MORS Workshop
Irregular Warfare (IW) II Analysis Workshop

3-6 February 2009
Davis Conference Center
MacDill Air Force Base
Tampa, Florida

Ms. Renee Carlucci
Deputy Director, Force Strategy Division
Center for Army Analysis
renee.carlucci@us.army.mil

Mr. Donald Timian
Director, Test Technology Directorate
U.S. Army Test and Evaluation Command
donald.timian@atec.army.mil

The February workshop held at the Davis Conference Center, MacDill Air Force Base in Tampa – hosted by the U.S. Special Operations Command (SOCOM) – was very well attended by 186 individuals from across the Department of Defense (DoD), industry, and academia; many new to MORS. The purpose of this Army and OSD-sponsored workshop was to bring special operators, analysts, and problem solvers together to help define IW analysis problems, explore techniques to deal with these problems, share what has been attempted in the past, identify what has worked and not worked, and determine recommended ways ahead. The workshop provided a wonderful opportunity for both society outreach and rich technical dialogue with operations research practitioners, social scientists, and operators possessing recent experience and perspectives that greatly benefited the MORS faithful who were in attendance.

The main workshop was preceded by a tutorial on the Irregular Warfare Joint Operating Concept (IW JOC) given by **Mr. Jeffery (Gus) Dearolph**, Deputy Director Internal of SOCOM's J10 Irregular Warfare Directorate. The tutorial was extremely well attended with over forty percent of the conference attendees sitting in. Mr. Dearolph's excellent tutorial provided a solid overview of IW terminology and issues. There is continuing friction with the IW definition across the Services, agencies, interagency, and allies. The term "Irregular Warfare" is not well liked by many outside DoD. The largest issue stems from the lack of a "grand strategy" for IW. In addition, there is (1) a failure to understand the population-centric nature of global competition and (2) a tendency to confuse strategic theory with operational missions due to the linkages between policy, strategy, and the various levels of conflict. Following Mr. Dearolph's brief, **COL Jeff Appleget** gave a tutorial on the findings and status of methods, models, and tools

germane to IW. COL Appleget is responsible to the Director of TRADOC Analysis

Center (TRAC), Mr. Mike Bauman, FS, for TRAC's IW Campaign Plan development

and, together with Mr. Steve Stephens (USMC), is co-chair of the (Joint) IW Working

Group that oversees the research and development of IW analytic Methods, Models, and

Tools (MMT). COL Appleget reviewed the results of the IW Methods, modeling, and

Analysis Working Group (IW MmAWG) Study which established a 7-element

framework and identified 35 gaps, 34 of which are related to data and social sciences.

Through the IW Working Group, COL Appleget and his team continue to identify

ongoing activities from across DoD, Interagency, and our coalition partners that can

contribute to fulfilling gaps and future collaboration. Both tutorials included a healthy

discourse, giving all in attendance a common frame of reference and a foundation for the

deliberations of the working groups.

Mr. E.B. Vandiver III, FS, Director, Center for Army Analysis (CAA), opened the

plenary session by providing the MORS Sponsor's Welcome. He reminded the group that

IW is not new and that many have forgotten our past history. Analysis of irregular wars was

largely ignored after Vietnam when DoD indicated that we would never again get involved in

this type of warfare.   He recommended that we look at the Vietnam-era MORS symposium

papers as we would likely see analysts wrestling with similar problems back then. Mr.

Vandiver emphasized the comments from Secretary Gates in his recent *Foreign Affairs*

article[1], _A Balanced Strategy—Reprogramming the Pentagon for a New Age_, noting the good

timing of this conference. He also indicated that we need to think about the future and the

---

[1] Gates, R. M. (2009, January/February). A Balanced Strategy - Reprogramming the Pentagon for a New
Age. *Foreign Affairs*.

likelihood that we will be operating in a complex warfare environment, also known as "Hybrid Warfare" combining elements of high technology, low technology, conventional warfare, and irregular warfare.

The Keynote Address was given by **Mr. William J. A. "Joe" Miller**, the Director of SOCOM's Strategy, Plans, and Policy (J-5) Directorate. Mr. Miller provided some powerful comments and insights. He also emphasized that IW is about supporting populations vice meeting kill quotas. We need to "behave" -- not kill our way to victory. He stressed in analyzing IW issues, a Lanchester view is not useful and when conceptualizing a global perspective and attempting to identify the underlying factors that result in friction, our goal should not be to ensure our analysis is correct, but to be as "un-wrong" as possible. Mr. Miller went on to describe how SOCOM is utilizing Operational Design in order to gain a better visualization of the globalization challenges to the United States. From the SOCOM perspective, these challenges are primarily migration, crime, and extremism.

