



Enhanced Multi-Criteria Decision Support: A Case Study in Iraq

Mr. James Mason Brooks

Dr. Drew Miller

Institute for Defense Analyses

Presentation to

14th ICCRTS: *C2 and Agility*

Track 1: C2 Concepts, Theory, and Policy

15-17 June 2009

- While this presentation and associated paper represent independent efforts by the authors, both are based upon an Institute for Defense Analyses (IDA) sponsored research task conducted under the Joint Advanced Warfighting Program (JAWP) in direct, on-site support of ongoing operations for MNF-I in Iraq.
- Opinions are those of the authors; publication of this document does not indicate endorsement by IDA, MNF-I or the US Department of Defense nor should the contents be construed as reflecting the official position of those organizations.

- Purpose
 - Explain multi-criteria decision support approach used in support of MNF-I
 - Argue for broader, DoD-wide adoption of approach
- Overview
 - Application in contentious detainee release decision
 - Background of detainee operations in Iraq
 - Study methodology
 - Study results and indicators of campaign level effects
 - Building the case for broad, DoD-wide adoption of a similar approach



Background: Detainee Operations in Iraq

- 2004: Lingering impacts of Abu Ghraib scandal
- Mid 2007: Transforming detainee policy
 - New CDR, TF-134: MajGen Stone, USMC (Reserve)
 - New approach – expanded TF-134 mission & strategy
 - New programs to counter insurgent proselytizing and intimidation in camps: moved from ‘warehousing’ detainees towards encouraging more moderates and isolating extremist or irreconcilable detainees
- Fall 2007: potential crisis looming
 - Possible mass release of detainees (2008 or 2009)
 - TF-134 proposed an alternative : accelerated release of more moderate, reconcilable detainees



New TF-134 Programs

- Better initial and continued periodic in-camp screening
 - Transition Barracks In
 - Individual detainee assessments
- Voluntary human development & improvement programs
 - Religious Discussion Program
 - Dar al-Hikmah (Basic 5th grade level education)
 - Vocational Education (sewing, masonry, carpentry)
 - Work Program (paid)
 - Lion's Spirit (follow-on religious education)
- Positive incentives: Family Advocacy and Outreach
- Improved release procedures: MNF Review Committee (MNFRC) Boards
- Better reintegration: Transition Barracks Out

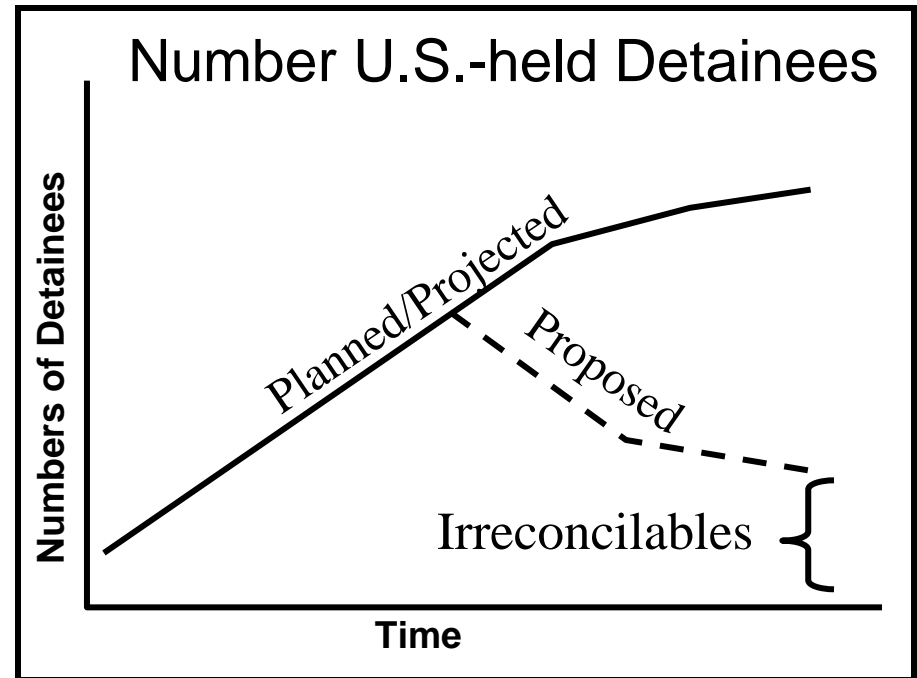
Comprehensive strategy in the “battle for the mind”
Aligned to Iraqi culture and customs



