOPS - restrained

- Establishing communication procedures
- Building relationships – team forming
- Understanding the problem

Key themes

- Reliance on host nation
- Importance of forward presence/persistent engagement

7



Day 2 Move 2

Summary of Moves

Focus on disaster response following a volcano eruption and earthquake on Green

Mission Analysis
- identify problems and activities

Request for Capabilities

Actions/Effects
- assign missions and assess effects

↓

Post-Move
- surveys and threaded discussions


- Blue competing priorities of insurgency – volcano - pandemic
- Purple priorities: disaster response, contagion, refugees, insurgency (political solution?)
- Red used heavy IO/non-kinetic ops, exploit disaster – make Green gov look weak; profit

- (B) Migration control / delivery HA / prep ISR ops
- (P) Shift from HA/DR to identifying HN needs
- (R) Pirated HA supplies, counterfeiting, bribery

Key themes

- Dependence on timely information
- “Gradual exit strategy” vs “end-state”
- Battle over legitimacy of Green government

8



Summary of Moves

Day 3
Move 3

Mission Analysis
-identify problems and activities

Request for Capabilities

Actions/Effects
-assign missions and assess effects

Request for Capabilities


Post-Move
-surveys and threaded discussions

Focus on transition of responsibilities to host nation (Green)

- Blue focus on Phase IV&V ops, mitigate risk of insurgency escalation
- Purple focus on info ops (Press releases)
- Red CONOPS of insurgency light, wait for Blue withdrawal, but heavy criminal activity
- CTF designed to work with Orange
- Purple NGO engaging with Red
- Yellow arms sales to Red
- Challenges with info sharing with Green

Key themes
...

9



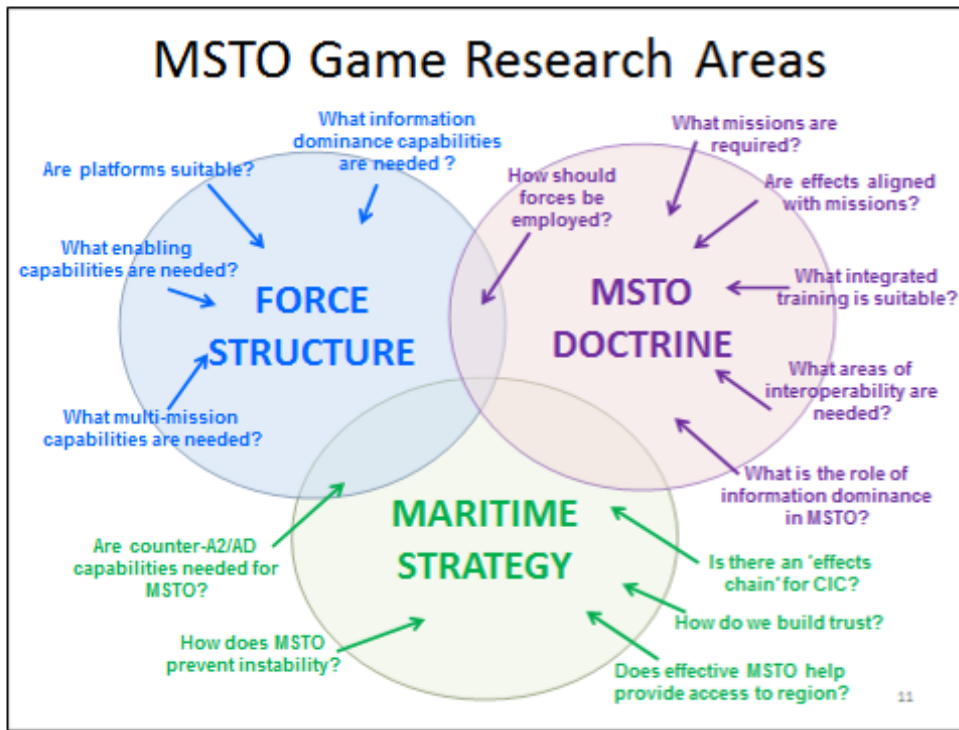
Emerging Theme

Collaboration and coordination (C2) between Blue (military) and Purple (civilian)