Dr. Al Sweetser, the Director of the OSD Program Analysis and Evaluation (OSD-PAE) Simulation & Analysis Center (SAC) chaired and provided an overview of the previous (December 2007) MORS-sponsored IW workshop which focused on broad international participation as a means to increase the transfer of information and know-how among U.S., allied, and coalition partner analysts. The December 11-13 workshop at the Naval Postgraduate School provided an opportunity to explore ways to enhance collaboration on and improve the performance of IW analyses within and across agencies and governments, with workshop attendees representing twenty-one different countries. A key conference lesson was the value of a broad perspective and the need for a "whole of government" approach for IW. Participants felt strongly that wargames help facilitate

collaboration among analysts with different backgrounds (e.g., differing military services or countries).

LTC Reb Yancey, a senior Operations Research analyst at USSOCOM, provided an introduction at the plenary to Operational Design. LTC Yancey was trained by BG (Ret) Shimon Naveh. During the last two years, LTC Yancey has utilized Operational Design concepts on numerous projects for SOCOM. He reminded the group that IW is a "wicked problem" requiring a broader approach than traditional computational methods typically allow. Operational Design employs a structured method of inquiry enabling a commander to make sense of a complex situation, capture understanding, and share the resulting visualization. The method, based on discourse, creates a learning system requiring accepting humility and valuing heresy. In order to deal with a dynamic, complex system, one needs to explore the interactions among the key parts.

From Wednesday afternoon until Friday morning the workshop was separated into five working groups plus a synthesis group. Each of the groups addressed a segment of the problem space with Synthesis looking for common themes and addressing overarching high level questions.

Working Group 1 – Global Engagement was chaired by **Mr. Andy Caldwell,** OSD-PAE and co-chaired by **Col. Thomas Feldhausen**, Joint Staff, J-5. Mr. Caldwell is an exchange analyst from the Ministry of Defense of the United Kingdom. As part of the preparations for the workshop the Chairs for the working group visited three combatant commands, SOUTHCOM, AFRICOM and PACOM. Interviews with each commands' Strategy, Assessment and Engagement divisions provided an understanding of the Theater Campaign Plan (TCP) planning cycle and specifically the analytical challenges

confronted by each command in planning, assessing and measuring progress in meeting the TCP's objectives. Global Engagement is a large topic, and for it to be tackled in a two-day workshop it was necessary to focus on a specific aspect. As an analytical community we have applied our resources to gain a better understanding of Counterinsurgency (COIN), Stability, Security, Transition, and Reconstruction (SSTR) and IW. The majority of efforts have focused on winning the nation's wars and being prepared for the next set of operations. It is also necessary to focus on taking actions now that will allow us to avoid having to undertake all but the most necessary enduring future operations of this nature. Global engagement requires us to consider prevention as well as cure. Many parts of the U.S. government, international organizations and regional partners take part in this activity. It includes ensuring the provision of basic services, effective governance, the rule of law, social justice, and security. The DoD contribution is through Security Cooperation and Theater Security Cooperation is the name for the role of the Combatant Commands in meeting this challenge. From the interviews with the COCOMs and supported with some presentations, the working group focused on trying to address five challenges related to measuring and assessing theater security cooperation activities: (1) How should objectives and indicators be structured? (2) How does an assessment division with four to ten people measure and maintain the baseline? (3) How can you determine the right activities to support partner nations while making the most progress towards desired end-states? (4) Is it possible to measure cause and effect in a complex system? (5) What is missing from this process? The result of working group's activities was a series of findings and suggestions for each of the five main challenge areas. A common theme, to be echoed by other working groups, was that

the challenges extend well beyond DoD's traditional boundaries requiring interagency and coalition collaboration.

