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PREDICTIVE ANALYSIS OF PIRACY ACTIVITIES NEAR SOMALIA

ANALYTICS I

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I. INTRODUCTION

Two American couples on a yacht off the coast of Somalia were murdered by pirates on February 22nd, 2011. The international news media gave the report of this hijacking and subsequent murder significant attention (Nagourney and Gettleman 2011, 1). This incident highlights the growing piracy threat originating from Somalia's shores and affecting the waters in the Gulf of Aden and the Horn of Africa. In 2005, there were 35 attacks by pirates originating near Somalia in 2005; in 2010, there were 219 attacks. The number of attacks has risen sharply due to the possible financial gains involved for the attackers in the form of ransoms paid for kidnapped personnel and hijacked ships. In 2005, an average ransom paid to receive a ship and crew was $150,000. In 2010, an average of $5.4M was paid (The Economist 2011). The economic impact of piracy originating from Somalia is becoming significant; twenty percent of world trade travels through the Gulf of Aden, just North of Somalia (Norton-Taylor 2008, 6).

The recent rise in attacks has occurred despite organized attempts by the international community to counter the piracy on the high seas. Starting in December 2008, a number of countries contributed naval vessels to Operation Atalanta, a European Union (EU)-led maritime effort. The goal of this operation is to reduce piracy as well as protect food aid shipments going into Somalia (Norton-Taylor 2008, 6). The U.S. has participated in the anti-piracy effort as part of Combined Task Force 151 (CTF-151) with several countries. China, India, Iran, Japan, Malaysia, the Republic of Korea, Russia, Saudi Arabia, and Yemen have also individually sent vessels to share patrol duties in the Gulf of Aden and off the Horn of Africa (Crook 2011, 131-132). United States ships, South Korean ships, and Malay craft have conducted military operations

that have successfully thwarted some pirates' efforts. However, the number of attacks continues to rise despite attempts at countering the pirates themselves.

Another challenge facing countries in dealing with piracy on the high seas is the nebulous legal status of captured pirates. A key question remains unanswered: what location should captured pirates face justice at—in their country of origin, which does not have a viable judicial system, or in the countries that the hijacked vessels are from, or where? Current international law on the high seas leaves ambiguity that makes it difficult to successfully prosecute captured pirates.

Piracy in Somalia has sprung up as a result of reduced fishing opportunities and a lack of a viable local government for restricting criminal activities (van Rooyen 2011, 240). Somalia's government headed by Siad Barre collapsed in 1991, and no viable government has been in place since that time (Rabasa 2008, 7). Warlords sprung up from the local clans and began dominating their surrounding areas. Somalia is often referred to as a "failed state" due to this lack of central government. A Transitional Federal Government (TFG) recognized by most of the international community was put in place in December 2006 but its effective reach is only a few blocks around its physical location in Mogadishu, Somalia. The TFG is recognized and supported by the United Nations, the United States, and many countries. North of Mogadishu, Puntland and Somaliland are regions of Somalia that have varying degrees of autonomy. Somaliland has managed to achieve some autonomy by reverting to colonial-era borders and establishing a reasonable effective legislative body. Puntland, where many pirates are based, has a government known to be corrupt and inept (Rabasa 2008, 8, 10).

This study will predict the future impact of piracy on the state of Somalia by utilizing the Lockwood Analytical Method for Prediction (LAMP). The general question is: what will be the implications of piracy to the area? The specific question is: what key events involving other countries will occur in the country of Somalia as a result of piracy?

II. LITERATURE REVIEW

Dr. Jonathan Lockwood's Lockwood Analytical Method for Prediction (LAMP) was developed in 1992 by Dr. Lockwood while he was assigned to the Director of Central Intelligence (DCI) Exceptional Intelligence Analyst Program. The LAMP was first published in 1994 in monograph form and is a predictive tool that ranks the most likely possible future among all possible alternatives. The LAMP also accounts for all considered actors employing free will to make alternate choices, so it does not assign a specific probability to a predicted future. Through the LAMP, focal points are identified that indicate when a possible future may be transposing into another alternate future. The LAMP incorporates some characteristics of other analytical methodologies but is especially useful for prediction in complex problems.