Fall 2007: Potential Crisis Looming

- “Surge” caused detainee numbers to spike
- Renewed Iraqi politicians’ calls for amnesty
- UN renewal of U.S. authority to detain Iraqis
 - Slated for end of 2007 – increasingly tenuous
 - Renewal for 2009 – even more unlikely
- Mass turnover could overwhelm Iraqi prisons, justice system, and fledgling government
- TF-134 proposal designed to manage this risk

- Expand success in camps to greater Iraqi populace – objectives:
 - Reduce mass turnover of hardened insurgents
 - Promote political reconciliation – reduce support for insurgents, bolster Government of Iraq
- Greatly increase detainee releases (more than 2x = ~20000+) starting late 2007
- NO general mass releases – NO release of any high-risk, irreconcilable detainee





Fall 2007: Controversy and Fallout

- Many believed detainees would feign moderation, return and attack coalition forces
- Strong opposing positions created a very contentious decision situation with potentially big campaign level implications
- MNF-I staff asked on-site IDA researchers for an objective look
 - Assess impacts of TF-134 proposal on campaign level security, political, and other objectives
 - Short suspense to inform Commanding General (CG) decision



Three-Part Study Methodology

1. TF-134 proposal's support of Joint Campaign Plan and Strategy in Iraq
2. Estimating 'detainee alienation effect'
3. Broader campaign level security, political, and other impacts

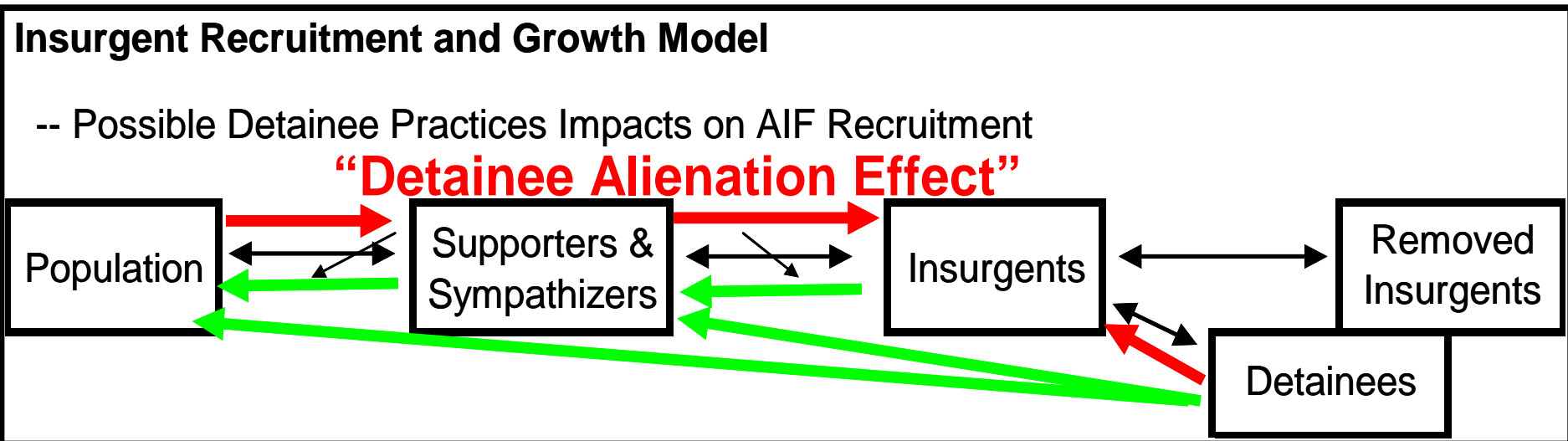
Note: U.S. detention authority and purpose in Iraq commonly misunderstood – a special case

- UN continuing resolution authority – 'Imperative Security Risk'
- NOT enemy PWs – NOT criminal penal incarceration

- Broad review of counterinsurgency (COIN) doctrine and literature – good basis
 - Drive a ‘wedge’ between hardened core and supporters, sympathizers, and others in population
 - ‘Driving a wedge’ in camps – proposal expands moderate influences to greater Iraqi populace
 - Enhance population control – reduce support for insurgents, bolster support of government
 - Effectively reduce insurgent force numbers – focus on NOT alienating population vs killing/capturing
- NOT alienating population a key objective

Estimating Detainee Alienation Effect (1)

Main question: Do insurgents get more recruits from detainees who have been released or from other Iraqis who join due to resentment over detention policy – the “detainee alienation effect”?