	Rules Desired	Objectives Desired
Military	Loose	Tight
Civilian	Tight	Loose

Trust

10

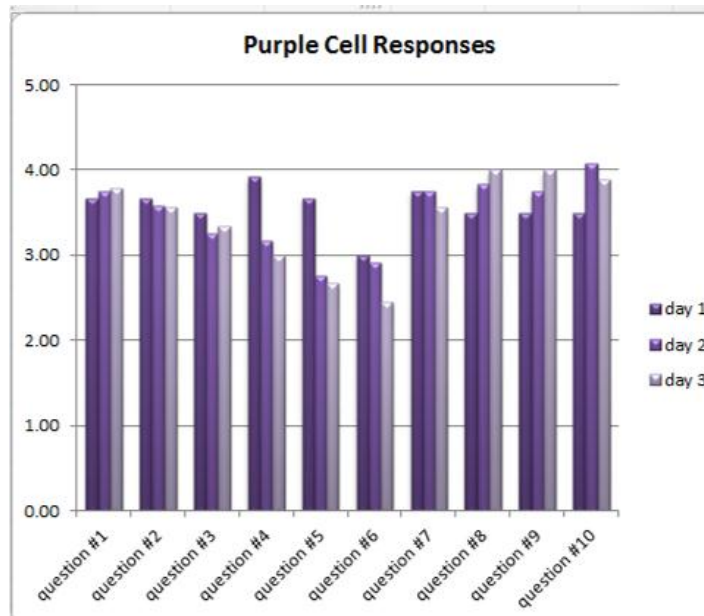
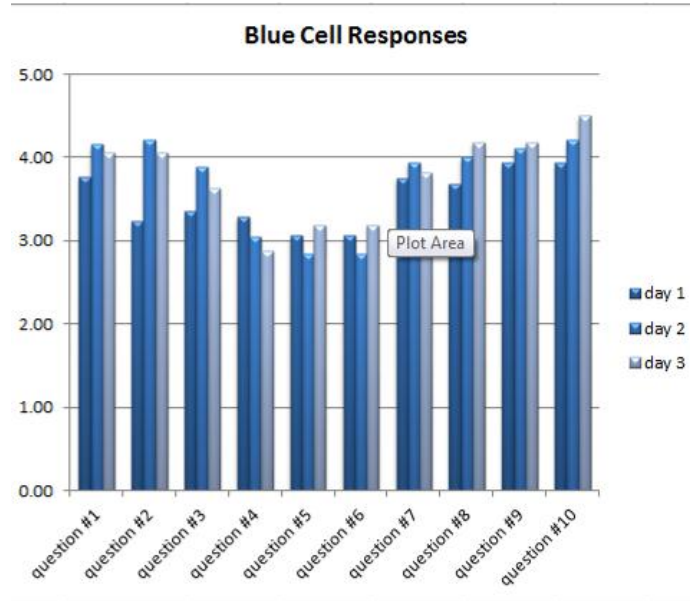