Angel Rabasa completed a RAND Corporation study in 2009 focused on the history and implications of radical Islam elements in Somalia and its surrounding areas. "Radical Islam in East Africa" was commissioned by the United States Air Force (USAF) to ensure the United States could properly posture itself for the ethno-religious environment in East Africa. Rabasa's monograph offers valuable insight into the history of the creation of Somalia, the demise of the Somali state and the conditions that

continue to make that country ripe for supporting illicit activity such as piracy. The potential for terrorist organizations to use piracy also relates "Radical Islam in East Africa" to the questions posed in this study.

Frank Charles van Rooyen's "Flotsam and Jetsam: Towards Ending Somali Piracy on Shore" is a study recently published in *Strategic Analysis* that advocates reenergizing United Nations efforts to stabilize Somalia through use of a World Conference model based on the United Nations Conference of the Law of the Sea (UNCLOS). Van Rooyen emphasizes that the root cause of piracy in Somalia is the lack of security and economic opportunity. He postulates that the UNCLOS type of international summit could be successfully employed towards failed states such as Somalia. Van Rooyen's context is particularly valuable to frame the root causes of piracy for this study.

"Continued US Efforts to Combat Somali Piracy" by John Crook published in *Contemporary Practice of the United States* offers a current snapshot of both judicial involvement in attempts to prosecute captured pirates and specific international naval efforts contributed by numerous countries. This article outlines the boundaries of legitimate current international attempts to combat piracy through naval efforts and judicial means.

Milena Sterio attempts to answer the question of how pirates can be brought to justice through legal means in "Troubled Waters: Combating Maritime Piracy with the Rule of Law". This 2010 article published *in American University Law Review* focuses on the legal constraints and challenges in combating piracy and approaches that might

affect the ability of the international community to deter piracy. After first summarizing the contributing causes to piracy in Somalia, Sterio details current international and domestic laws that apply to piracy. Sterio takes issue with some current provisions of the UNCLOS that allow pirates far away from shore legal loopholes in being held accountable.

Michael Davey tackled a related topic as Sterio when he tried to ascertain the actual legal rights of countries to combat piracy in "A pirate looks at the twenty-first century: the legal status of Somali pirates in an age of sovereign seas and human rights," published in 2010 in the *Notre Dame Law Review*. Davey focused on the right of countries to act in self-defense in response to pirate activity.

III. ACTORS AND PERCEPTIONS

Step 1 of the LAMP is to determine the issue for which you are trying to predict the most likely future (Lockwood & Lockwood 1994, 15). For this study, the LAMP will be used to predict the most likely state of the country of Somalia as a result of piracy.

There are numerous countries affected by ongoing pirate activities. The economic impacts of piracy originating from Somalia are in the billions of dollars. The Gulf of Aden is one of the primary shipping lanes in the world. Because piracy has significant economic impacts, the number of actors around the world interested in piracy is significant.

Step 2 of the LAMP is to Specify the national "actors" involved (Lockwood & Lockwood 1994, 15). The following four national actors have a significant stake in the outcome of ongoing piracy:

- International Community (UN, EU, African Union, Gulf Cooperation Council, etc.)
- United States
- Somalia's Transitional Federal Government (TFG)
- Somalia's Semiautonomous zone governments (Somaliland and Puntland)

Step 3 of the LAMP is to determine how the actors perceive the issue in question (Lockwood & Lockwood 1994, 15):

International Community: The International community is very distressed over the current situation and would support a variety of efforts that could keep piracy in check. The economic impact of the increase in pirate activity to worldwide shipping efforts is substantial. The current anti-piracy naval efforts are not slowing down activity. Optimally, a stable Somali government capable of preventing such attacks and prosecuting pirates would be the best alternative. Other alternatives include military action into pirate bases, better court systems to prosecute pirates, or use of alternative maritime shipping paths.

United States: The U.S. shares the concerns of the international community. The U.S. knows that the TFG has limited power and that significant additional measures will be required to combat piracy. Additionally, the international stature of the U.S. as the world's only superpower will continue to be challenged if the country cannot prove it can effectively contribute overcome the ongoing piracy. Additionally, the U.S. is considered separately here from the international community because of a growing threat of terrorist activity supporting piracy. The U.S. may act independently from the international community if terrorist groups are directly linked to piracy.