Estimating Detainee Alienation Effect (2)

	Release Rates	
	Low	High
# Released	8000	20000

	Recidivism (Recapture) Rates	Detainee Alienation Rates
Low	0.5%	5%
Medium	3%	10%
High	8%	20%

Formulas for computing detainee alienation effect:

- (# 'derived' insurgent recruits needed) = (# insurgents killed) + (# insurgents detained) + (# insurgents otherwise leaving the insurgency)
- (# indigenous Iraqi insurgent recruits needed) = (# 'derived' insurgent recruits needed) – (# foreign fighter insurgents)
- (# indigenous Iraqi insurgent recruits needed from sources **other than** insurgent releasees) = (# indigenous Iraqi insurgent recruits needed) – (# recaptured insurgent releasees)
- (# insurgent recruits from detainee alienation effect) = (% of Detainee alienation Effect) x (# indigenous Iraqi insurgent recruits needed from sources **other than** insurgent releasees)

Note: Examples of sources of indigenous Iraqi insurgent recruits from “other than insurgent releasees” include: displaced persons, refugees, and those motivated by Iraqi security force detention policies.



Estimating Detainee Alienation Effect (3)

Illustrative Case #	Recapture Rate	Detainee Alienation Rate	Release Rate	More Recruits from Released Detainees	More Recruits from Iraqis Alienated by Detentions
*5	High	High	Low		++
*3	Medium	Medium	Low		++
*1	Low	Low	Low		++
*2	Medium	Low	Low		+
*6	Low	Low	High		+
*8	Medium	Medium	High	Same	Same
→4	High	Low	Low	+	
→7	Medium	Low	High	+	
→10	High	High	High	+	
→9	High	Low	High	++	

* = Denotes cases producing more or equal recruits from Iraqis alienated by detentions
 → = Denotes cases producing more recruits from released detainees
 + = More Recruits
 ++ = Many More Recruits (normally two times as many, or more)

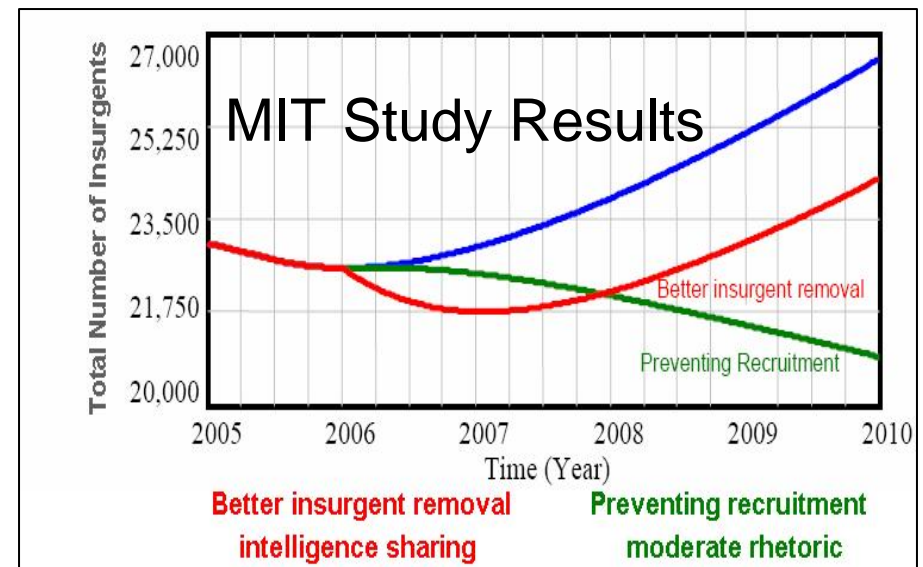
**Illustrative case results suggest less insurgents likely
 Low recidivism a possible leading indicator of success**



Estimating Detainee Alienation Effect (4)

- Detainee alienation results inconclusive but further supported by COIN doctrine, literature, and other studies