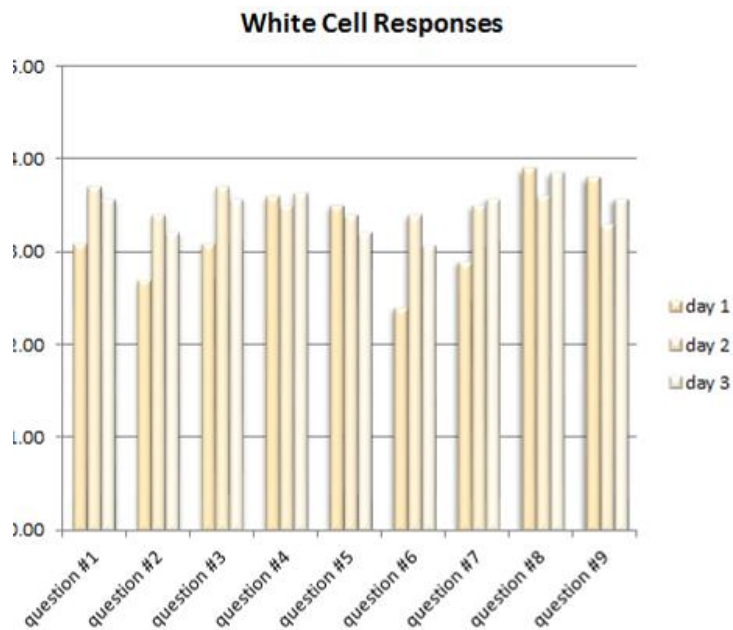
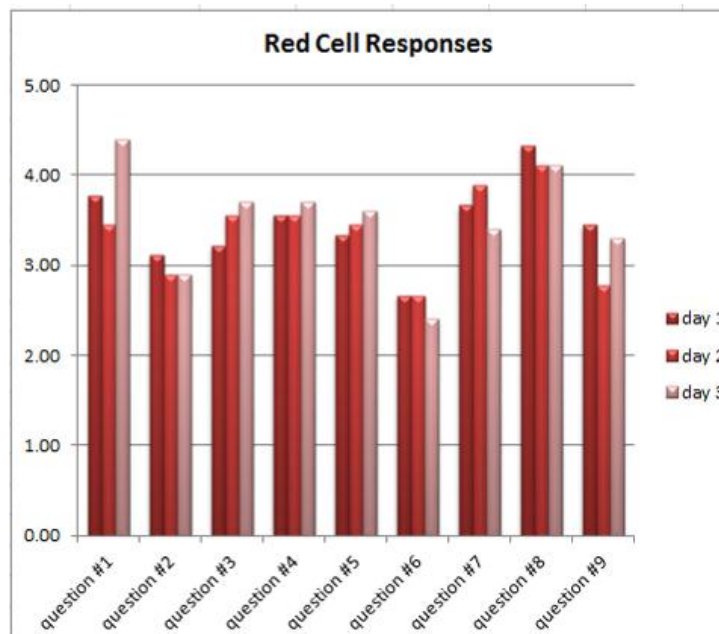
Post-Game Deliverables

Product	Milestone
Game Report	17 JAN 2012
Executive Summary	17 JAN 2012
Executive Brief	20 JAN 2012
Article submitted for publication	15 FEB 2012

12

Appendix F – Likert-Scale Survey Questionnaire Results





Appendix G – Operational Definitions for Post-game Analysis

Code: Assessment

Families (1): Capabilities

Quotations: 176

"A continuous process to measure progress toward accomplishing a task, creating an effect, or achieving objectives, includes MOEs and MOPs. Also, it provides understanding vital to planning and execution, such as ISR, information sharing, situational awareness, and COP. Three aspects of assessment include initial assessment, operational assessment, and assessment frameworks."

Code: Civ-Mil Ops

Families (1): Comprehensive Approach

Quotations: 135

"Primary military instrument to synchronize military and nonmilitary instruments of national power in support of stability, COIN, and other operations dealing with asymmetric and irregular threats. These activities involve military units at the strategic, operational, and tactical levels coordinating with government agencies, NGO, IGO, and industry."

Code: Consequence Management

Families (1): Crisis Response

Quotations: 12

"Measures to protect public health and safety, restore essential government services, and provide emergency relief to governments, businesses, and individuals affected by the consequences of terrorist acts or natural disasters. It is a form of disaster response and closely aligned with FHA."

Code: Crime

Families (1): Sources of Instability

Quotations: 32

"Transnational crime and piracy challenges: use of maritime domain for criminal purposes, such as smuggling of people, drugs, weapons, and piracy and armed robbery against vessels."

Code: Deterrence

Families (1): Steady State Ops

Quotations: 12

"A core capability of CS 21. Deterring aggression viewed in global, regional, and transnational terms via conventional, unconventional, and nuclear means. Includes preventive activities and TSC as a form of extended deterrence."

Code: **Economic**

Families (1): Steady State Ops

Quotations: 3

"Maritime Infrastructure and Economic Stabilization: presence of U.S. maritime forces impact, even indirectly, on improving local economies and governance. Major tasks include expeditionary diving and salvage, consequence management, and emergency repair of maritime infrastructure."