Somalia's TFG: The TFG has only a tenuous hold on power, and really only in Mogadishu. TFG would like to expand its power base to stabilize democracy across Somalia. The lawlessness of the pirates only serves to assist organized crime and the disenfranchised seafaring populace, and is a destabilizing force in expansion of the TFG's influence. The TFG has neither the funding nor the might to stand up to current piracy. The goal of the TFG is to provide a framework from which a working federal government can be established.

Somalia's Semiautonomous zone governments in Somaliland and Puntland: While these governments are treading water in providing a basic civic organization for their citizens, they are not countering the pirating activities originating from their shores. Because of limited resources or kickbacks from pirates, there is not a zonal effort to discourage illegal pirating activity.

IV: ANALYSIS OF ALTERNATIVE FUTURES

The LAMP Step 4 is to determine all the possible courses of action for each actor (Lockwood & Lockwood 1994, 15). For simplicity's sake, a two-letter abbreviation will be assigned to each possible course of action.

International community:

1. IC = Continue current support to TFG, securing courts to try pirates, and naval anti-piracy efforts from participating nations

2. IG = Ignore the piracy, let shipping companies deal with the impacts

3. MI = Organize coalition military action to attack pirates before they set out to sea

U.S.:

1. IC = Continue current support to TFG, securing courts to try pirates, and naval anti-piracy efforts from participating nations

2. IG = Ignore the piracy, let shipping companies deal with the impacts

3. MI = Organize coalition military action to attack pirates before they set out to sea

4. MU = Conduct unilateral military action to attack pirates before they set out to sea

TFG:

1. EI = With international assistance, extend influence beyond Mogadishu into all of Somalia; transition to a viable governing enterprise that can challenge criminal activity

2. CO = Collapse under pressure from Islamic militants, warlord infighting, or organized criminals

3. SQ = Status Quo: Continue current level of non-effectiveness in combating piracy

Somalia's Semiautonomous zone governments (Somaliland and Puntland)

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Now that the possible courses of action have been determined, LAMP Step 5 will be set into motion: Determine the major scenarios in which alternate futures will be compared and list assumptions (Lockwood & Lockwood 1994, 15). Two primary scenarios will be considered:

Scenario A: Level of piracy continues to increase

Scenario B: Piracy actions decrease significantly

Assumptions:

1. Piracy will continue as long as no other viable economic opportunities exist for young men in traditional seafaring coastal areas of Somalia.

2. Current Somali TFG, Puntland, and Somaliland authorities do not have the means or wherewithal to combat piracy.

3. The international community is not likely to tolerate a continuing financial drain on its ability to ship through the waters around Somalia.

LAMP Step 6 is to calculate the total number of permutations of possible "alternate futures" for each scenario (Lockwood & Lockwood 1994, 15). For each of the identified scenarios, there are four actors, three of which have three possible Courses of Action (COAs). The fourth actor (the U.S.) has four possible COAs. To determine to number of possible alternate futures, you have to multiply the number of COAs to the exponential power of the number of actors that share the same number of COAs, multiplied further by the number of COAs to the exponential power of the number of actors that share a different number of COAs. In this scenario, that equates to $3^3 \times 4^1$ or 3 x 3x 3 x 4 x 1 = 108 possible alternate futures.

LAMP step 7 is the nuts and bolts of the analysis and it involves a "pairwise comparison" of all alternate futures within the scenario to determine their relative probability (Lockwood & Lockwood 1994, 15). This means that each possible alternate future will be compared with every other alternate future, one at a time. The number of pairwise comparisons to be made is determined by: X = (n-1) + (n-2) ... + (n-n) where *n* equals the total number of alternate futures to be analyzed, and *X* equals the total number of pairwise comparisons that must be performed.

For this study X = (108-1) + (108-2)….(108-108) = 5778 pairwise comparisons for each scenario.