Working Group 2 – Stability, Security, Transition, and Reconstruction Operations was chaired by **COL Dean Mengel**, Center for Army Analysis and co-chaired by **Mr. William Krondak** of the Training and Doctrine Command's Analysis Center (TRAC). This working group focused on exploring the challenges and possible solutions for Stability Operations (SO). Some of the challenge areas were presented by USSOCOM representatives, LtCol Vinnie Caputo and Maj Dave Mills. They highlighted the need for the Combatant Commands (COCOMs) to identify the Security Force Assistance (SFA) requirements and demands, and under the new guidance, for USSOCOM to prioritize the requirements across COCOMs. They noted that there did not appear to be a coordinated plan for development of SFA capabilities across the Services. Finally, they indicated an issue regarding the identification and tracking of personnel with appropriate SFA-related skills, training, and experience. Martin Lidy of Institute for Defense Analysis (IDA) presented several issue areas focused on understanding the actual needs of the host nation or region with regard to the recognized stability sectors. He noted that identifying the international and regional partners and their capabilities was critical to success. Mr. Shawn Steene of OSD presented two major issues and reiterated concerns identified by previous speakers regarding identifying the SFA needs and demands as well as the identification of appropriate metrics. As the working group deliberated, the need for an overarching strategy or "vision" regarding the application of "whole of government" resources became apparent. A number of methods, models, and tools were presented and discussed by the working group. However, they

only address a small part of the problem. None of them are capable of solving all aspects of SO, and perhaps it is desirable to employ multiple approaches and combine the results. Compounding some of the difficulties being experienced by those trying to tackle these issues are the lack of overarching strategies and goals which would lead to some organization created to lead, oversee, and integrate the activities of various institutions required. The workgroup, as the entire workshop, recognizes that these types of inclusive efforts need to continue, and where possible, expanded to include as many participants from this community-of-interest.

Working Group 3 – Information Operations (IO)/Psychological Operations (PSYOP)/Social Sciences was chaired by **Mr. Mike Ottenberg,** (AT&T) in support of OSD-PAE and **Ms. Karen Grattan,** (Group W) in support of MCCDC, USMC. This working group, due to the limited time and space available, focused on PSYOP to the exclusion of the other four pillars of IO: Operations Security (OPSEC), deception, Electronic warfare (EW), and Computer Network Operations (CNO). They also focused on IO to the exclusion of examining the impacts of social science on IW in general. With over 40 members, the group had representation from the entire IO/PSYOP community with a good mix of social scientists and operations research analysts (approx 25% social scientists). Subject matter experts identified the requirement for leadership to establish a strategic vision or concept for PSYOP, then operational objectives, and then effectiveness can follow. We need to determine what our message should be and the intended audience. Analysts can assist planners in course of action development with tools and methods to measure effect on audiences, task accomplishment, and kinetic versus non-kinetic effects. They can also assist with the development of success assessment criteria,

prioritization of assets, and the plan for failure and unintended consequences.   Some limitations of the existing tools include: limited functionality, lack of Validation, Verification & Accreditation (VV&A), paucity of pedigreed data, cost (e.g. polling), limited linkage to social science theories, and difficulty of employment. The working group concluded that a coherent taxonomy and lexicon of IO is required with analysts and operators using the same set of definitions. The models, methods, and tools must provide mechanisms for learning and understanding of the problem, not prediction. Psychological operations must be coordinated across related combined, joint, and interagency arenas. Robust case studies should be developed which capture a full problem set to greatly benefit exercises, education, and training. A non-kinetic assessment with Measures of Performance (MOP) and Measures of Effectiveness (MOE) must be in the initial plan. Key gaps in PSYOP capabilities must be resolved by other means including red teaming, evolutionary development of M&S, enhanced wargaming (Phase 0), and human terrain and media analysis.

Working Group 4 – Counterinsurgency - was chaired by **Mr. Steve Stephens**, from the Marine Corps Operations Analysis Division and co-chaired by **LTC Tedd Dugone** of the Joint Staff J8 Warfighting Analysis Division. This working group examined past, present, and future modeling and simulation (M&S) as well as non-M&S analysis capabilities that are applicable for USSOCOM counterinsurgency (COIN) planning and execution. DoD has deployed operations research analysts in the past to provide analytical support directly to general purpose forces COIN operations and is presently doing so. DoD analysts have developed a wide array of non-M&S analytical tools and techniques that address COIN problem areas. All of those analytical techniques are

potentially applicable to USSOCOM forces during COIN execution. The working group recommends that USSOCOM develop a structure to provide the same type of analytical support to special operations forces that operations research analysts are currently providing to general-purpose forces. Traditionally, M&S has been a primary analytical technique for military planning. This is not the case for COIN. A good analytical technique for supporting COIN planning now is computer-supported wargaming. The use of computer-supported wargames to support COIN planning is context specific. The technology is not mature enough to support some applications (e.g. programmatic issues). The difficulty stems from the inability of current M&S technology to capture human behavior in a satisfactory manner. DoD operations research analysts are generally not satisfied with our COIN M&S capabilities. Traditional combat modeling is rooted in the physical sciences and our initial forays into simulating COIN operations have been designed and built in the same mold. It is not working very well. The Department of Defense (DOD) operations analysis community is working hard to improve our capability to where we want it to be, but we are not there yet.

