2015 START Symposium
Extremist Organizations Panel

• Boko Haram: Strengths, Vulnerabilities, Policy Operations
  Presented by John Stevenson

• Daesh: An Organizational Profile
  Presented by Gina Scott Ligon

• “More Bang for the Buck?”: Terrorist Adoption of Emerging Technologies
  Presented by Gary Ackerman
This research was supported by a Centers of Excellence Supplemental award from the Office of University Programs of the Department of Homeland Security with funding provided by the Strategic Multilayer Assessment (SMA) office of the Department of Defense. The author’s travel to the field was supported by the Domestic Nuclear Detection Office (DNDO) of the U.S. Department of Homeland Security (DHS). The views and conclusions contained in this document are those of the author and should not be interpreted as necessarily representing the official policies, either expressed or implied, of SMA, DoD, DNDO, DHS, or START.
Boko Haram Violence

- Attacks skyrocketed in 2012
- Slight decline in 2013 (state of emergency), but rebounded in 2014

- Average lethality of attacks is relatively high
- In a dead-heat with ISIS for “most lethal” organization in 2014
Second Visualization of Violence

- **DV Fatalities**
- **Monthly Attack Count**
# Key Points in Boko Haram Violence

<table>
<thead>
<tr>
<th>Event</th>
<th>Calendrical Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mohammed Yusuf killed</td>
<td>July 2009 (+)</td>
</tr>
<tr>
<td>Movement Fragmentation</td>
<td>July 2011</td>
</tr>
<tr>
<td>Presidential Election</td>
<td>June 2011</td>
</tr>
<tr>
<td>Boko Haram Begins Attacking Communications Infrastructure</td>
<td>April 2012 (+)</td>
</tr>
<tr>
<td>Boko Haram acquires military grade weaponry</td>
<td>February 2013 (+)</td>
</tr>
</tbody>
</table>
Boko Haram: Under Yusuf

• Founded in 2002 by Muhammed Yusuf in Maiduguri, Borno State
• Salafist in orientation
• Goal: Islamization of Nigeria
• Initial focus was on da’wa and creation of micro-society exemplifying “pure” Islam
• Members recruited via charismatic nature of Yusuf and financial incentives
Boko Haram: Under Shekau

- Shift to jihad
- Dramatic increase in frequency and lethality of attacks
- Recently, heavier reliance on conscription for recruitment
- Declaration of caliphate, but little attempt at governance
- Pledged allegiance to the Islamic State
Boko Haram: Strengths

• Ability to use ungoverned spaces for strategic retreat and regrouping
• Maintenance of resource flows (both material and financial) through use of high-level criminal activity;
• Infiltration of various security services and capacity for intelligence gathering; and
• Superior and adaptive fighting techniques, as compared to Nigerian forces
Boko Haram: Vulnerabilities

- Growing reliance on conscription;
- Dependence on local resources, which may be increasingly depleted;
  - Some evidence of this playing out in recent months
- Need to maintain control of territory, as well as expand
  - Large losses of territory in recent months
## Effectiveness of Kinetic Responses

<table>
<thead>
<tr>
<th>Explanatory Variable</th>
<th>Predicted Probability</th>
<th>Probability Value Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baseline Probability</td>
<td>4.56%</td>
<td>N/A</td>
</tr>
<tr>
<td>Single Military Operation</td>
<td>10.77%</td>
<td>+6.21%</td>
</tr>
<tr>
<td>Multiple Military Operations</td>
<td>20.78%</td>
<td>+16.22%</td>
</tr>
<tr>
<td>Single Police Operation</td>
<td>5.81%</td>
<td>+1.25%</td>
</tr>
<tr>
<td>Multiple Police Operations</td>
<td>-10.35%</td>
<td>-14.91%</td>
</tr>
<tr>
<td>Single Vigilante Operation</td>
<td>-6.89%</td>
<td>-11.45%</td>
</tr>
<tr>
<td>Multiple Vigilante Operations</td>
<td>-7.89%</td>
<td>-12.45%</td>
</tr>
<tr>
<td>Joint Vigilante and Military Operations</td>
<td>-0.00%</td>
<td>-4.56%</td>
</tr>
<tr>
<td>Boko Haram attacks against police once</td>
<td>6.20%</td>
<td>1.64%</td>
</tr>
<tr>
<td>Multiple Boko Haram Police Attacks</td>
<td>15.17%</td>
<td>10.61%</td>
</tr>
<tr>
<td>Boko Haram single attack against military</td>
<td>20.84%</td>
<td>16.28%</td>
</tr>
<tr>
<td>Multiple Boko Haram Military Attacks</td>
<td>9.33%</td>
<td>4.77%</td>
</tr>
</tbody>
</table>
Some Long-Term Issues

• Displaced persons, traumatized by violence
• De-mobilization and reintegration of conscripts (both male and female and including a large number of minors)
• De-mobilization of the Civilian Joint Task Force
Policy Implications

• To counter strengths:
  – Partner with neighboring countries to restrict access to safe havens for Boko Haram
  – Work to counter military corruption
  – Support better intelligence and information-sharing

• To exploit vulnerabilities:
  – Increase counter-radicalization and de-radicalization efforts, including providing exit options for non-committed fighters
  – Use negotiations to incentivize defections

• In the long-term:
  – Psycho-social supports and reintegration efforts needed for victims of violence (including kidnap victims/conscripts)
  – Counter-radicalization and de-radicalization programs needed for fighters on both sides of the conflict (Boko Haram & CJTF)
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Daesh: An Organizational Profile