The next step in LAMP is to rank the alternate futures for each scenario from highest relative probability to the lowest based on the number of "votes" received (Lockwood & Lockwood 1994, 15). The codes for each COA are broken out at the beginning of Section IV.

Table 1: Scenario A; Piracy activity continues to increase:

Future #	TFG	Semi-Auto	Int'l Comm	U.S.	Votes for
71	CO	SQ	MI	MI	107
47	CO	EI	MI	MI	105
59	CO	CO	MI	MI	105
23	EI	CO	MI	MI	103
95	SQ	CO	MI	MI	103
35	EI	SQ	MI	MI	100
107	SQ	SQ	MI	MI	100
83	SQ	EI	MI	MI	98
60	CO	CO	MI	MU	96
48	CO	EI	MI	MU	94
64	CO	SQ	IC	MU	94
108	SQ	SQ	MI	MU	94
24	EI	CO	MI	MU	93
72	CO	SQ	MI	MU	91
100	SQ	SQ	IC	MU	89
96	SQ	CO	MI	MU	88
88	SQ	CO	IC	MU	87
63	CO	SQ	IC	MI	85
36	EI	SQ	MI	MU	84
99	SQ	SQ	IC	MI	82
39	CO	EI	IC	MI	81
76	SQ	EI	IC	MU	81
87	SQ	CO	IC	MI	81
16	EI	CO	IC	MU	80
40	CO	EI	IC	MU	80
15	EI	CO	IC	MI	79
51	CO	CO	IC	MI	79
52	CO	CO	IC	MU	79
84	SQ	EI	MI	MU	79
105	SQ	SQ	MI	IC	79
21	EI	CO	MI	IC	76
27	EI	SQ	IC	MI	76
28	EI	SQ	IC	MU	76
93	SQ	CO	MI	IC	76
69	CO	SQ	MI	IC	75
45	CO	EI	MI	IC	73
81	SQ	EI	MI	IC	73

33	EI	SQ	MI	IC	72
57	CO	CO	MI	IC	72
75	SQ	EI	IC	MI	72
9	EI	EI	MI	IC	66
11	EI	EI	MI	MI	66
44	CO	EI	IG	MU	63
4	EI	EI	IC	MU	61
68	CO	SQ	IG	MU	61
12	EI	EI	MI	MU	60
43	CO	EI	IG	MI	59
3	EI	EI	IC	MI	58
31	EI	SQ	IG	MI	58
32	EI	SQ	IG	MU	58
92	SQ	CO	IG	MU	58
104	SQ	SQ	IG	MU	58
20	EI	CO	IG	MU	57
80	SQ	EI	IG	MU	56
19	EI	CO	IG	MI	54
56	CO	CO	IG	MU	54
8	EI	EI	IG	MU	53
103	SQ	SQ	IG	MI	53
7	EI	EI	IG	MI	51
1	EI	EI	IC	IC	50
79	SQ	EI	IG	MI	50
67	CO	SQ	IG	MI	49
91	SQ	CO	IG	MI	48
55	CO	CO	IG	MI	47
94	SQ	CO	MI	IG	46
13	EI	CO	IC	IC	41
25	EI	SQ	IC	IC	41
82	SQ	EI	MI	IG	41
34	EI	SQ	MI	IG	40
58	CO	CO	MI	IG	40
106	SQ	SQ	MI	IG	40
46	CO	EI	MI	IG	39
61	CO	SQ	IC	IC	36
70	CO	SQ	MI	IG	36
37	CO	EI	IC	IC	35
97	SQ	SQ	IC	IC	34
22	EI	CO	MI	IG	33
73	SQ	EI	IC	IC	33