Code: **FHA**

Families (1): Crisis Response

Quotations: 18

"Steady state operations to include establishing or restoring the most basic civil services: the essential food, water, shelter, engineering, transportation, and medical support necessary to sustain the population."

Code: **Fwd Presence**

Families (1): Steady State Ops

Quotations: 18

"A core capability of CS 21. Maritime forces forward deployed to become familiar with the environment and build relationships in order to effectively respond to crises and combat terrorism far from homeland."

Code: **Governance**

Families (1): Steady State Ops

Quotations: 22

"Supporting domestic laws and regulations with due regard for international law, includes functions of administration of maritime governance, improve commercial ports, regulation of fisheries, regional maritime security cooperation, manage waterways, provide intelligence and communication support, and train and assist host nation security forces."

Code: **Host nation**

Families (1): Comprehensive Approach

Quotations: 106

"Tenet of MSTO whereby countries experiencing instability must actively participate in the planning and execution of MSTO with the goal of expeditiously resuming their authority and governance."

Code: **Joint Force**

Families (1): Comprehensive Approach

Quotations: 56

"U.S. and partner nation militaries conduct of joint and combined operations, including combatant commander, sub-unified commander, or JTF/CTF commander."

Code: **Law**

Families (1): Steady State Ops

Quotations: 11

"Maritime rule of law: includes domestic law and policy, international law, including agreements, conventions, and customary international law. Tasks include maritime law enforcement, VBSS, counter-illicit trafficking (drugs, WMD, humans), and counter-piracy operations."

Code: **Migration**

Families (1): Sources of Instability

Quotations: 1

"Illegal seaborne immigration: the unsafe transfer and smuggling of illegal migrants with potential to upset regional stability because of the strain migrants and refugees place on fragile economies and political systems."

Code: **Natural Disasters**

Families (1): Sources of Instability

Quotations: 21

"Natural disasters that often occur in increasingly crowded littoral regions of the world, such as earthquakes, mudslides, hurricanes, tsunamis, volcanic activity, and even disease outbreaks (pandemic)."

Code: **Resources**

Families (1): Capabilities

Quotations: 39

"Concerns the material, personnel, and facilities dimensions of DOTMLPF. Tangible capabilities in terms of platforms, organizations, units, groups, teams, and individuals. Also, the funding needed to develop and maintain these capabilities."

Code: **Security & Safety**

Families (1): Steady State Ops

Quotations: 7

"Maritime security & safety: critical prerequisites for effective maritime governance and the free flow of commerce. Tasks include: aid to distressed mariners, anti-piracy ops, arms control, counter maritime terrorism, enforce exclusion zones, escort vessels, EOD disposal, FID, FSA, FON, GOPLAT defense, MIO, maritime safety, maritime security cooperation, MCM ops, port and harbor security, riverine ops, secure off-shore resources, security assistance, and show of force ops."

Code: **Terrorist & Insurgent**

Families (1): Sources of Instability

Quotations: 74

"Non-state groups that exploit open borders, challenge sovereignty of nations, and increasingly threaten international affairs."

Code: **Traditional State**

Families (1): Sources of Instability

Quotations: 22

"Global and regional powers (Orange) that exhibit nationalism and assertiveness to test the resolve of the U.S. and partners."

Code: **Training**

Families (1): Capabilities

Quotations: 38

"Specialized skills and knowledge that may extend beyond the traditional mission areas, include irregular warfare, culture and language, and critical thinking skills. These capabilities should not be limited to SOF, FAO, or leaders."

Code: **Transition**

Families (1): Capabilities

Quotations: 5

"Passage from one state, change, subject, or place to another: one aspect involves shift from maritime force as lead agency in STABOPS to the more appropriate government agency (DoS) once the security is restored. Another aspect involves transferring authority to the HN as soon as they have capacity."

Code: **Unified Action**

Families (1): Capabilities

Quotations: 132

"Synchronization, coordination, integration, collaboration, cooperation, and planning activities and operations of governmental and NGO entities with military operations to achieve unity of effort. Participants proceed toward common objectives even if not part of same organization. Sometimes achieved through established relationships, authorities, responsibilities, and command structures."