Working Group 5 – Thinking Models About Irregular Warfare – was chaired by **Dr. Bob Sheldon**, from the Marine Corps Operations Analysis Division and co-chaired by **Lieutenant Colonel Scott Smith**, from the Special Operations Command SORR J8. This working group was charged with trying to answer the question, "How should we be thinking about IW?" They were also asked if using a systemic approach could better frame the problems and lead to a new set of solutions. Their assessment is that the answer to the last question should be better described as leading to a better understanding of IW. Operational Design, used as a process methodology, and led by

LTC Yancey, assisted the group in the development of various "Thinking Models" of various aspects of IW. A "group thinking pad" was used to visualize the concepts associated with a complex dynamic system that facilitates group understanding and learning. Operational Design leverages the concepts of ontology (study of the nature of being and existence) and epistemology (study of the nature and scope of knowledge). Maj Dave Mills provided the perspective of USSOCOM J-10 and MAJ Leonard Kergosien provided insights from TALENT – the "human terrain" counterpart. Dr. Debbie Duong briefed the OZ Wargame Integration Toolkit, which is currently being used to support the OSD-PAE SAC Africa IW Analytic Baseline (AB) Study. LTC Russ Schott briefed the IW Decomposition Analytic Strategy, with supplemental commentary provided by Mr Mike Bauman, Director of TRAC. During this two-day exercise, the group was exposed to the Operational Design methodology and participated in the early stages of the investigation process. There is much more work to be done to hammer out the logic of the sub-systems and how they relate to the system as a whole. Once the relationships are represented it will begin to reveal insights to opportunities that could be exploited in order to transform the system to a more favorable posture. A working group recommendation is to establish a Community of Interest (COI) across all domains to continue the process of understanding IW as a system. One venue is the bi-weekly VTC being conducted by USSOCOM J-10 and the TRAC led IW-WG.

Synthesis was chaired by **Mr. Mike Garrambone**, General Dynamics and co-chaired by Dr. Mike Bailey, Deputy Director, Marine Corps Operations Analysis Division with **Mr. Tim Hope**, **LTC Clark Heidelbaugh** (Working Group 1), **Mr. Doug Edwards**, **Dr. Tom Allen**, **Mr. Bill Sentlinger** (Working Group 2), **Mr. Kirk Michealson, Dr. Stuart**

Starr (Working Group 3), **COL Jeff Appleget**, **LTC Lee Ewing** (Working Group 4), **Mr. Tom Hughes** and **Ms. Deborah Lott** (Working Group 5) harvesting insights from the individual working groups. Some common themes they identified across the working groups are:

- There is a relational, supportive, and authority gap between the military and "the interagencies" on IW

- Challenges extend well beyond DoD's traditional boundaries requiring interagency and coalition collaboration

- There is a gap between our analytical capability and our commanders' operational needs

- The repository of the IW "body of knowledge" has not been clearly identified (i.e. need for a comprehensive IW online Library)

- We have not retained our history of IW, how do we bring it back—we need to leverage that operational experience and those earlier insights

- We need broad interdisciplinary teams to help us with our thinking about people/populations and IW in general

Key Conclusions and Recommendations

As noted by our opening tutorial speaker, the largest issue with IW stems from the lack of an overarching strategy appropriately linking not only the "whole-of-government" activities, but also those from non-governmental and coalition partners. We also have a need to develop a common lexicon to better communicate with each other and the need to improve our ability to build, retain, and share our knowledge, methods, and tools to support the planning and conduct of IW activities.   A large variety of interdisciplinary

qualitative and quantitative approaches will be required to address the various problem areas. Many of the analytical methods, models, and tools currently in use to support the Department can also be adapted to meet the requirements for USSOCOM.

As an initial step to meeting the identified challenges, the following recommendations are made:

- Identify, create, and sustain credible IW data, requiring iteration to decide on the data needed and characterization of the data (metadata, pedigree), in order to meet analysts' needs

- Develop a common lexicon of key terms (some of the current definitions are not acceptable to coalition and interagency partners)

- Continue the dialogue on methods, models, and tools which can support IW analyses (IW workshop was a good start, more dialogue is needed with whole-of-government participation)

- MORS provide a forum to help organize the needed information
    - Wiki site
    - Common template to compare and contrast key IW models and tools

- MORS and Sponsors assist in bringing the various IW Communities of Interest (COI) together