5	EI	EI	IG	IC	32
49	CO	CO	IC	IC	30
85	SQ	CO	IC	IC	30
10	EI	EI	MI	IG	26
77	SQ	EI	IG	IC	26
29	EI	SQ	IG	IC	25
101	SQ	SQ	IG	IC	25
65	CO	SQ	IG	IC	22
17	EI	CO	IG	IC	21
89	SQ	CO	IG	IC	21
74	SQ	EI	IC	IG	20
98	SQ	SQ	IC	IG	18
41	CO	EI	IG	IC	17
53	CO	CO	IG	IC	17
38	CO	EI	IC	IG	15
26	EI	SQ	IC	IG	14
14	EI	CO	IC	IG	13
62	CO	SQ	IC	IG	13
86	SQ	CO	IC	IG	12
2	EI	EI	IC	IG	11
50	CO	CO	IC	IG	10
6	EI	EI	IG	IG	8
30	EI	SQ	IG	IG	7
78	SQ	EI	IG	IG	6
102	SQ	SQ	IG	IG	5
42	CO	EI	IG	IG	3
66	CO	SQ	IG	IG	3
90	SQ	CO	IG	IG	3
18	EI	CO	IG	IG	1
54	CO	CO	IG	IG	1

Scenario B: Piracy activity decreases:

Future #	TFG	Semi-Auto	Int'l Comm	U.S.	Votes for
1	EI	EI	IC	IC	104
25	EI	SQ	IC	IC	104
97	SQ	SQ	IC	IC	104
2	EI	EI	IC	IG	103
73	SQ	EI	IC	IC	102
26	EI	SQ	IC	IG	100
47	CO	EI	MI	MI	96
29	EI	SQ	IG	IC	94
77	SQ	EI	IG	IC	94
48	CO	EI	MI	MU	93
71	CO	SQ	MI	MI	92
98	SQ	SQ	IC	IG	92
30	EI	SQ	IG	IG	91
78	SQ	EI	IG	IG	90
95	SQ	CO	MI	MI	86
5	EI	EI	IG	IC	85
40	CO	EI	IC	MU	85
72	CO	SQ	MI	MU	85
74	SQ	EI	IC	IG	85
101	SQ	SQ	IG	IC	85
102	SQ	SQ	IG	IG	84
16	EI	CO	IC	MU	83
39	CO	EI	IC	MI	83
96	SQ	CO	MI	MU	83
64	CO	SQ	IC	MU	82
88	SQ	CO	IC	MU	82
63	CO	SQ	IC	MI	79
45	CO	EI	MI	IC	78
87	SQ	CO	IC	MI	78
6	EI	EI	IG	IG	76
46	CO	EI	MI	IG	71
93	SQ	CO	MI	IC	71
92	SQ	CO	IG	MU	69
69	CO	SQ	MI	IC	67
15	EI	CO	IC	MI	66
91	SQ	CO	IG	MI	65
94	SQ	CO	MI	IG	64
59	CO	CO	MI	MI	63
44	CO	EI	IG	MU	62

100	SQ	SQ	IC	MU	62
3	EI	EI	IC	MI	61
68	CO	SQ	IG	MU	61
52	CO	CO	IC	MU	60
60	CO	CO	MI	MU	60
13	EI	CO	IC	IC	59
99	SQ	SQ	IC	MI	59
23	EI	CO	MI	MI	57
51	CO	CO	IC	MI	57
70	CO	SQ	MI	IG	57
20	EI	CO	IG	MU	56
67	CO	SQ	IG	MI	56
43	CO	EI	IG	MI	55
24	EI	CO	MI	MU	53
103	SQ	SQ	IG	MI	53
19	EI	CO	IG	MI	52
76	SQ	EI	IC	MU	52
21	EI	CO	MI	IC	51
75	SQ	EI	IC	MI	51
27	EI	SQ	IC	MI	50
4	EI	EI	IC	MU	48
85	SQ	CO	IC	IC	48
104	SQ	SQ	IG	MU	47
107	SQ	SQ	MI	MI	47
28	EI	SQ	IC	MU	45
105	SQ	SQ	MI	IC	45
83	SQ	EI	MI	MI	44
22	EI	CO	MI	IG	43
11	EI	EI	MI	MI	42
81	SQ	EI	MI	IC	42
7	EI	EI	IG	MI	41
61	CO	SQ	IC	IC	41
108	SQ	SQ	MI	MU	41
57	CO	CO	MI	IC	38
84	SQ	EI	MI	MU	38
32	EI	SQ	IG	MU	34
12	EI	EI	MI	MU	33
79	SQ	EI	IG	MI	33
80	SQ	EI	IG	MU	33
17	EI	CO	IG	IC	32
31	EI	SQ	IG	MI	32