- Joint Force Quarterly:
“...examples of arrests and internment...[creating]...more insurgents than the arrests neutralize.”¹
- FM 3-24 Counterinsurgency²
- DARPA-sponsored MIT Study³



¹ Captain Kyle B. Teamey, USAF, “Arresting Insurgency,” Joint Forces Quarterly, Issue 47, 4th Quarter 2007

² Army FM 3-24, Counterinsurgency, Dec 2006, Table 1-1: Successful and unsuccessful counterinsurgency operational practices

³ Nazli Chourcri, et al, “Using System Dynamics to Model and Better Understand State Stability,” Working Paper #2007-03 of the Composite Information Systems Laboratory at the Massachusetts Institute of Technology, July 2007, pg 18



Broader Campaign Impacts (1)

- Adapted multi-criteria decision support framework
- Macro-enabled spreadsheet – multi-level weights

MNF-I Assessment Detainee Policies and Priorities Scorecard											Implement- ation Feasibility	Implement- ation Costs	
Defeating AIF					Political Reconcil					1	1		
3					5								
Reduce # AIF			Free Up CF Assets		Interoga- tion / Intel (doesn't include possible improve d post- release intel)	Iraqi Turnover Impact	Detaine e Enlight- enment		Gol Support		Other Strat Comm / IO potential		
5			1				1		3			1	
Detaining AIF	Recapture / Recidivism	Not provoke new AIF (Det Alien Effect)	Fewer Guards	Other Military Assets			Willing- ness to support Gol	AIF oppositio n	Fair treatment by Gol - Sunni	Fair treatment by Gol - Shia			
1	1	2	1	1			1	1	1	1			

AIF – Anti-Iraqi Forces

CF – Coalition Force

Det – Detainee (i.e. Detainee Alienation Effect)

Reconcil - Reconciliation

Gol – Government of Iraq

Strat Comm – Strategic Communication

IO – Information Operations



Broader Campaign Impacts (2)

Color Blank Cells

MNF-I Detainee Policy/Priority Assessment Scorecard (ALL SCORES NOTIONAL - FOR EXAMPLE ONLY)

<p>High</p> <p>100</p> <p>Low</p> <p>0</p> <p>CE</p>	<p>Top Level Measures -></p> <p>Defeat AIF 3</p> <p>Political Reconcil 5</p>												Implementation Feasibility	Implementation Costs	Wt or	
	<p>Mid Level Measures -></p> <p>Reduce # AIF 5</p> <p>Free Up CF Assets 1</p> <p>Interogation / Intel (doesn't include possible improved post-release intel) 1</p> <p>Iraqi Turn-over Impact 1</p> <p>Detainee Enlightenment 1</p> <p>Gol Support 3</p> <p>Other Strat Comm / IO potential 1</p>														Wt	
	<p>Base Level Measures -></p> <p>Detain AIF 1</p> <p>Recap-ture / Recid-ivism 1</p> <p>Not provok new AIF (Det Alien Effect) 2</p> <p>Fewer Guards 1</p> <p>Other Military Assets 1</p> <p>Willing-ness to support Gol 1</p> <p>AIF opposi-tion 1</p> <p>Fair treat-ment by Gol - Sunni 1</p> <p>Fair treat-ment by Gol - Shis 1</p>														Wt	
	<p>Base case row</p>														Wt	
No.	Option	80	50	40	60	60	60	30	30	30	30	70	60	60	55	51
1	New TF-134 Prgms (but w/ slow release)	80	65	45	60	50	70	30	35	35	30	70	60	55	50	52
2	Increased # Releases	40	60	55	70	55	60	45	45	40	35	70	60	57	60	54
3	Increased Releases w/ Strat Comms for goodwill	40	60	60	55	60	50	40	35	35	75	75	65	55	55	59
4	Reduced detention (more screen/pledge/guarantor)	35	70	75	90	65	50	60	45	45	35	74	58	54	65	58
5	Combo 3 & 4 above	35	70	75	85	65	55	60	75	75	42	80	70	62	64	64

MNF-I Detainee Policy Assessment Scorecard Showing Course of Action Options and Objectives with Notional Individual and Aggregate Weighted Scores



Broader Campaign Impacts (3)

Color Blank Cells

High

100

Low

0

CE

1

No.

