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ADT Project Case Study of Military-to-Civilian Reconstruction Effort

By Lynndee Kemmet

As part of its effort to improve strategies for transitioning reconstruction efforts in post-conflict environments from military-led to civilian-led, the ADT Project has begun work on a research case study of the mission of the Kansas National Guard Agribusiness Development Team (ADT). The Kansas ADT mission began in May 2009 when the first of four successive ADT units deployed to Laghman Province, Afghanistan. The initial mission plan called for five ADT units to deploy, one after the other. The end goal was to transition the reconstruction effort to civilians by the end of the fifth ADT rotation. However, the Kansas ADT mission was more successful in meeting that goal than had been anticipated with the result that the fourth Kansas ADT rotation ended months early and the fifth ADT rotation was cancelled.

ADTs are company-sized units of 55-70 National Guard members who bring to the team both their civilian skills in agricultural and community development, their links to agricultural colleges and their military training. The concept of the ADT was modeled after the National Guard's State Partnership Program in which various state National Guards build relationships with host nations and engage in partnership capacity build, which can include not

only providing development assistance but also training in such areas as disaster response. By using military personnel who have both subject matter expertise and also military training, ADTs are able to conduct reconstruction work in areas where security risks are too great for staff from non-governmental organizations (NGOs) or civilian U.S. Government agencies. As a result, the ADT is an ideal model for studying the use of military units to undertake the initial stage of post-conflict/post-disaster reconstruction in unstable regions.

However, while the military might be necessary for initiating reconstruction efforts in post-conflict environments, ultimately those efforts must be transitioned to civilians in the form of NGOs, U.S. and international aid agencies and to the citizens of the host nation. Transitioning reconstruction efforts from military-led to civilian-led has been hampered by poor information sharing and coordination between military and civilian entities. The ADT Project has been working to develop information collection and management systems that can improve information sharing between the military and civilian worlds. The ADT case study begun by the ADT Project is now using data collected by the Kansas ADT on its mission. This data is being used to analyze the process by which the Kansas mission built civilian capacity that al-

lowed for transfer of the reconstruction effort. An important part of this study is to understand how the Kansas mission passed information from ADT to ADT in order to maintain consistency of mission from one rotation to the next, in other words understanding how the commander's intent remained clear throughout the mission.

The case study has received some funding support from the Ewing Marion Kauffman Foundation and is in partnership with researchers from Kansas State University and the Army's Communications-Electronics Research, Development and Engineering Center. ADT Project researchers have been invited to England in November to share research findings from the case study with a group of researchers at the British Ministry of Defense. In addition, the ADT Project is working with a group from the World Bank that is also interested in the results of the ADT Project case study. The World Bank group intends to use the research results to assist in their understanding of the stages of reconstruction at which private sector-funded projects could be initiated in post-conflict environments.

For more information about the ADT Project read their latest publication: [The Agility Imperative: Emerging Knowledge Management Requirements for Stability Operations in the U.S. Army](#)

NSC Summer Research

By Lauren Kewley

This summer the NSC worked with students from across country as part of a George Washington University apprenticeship program. For three months the apprentices worked on several projects of varying topics. One of the projects was building and analyzing a network of the Ethiopian economy from the standpoint of a business interested in entering the country. This project was a part of a larger venture to create a network "toolbox" that will provide decision makers with the methods necessary to analyze a network. The apprentices began by collecting data from open sources and from that data set, they built the network using the software program ORA, developed by the CASOS group at Carnegie Mellon University. Utilizing network and node level measures, they analyzed the network to identify key entities including influential individuals and organizations. Visualization techniques were used to present the data and allow for effective analysis. Along with two USMA cadets, the apprentices developed a presentation for the cadets to give at the Embassy in Ethiopia. The Ethiopian officials offered positive feedback and made suggestions regarding modifications of the data set. Using these suggestions, the interns refined the network by including additional information. This larger network provided a more accurate list of influential individuals and organizations. The apprentices wrote two papers on this project: *Ethiopia White Paper* and *An Analysis of the Refined Ethiopian Economy Network*.

In another project, the team examined the effectiveness of sanctions to deter the Iranian nuclear project. Again they began by building a data set from open sources, mainly Iran Watch. However this time the focus was on developing the methodology, rather than the actual data. Several methods of analysis that can be applied to a variety of networks were identified and developed. The interns wrote three papers de-

scribing these methods which will be published to the Defense Technical Information Center (DTIC). The first by Marc Johnson was *Developing an Effective Plan for Smart Sanctions*, which presented two methods for node classification and analysis. In the second paper, *Time Series Analysis of Networks*, Lauren Kewley used time stamped data to analyze how the network changed over time. This was done by treating a network at different times as different networks. It was then possible to examine how a network's structure changed over time and how power shifted within the network. In the final paper, *Sanction Effectiveness in Iran: A Network Optimization Approach*, Louis Boguchwal studied methods to analyze the movement of resources pertinent to the Iranian nuclear program. The process of building a nuclear weapon requires numerous constituent tasks. In order to complete those tasks, resources must move between individuals and organizations. However, production is hindered when those resource flows become disrupted. The presented framework provides the key and minimum number of connections which need to be removed to disrupt the process of nuclear weapon production. All of these methods were presented to Professor Mark Ungar, a liaison to the United Nations who will be working on a project involving sanctions in Iran. NSC hopes this collaboration with the United Nations will help further this project.

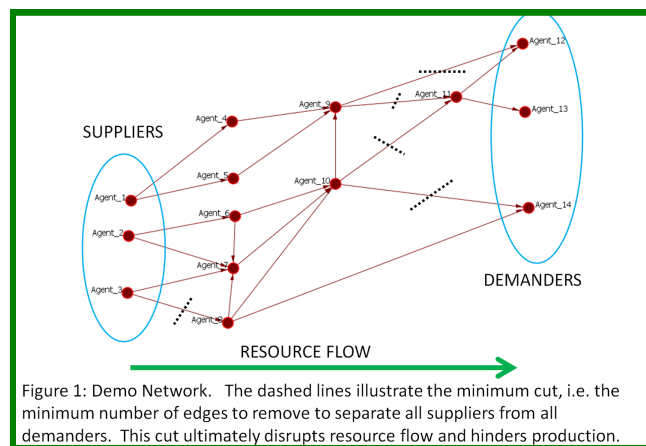


Figure 1: Demo Network. The dashed lines illustrate the minimum cut, i.e. the minimum number of edges to remove to separate all suppliers from all demanders. This cut ultimately disrupts resource flow and hinders production.

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The apprentices also worked on an analysis of the Twitter activity surrounding the Arab Spring. Using network analysis, they are looked at the online activity in relation to the historical timeline. The project is still in its data collection phase which includes obtaining information directly from Twitter. The network built from this data will eventually be analyzed to determine the importance of individuals and whether there is a measurable change in activity before a major event.

The experience of working on real world problems was a valuable experience for each of the apprentices. They will take this new network approach to problem solving with them as they begin their professional careers and go back into the classroom.