35	EI	SQ	MI	MI	32
58	CO	CO	MI	IG	32
106	SQ	SQ	MI	IG	32
9	EI	EI	MI	IC	30
33	EI	SQ	MI	IC	28
36	EI	SQ	MI	MU	28
37	CO	EI	IC	IC	28
56	CO	CO	IG	MU	28
8	EI	EI	IG	MU	27
14	EI	CO	IC	IG	27
55	CO	CO	IG	MI	27
34	EI	SQ	MI	IG	25
89	SQ	CO	IG	IC	24
82	SQ	EI	MI	IG	22
38	CO	EI	IC	IG	20
10	EI	EI	MI	IG	19
41	CO	EI	IG	IC	15
62	CO	SQ	IC	IG	15
65	CO	SQ	IG	IC	15
86	SQ	CO	IC	IG	10
18	EI	CO	IG	IG	8
49	CO	CO	IC	IC	8
90	SQ	CO	IG	IG	8
53	CO	CO	IG	IC	5
42	CO	EI	IG	IG	4
66	CO	SQ	IG	IG	4
50	CO	CO	IC	IG	3
54	CO	CO	IG	IG	0

In applying LAMP step 9: Assuming that each future occurs, analyze each alternate future in terms of its consequences for the issue in question (Lockwood & Lockwood 1994, 15). The top three most likely futures in each scenario will be examined for this study.

For Scenario A, where piracy activity continues to increase, the most likely future is Alternative Future #71 (AF71), one in which the TFG in Somalia collapses and is not able to morph into a stable government. This collapse allows the clans and organized criminal elements that support piracy practically free reign to continue to grow their enterprises. Also in this particular future, the quasi-states of Puntland and Somaliland continuing in the status quo, which does not restrict the increase of piracy. These fairly stable entities will not act to restrict piracy activities, possibly because the local economic influence of the pirates will continue to increase substantially due to increasing ransom takes. AF71 also moves far beyond current military naval activities to counter piracy, resulting in the U.S. joining an international coalition in direct military action in Somalia targeting the pirates' home locations. The collapse of the transitional government coupled with direct military action will result in an international force occupying Somalia for the foreseeable future, specifically to maintain law and order in and around Mogadishu and its surrounding area.

Another likely future for Scenario A is AF59, where both the TFG and the quasi-governments in Puntland and Somaliland collapse and there is no emerging government in place. In this future, pirates have even greater freedom to operate in the Gulf of Aden and off the Horn of Africa than in AF71. Similarly to AF71, an international coalition will take on pirate havens directly. A larger occupying force may be required than envisioned in AF71 due to the lack of basic government function in Puntland and Somaliland.

A third likely future in Scenario A is AF37, which again differs from AF71 and AF59 by the nature of the influence of the quasi-governments of Puntland and Somaliland. In AF37, the influence of the governing powers in Puntland and Somaliland increase despite the spike in piracy, indicating either a negligible ability of the governors in those areas or complicity in allowing piracy to continue unchecked. If piracy ransoms continue to increase and there are no viable economic alternatives available, the pirates could well continue to hold sway over local officials.

For all most likely alternative futures in Scenario A, the power vacuum in Somalia will let piracy run rampart until an international military coalition intervenes and establishes firmer control or eradicates pirate havens. The economic implications of piracy growth will be too much for the international community to ignore. In the most likely futures, the United States will not act independently, but in concert with a coalition.

For Scenario B, where piracy declines, the three most likely futures are very similar. AF1 features an expansion of the TFG's (or follow-on government's) ability to effectively govern throughout Somalia, as well as the quasi-governments of Puntland and Somaliland having an increased ability to regulate pirate activity and to promote economic alternatives. Perhaps the government in Mogadishu will be able to create a viable coalition with those currently in charge in Puntland and Somaliland. In addition to expanding government, the international community (including the United States), will continue to protect ships on the high seas and seek legal prosecution of captured pirates.

AF97 includes the continuing international community's vigilance in deterring piracy in the water, but without any substantive expansion of either the TFG or the

governors in Puntland and Somaliland. Changing economic opportunities in this future may be an instigator of a decline in piracy.