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15 October 2015

This research was supported by the U.S. Department of Homeland Security (DHS) Science and Technology Directorate’s Office of University Programs through START. Any opinions, findings, conclusions or recommendations presented here are solely the authors’ and are not representative of DHS or the United States Government.
LEADIR Project History: AQI to ISIL

- Leadership of the Extreme and Dangerous for Innovative Results (LEADIR)
- Examination of AQI Leadership Structure and Organizational Differentiators
- Fall 2014
  - SOCCENT via The Strategic Multi-Layer Assessment
  - “The Intangible Nature of ISIS”

*ISIL Media Arm Top 10 Videos
Objectives for Organizational Futures

1. Understand organizational structure and leadership position requirements

2. Technology used for various organizational functions: Cyber Profile (beyond Twitter)

Appearing is the Islamic State group recruitment office in city of al-Bab in the province of Aleppo in Syria.

NATIONAL SECURITY AGENCY
CEREBRAL SECURITY SERVICE
DEPARTMENT OF THE NAVY, NAVAL SECURITY GROUPS

Appearing is the Islamic State group recruitment office in city of al-Bab in the province of Aleppo in Syria.
Key Findings: Leadership Fissures

1. Organizational Roles/Functional Job Requirements (e.g., administrative versus military)

2. Biodata/Life History (e.g., educational background, religious identity prior to joining Daesh, military training)

3. Leadership Style and Decision Making Calculus

Ideological, Foreign Terrorist Fighter, and Pragmatic Daesh Leaders Differ on Key Characteristics
**Key Findings: Cyber Sophistication**

- Cyber communication is an amplifier and organizational differentiator for Daesh
- Cyber profile for organizational operations
  - Infrastructure
  - Expertise
  - Durability
  - Messaging and influence
  - Communication channels
  - Media production
- They are not only using social media for propaganda, but also run a sophisticated command and control operation from dark web

Data Harvesting Method: 1.5 million cyber objects collected
Daesh Futures: Bottom Line

• Using organizational psychology and collaboration science provides a different lens to view VEOs like Daesh.
  – **Implication:** Invest in basic research so we are poised to respond to emerging threats.

• Leadership Fissures exist due to heterogeneous organizational structure.
  – **Implication:** Leader decapitation is ineffective without understanding organizational dynamics.

• Daesh has a sophisticated cyber apparatus.
  – **Implication:** Our CVE strategy must recognize their strengths and create a tailored counter-messaging campaign.
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“More Bang for the Buck?”:
Terrorist Adoption of Emerging Technologies

Gary Ackerman, Ph.D.
Director, Unconventional Weapons and Technology Division

October 15, 2015

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Do Emerging Technologies Empower Terrorists?

“Give me a lever long enough and a fulcrum on which to place it and I shall move the world” – Archimedes


“The IQ level required for a single individual to destroy the world decreases by one point every year” – Eliezer Yudkowsky

“But the world is changing with accelerating speed...We know all too well, after 9/11, just how technology and globalization has put power once reserved for states in the hands of individuals, raising the capacity of terrorists to do harm” – President Obama (2014)
Emerging Technologies
Historical Firepower Curve

Are terrorists following the same pattern?
Terrorists and Technology

On the one hand....

Traditionally, terrorists have tended in their use of weapons and tactics to be both conservative and imitative.

- Limited resources
- Uncertainties
- Soft targets plentiful.

On the other hand....

There are many cases where terrorists have sought new technologies.

- Why?
  - Ideological orientation
  - Existing methods insufficient to achieve aims
  - Need to circumvent protective measures
  - Status and competition
  - Very high level of resources
  - Costs associated with adopting new technology are lowered

Which terrorists and which technologies?
# Illustrative Application

<table>
<thead>
<tr>
<th>Adoption Phase</th>
<th>Technology</th>
<th>Scores</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>AQ Central</td>
<td>Hizb’allah</td>
</tr>
<tr>
<td>Awareness</td>
<td>IEDs</td>
<td>15.5</td>
</tr>
<tr>
<td></td>
<td>Chemical Microreactors</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td>Rapid Prototyping</td>
<td>6</td>
</tr>
<tr>
<td>Decision</td>
<td>IEDs</td>
<td>27.5</td>
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<tr>
<td></td>
<td>Chemical Microreactors</td>
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<td>Rapid Prototyping</td>
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</tr>
<tr>
<td></td>
<td>Rapid Prototyping</td>
<td>5</td>
</tr>
</tbody>
</table>
Findings & Implications

• Key Finding: Multiple failure points along road to technology adoption success => don’t jump to conclusions about the terrorist threat posed by new technology
  – Policy Implication: Don’t try and curtail terrorist awareness – rather techne and mētis

• Key Finding: Terrorist-Technology Dyad is central; not technology alone
  – Policy Implication: Finding the salient ones provides guidance in resolving dual-use dilemma posed by emerging technology

• Key Finding: It is possible to identify most dangerous terrorist-technology dyads
  – START has developed an operational framework (T-TAM)
    • Prioritize terrorists most likely to adopt any specific emerging technology
    • Utilizes observable or inferable attributes
    • Can be readily updated to reflect organizational / environmental changes
Let no one suppose that evolution will ever exempt us from struggles. 'You forget,' said the Devil, with a chuckle, 'that I have been evolving too.'

- William Ralph Inge
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