Option

Base case row

80 50 40 60 60 60 30 30 30 30 70 60 60 55 52

1 New TF-134 Prgms (but w/ slow release) 80 65 45 60 50 70 30 35 35 30 70 60 55 50 53

2 Increased # Releases 0 0 55 70 55 60 45 45 40 35 70 60 57 60 46

3 Increased Releases w/ Strat Comms for goodwill 0 0 60 55 60 50 40 35 35 75 75 65 55 55 49

4 Reduced detention (more screen/pledge/guarantor) 0 0 75 90 65 50 60 45 45 35 74 58 54 65 51

5 Combo 3 & 4 above 0 0 75 85 65 55 60 75 75 42 80 70 62 64 56

Defeat AIF 5

Political Reconcil 3

Implement-ation Feasibilit y 1

Imple-mentation Costs 1

Wt or

Top Level Measures ->

Mid Level Measures ->

Base Level Measures ->

Interogation / Intel (doesn't include possible improved post-release intel) 1

Iraqi Turn-over Impact 1

Detainee Enlightenment 1

Gol Support 3

Other Strat Comm / IO potential 1

Reduce # AIF 5

Free Up CF Assets 1

Willingness to support Gol 1

AIF opposition 1

Fair treatment by Gol - Sunni 1

Fair treatment by Gol - Shis 1

Not provok new AIF (Det Alien Effect) 2

Fewer Guards 1

Other Military Assets 1

Detain AIF 1

Recap-ture / Recid-ivism 1

Wt

Wt

Wt

“Worst case” test with Notional Individual and Aggregate Weighted Scores



Study Recap & MNF-I Decision Actions

- Best option: TF-134 accelerated release (neutral-to-positive security impacts, major political impacts possible) but:
 - Detainee alienation effect likely a major factor
 - Focused info campaign and low recidivism both important
- General Petraeus
 - Study results: “very useful....rigorous”
 - Stressed info campaign and low recidivism in implementation
- 2008 – 18000+ released; uneven implementation of info campaign and reintegration efforts
- 2009 – U.S./Iraq Strategic Framework Agreement directed U.S.-held detainees turnover (attempting orderly transition)
- Overall: study results inconclusive, but
 - Helped clarify and partially quantify key factors and impacts
 - Supported bold senior decision in a ‘wicked’ operational setting



Decision Approach Summary

- Multi-criteria Decision Support – complex operational environment versus controlled laboratory setting
- In its simplest form a “supped up” decision matrix
- Bounded and commonly visualized the problem space
- Aligned to Campaign Plan Goals and Objectives
- Stimulate more productive human-to-human natural language discourse, enabling
 - Enhanced critical thinking
 - More comprehensive, rigorous exploration of the problem space
 - Reused consolidated data to consider multiple perspectives
 - Non-static, variable visualization of information
 - Little-to-no time between ‘run times’ (i.e., dynamic re-visualization / sensitivity checks)



DoD-wide Implications / Recommendation

- No common DoD-wide decision support system
 - Inconsistent problem consideration and framing
 - Similar decision support shortfalls to Iraq – staff consensus delivered through PowerPoint briefings vs rigorous, multi-disciplinary problem treatment
- Simple, spreadsheet-enabled multi-criteria decision approach can address many key shortfalls
- Recommend DoD adopt a multi-criteria decision support approach similar to that explained herein



Questions?

James Mason Brooks
Institute for Defense Analyses
Joint Advanced Warfighting Division
IDA/JAWD

jmbrooks@ida.org

757-966-4504

Bridgeway Technology Center I
7025 Harbour View Blvd, Suite 122
Suffolk, Virginia 23435-2761



Importance of Context to Understanding During Discourse

Cna yuo raed tihs? Olny 55 plepoe out of 100 can. The phaonmneal pweor of the hmuan mnid, aoccdrnig to a rscheearch at Cmabrigde Uinervtisy, it dseno't mtaetr in waht oerdr the ltteres in a wrod are, the olny iproamtnt tihng is taht the frsit and lsat ltteer be in the rghit pclae. The rset can be a taotl mses and you can sitll raed it whotuit a pboerlm. Tihs is bcuseae the huamn mnid deos not raed ervey lteter by istlef, but the wrod as a wlohe. Azanmig huh? yaeh and I awlyas tghuhot slpeling was ipmorantt!



**Joint Advanced Warfighting
Program**