AF25 includes expansion of the TFG's governing influence but without additional stability offered by Puntland and Somaliland governors. AF25 mirrors AF97 and AF1's continuing naval deterrence posture, where the United States continues to act in concert with other concerned countries. Some sort of new or reemerging industry may be a determining factor in increasing the likelihood of this scenario.

LAMP step 10 involves stating the potential of a given alternate future to "transpose" into another alternate future (Lockwood & Lockwood 1994, 15).
With respect to the COAs for the TFG operating out of Mogadishu, the potential for government collapse is high. Somalia has not had a viable government since 1991, and the current interim government could be swept away quickly, as has been seen in other countries in the region. The SQ (status quo) for either the TFG or Puntland/Somaliland could transpose to CO (government collapse) quickly if there was a significant warlord dispute or clan-to-clan sparring. Another type of transposition readily possible is that the United States decides to take unilateral military action against specific pirate groups outside of a coalition-sanctioned structure. This would move the United States from MI (military interdiction with coalition) to MU (unilateral military interdiction). Instances that may drive this type of transposition are particularly heinous hijackings with many associated American deaths or piracy actions known to be sponsored by terrorist groups.

LAMP steps 11 and 12 are closely tied together: Determine the "focal events" that must occur in our present in order to bring about a given alternate future, then develop indicators (measures) for the focal events (Lockwood & Lockwood 1994, 15). For futures that involve unilateral United States military action, focal events include:

- Piracy events with numerous American deaths
    - Indicators: specific Human Intelligence (HUMINT) of planned attacks on ships with Americans, Signals Intelligence (SIGINT) received indicating intent to hijack Americans
- Piracy sponsored by terrorist groups
    - Indicators: specific Human Intelligence (HUMINT) of planned terrorist group attacks on ships, Signals Intelligence (SIGINT) received positively indicating terrorist group involvement in hijackings

For futures involving a substantial decrease in piracy, focal events include:

- Discovery of substantial mineral resources in Somalia
    - Indicators: company announcements, additional security at mineral sites
- A change to fishing policies that resulted in a Somali advantage in nearby waters
    - Indicators: public announcements
- Creation of an extremely large new industrial complex in Somalia
    - Indicators: public announcements

For futures involving collapse of acting governments of the TFG or in Puntland/Somaliland:

- A popular uprising by the masses demanding a new government
    - Indicators: public announcements, large gatherings in public places, key military personnel speaking out against the government
- Loss of backing of the TFG by the international community
    - United Nations and/or United States announces a lack of support
- Severe rift or dispute between warlords
    - Indicators: a spike in fighting, rise in brutality of attacks
- Terrorist-sponsored activity
    - Indicators: intelligence received regarding planned terrorist group attacks on government entities

V. CONCLUSIONS

The LAMP analysis of the alternative futures of the Somali piracy situation indicates that a continuing increase in piracy will eventually be met with direct military action from an internationally-sponsored coalition. The rate of pirate activities has increased despite significant naval interdiction activities, so a more aggressive on-land approach may be utilized to counter the attacks. The United States involvement in this type of military action will most likely be in concert with that of other affected countries. The LAMP analysis did not indicate that a United States unilateral military approach was

likely, and the results were unlikely to change if the United States was not considered a separate actor from the international community.

Another key finding of the LAMP analysis is that the current government in Mogadishu can be expected to collapse if piracy continues to rise. The most likely alternate futures for the piracy rising scenario all predicted the TFG falling apart. Also, the TFG, Puntland, and Somaliland are not strong enough for their separate statuses to significantly affect what alternate futures will come to pass in the two selected scenarios. One could have consolidated the analysis to consider a single representative Somalia government actor without losing fidelity in the COAs selected.

If piracy does decrease, the international community is expected to continue the current level of naval deterrence. The ongoing naval efforts will appear to be working if pirate attack numbers decrease.

Applying the LAMP analysis to the Somali pirate problem could have been accomplished more efficiently by simply including the United States with the international community rather than as a separate actor. Similar efficiencies could have been gained by choosing a singular actor for the government of Somalia versus the two actors selected.

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