

Awareness Development Across Perspectives Tool (ADAPT)¹

Dr. A.J. van Vliet

TNO Human Factors
PO Box 23, 3769ZG Soesterberg
NETHERLANDS

tony.vanvliet@tno.nl

ABSTRACT

The Issue

According to the Netherlands Ministry of Defence (Defence Plan 2007-2016) “Modern war fighting concepts are not aimed at disrupting a Nation in a most destructive manner, but through threats and discouragements and if necessary proportional and precise force to inhibit the desire and capability of opponents to fight. The local population in a conflict area is given the promise of better times. The communication of the aims of the operation is of utmost importance, at the strategic level, but also local through information operations. InfoOps need to become a mature military capability.”

Internationally military organizations recognise the importance of understanding human behaviour with respect to strategic, operational and tactical support of military operations. Understanding how to recognise and interpret behaviour, and insight into its determinants and antecedents can pave the way to a better understanding of how behaviour affects the success of a mission and how to change undesirable behaviour if necessary. Fundamental scientific insights on behavioural change whether at the individual, group or organizational level are available in the scientific literature dispersed over a multitude of disciplines but they need to be translated into a tool military personnel can use in operational settings. With this tool an integrated approach to behavioural influence in a military setting can become a reality. This paper discusses the development of this Awareness Development across Perspectives Tool (ADAPT).

The Approach

Our research and development effort focuses on making a tool based on (1) knowledge developed within diverse scientific disciplines (e.g. cultural anthropology, social psychology, economics, etc.) and (2) our unique knowledge of influence activities. This project results in a practical and robust tool for commanders and their staff to apply within the processes of analysis, planning, intervening and evaluating. Importantly, the tool explicitly identifies and expounds non-military perspectives crucial for mission success.

The underlying theory of sense making based on the writings of Carl E. Weick¹ suggests different perspectives have different corresponding actions, on which we can capitalize. The key is the possibility of switching perspectives and their corresponding actions but at the same time making explicit, or at the very least making aware how the perspectives are connected. Lacking in the operational reality of task force commanders is a tool that enhances insight into the interdependencies between factors that can be manipulated within the different perspectives. We provide means for identifying targets (individuals, groups, organizations, etc) and behaviours of interest and how these could be influenced at a specified level (strategic, operational, tactical and technical). The process of sense-making is critical in this respect. This process requires the formulation of hypotheses but also the testing thereof through smaller or larger probing actions.

¹ This paper is based on the work done in the research project V810: Support for Information Operations by using multiple perspectives, financed by The Netherlands Ministry of Defence. The contents of this paper are completely the responsibility of the author.

Report Documentation Page

Form Approved
OMB No. 0704-0188

Public reporting burden for the collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington VA 22202-4302. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to a penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number.

1. REPORT DATE OCT 2010	2. REPORT TYPE N/A	3. DATES COVERED -	
4. TITLE AND SUBTITLE Awareness Development Across Perspectives Tool (ADAPT)		5a. CONTRACT NUMBER	
		5b. GRANT NUMBER	
		5c. PROGRAM ELEMENT NUMBER	
6. AUTHOR(S)		5d. PROJECT NUMBER	
		5e. TASK NUMBER	
		5f. WORK UNIT NUMBER	
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) TNO Human Factors PO Box 23, 3769ZG Soesterberg NETHERLANDS		8. PERFORMING ORGANIZATION REPORT NUMBER	
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)		10. SPONSOR/MONITOR'S ACRONYM(S)	
		11. SPONSOR/MONITOR'S REPORT NUMBER(S)	
12. DISTRIBUTION/AVAILABILITY STATEMENT Approved for public release, distribution unlimited			
13. SUPPLEMENTARY NOTES See also ADA564696. Human Modelling for Military Application (Applications militaires de la modelisation humaine). RTO-MP-HFM-202			
14. ABSTRACT According to the Netherlands Ministry of Defence (Defence Plan 2007-2016) Modern war fighting concepts are not aimed at disrupting a Nation in a most destructive manner, but through threats and discouragements and if necessary proportional and precise force to inhibit the desire and capability of opponents to fight. The local population in a conflict area is given the promise of better times. The communication of the aims of the operation is of utmost importance, at the strategic level, but also local through information operations. InfoOps need to become a mature military capability. Internationally military organizations recognise the importance of understanding human behaviour with respect to strategic, operational and tactical support of military operations. Understanding how to recognise and interpret behaviour, and insight into its determinants and antecedents can pave the way to a better understanding of how behaviour affects the success of a mission and how to change undesirable behaviour if necessary. Fundamental scientific insights on behavioural change whether at the individual, group or organizational level are available in the scientific literature dispersed over a multitude of disciplines but they need to be translated into a tool military personnel can use in operational settings. With this tool an integrated approach to behavioural influence in a military setting can become a reality. This paper discusses the development of this Awareness Development across Perspectives Tool (ADAPT).			
15. SUBJECT TERMS			
16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT
a. REPORT unclassified	b. ABSTRACT unclassified	c. THIS PAGE unclassified	SAR
			18. NUMBER OF PAGES 8
			19a. NAME OF RESPONSIBLE PERSON

Expected Results

ADAPT is: a “Wikipedia-like” electronic set of newly generated documents (text, tables, images, sounds etc.) with indexes, lexical search tools, “how-to” instructions and relevant links to existing knowledge bases. The envisioned embedded tools in this Wikipedia will include checklists, morphological fields, concept maps, forms, spreadsheets, etc. These do not require specific applications other than the standard Microsoft Office package (Word, PowerPoint, Excel) and an internet browser, preferably Internet Explorer (with some added plug-ins).

Consequences

ADAPT helps task force commanders and their staff to identify targets and clusters of behaviours that can be influenced. It also facilitates the formulation, implementation, and evaluation of interventions.

INTRODUCTION

Defence organizations have to deal with a changed focus in military missions towards asymmetric and irregular warfare and Stability, Security, Transition and Reconstruction (SSTR) Operations. A range of operations (e.g., psychological operations, humanitarian missions) is performed in a large variety of locations and cultures (e.g., Africa, Asia), requiring a diversity of courses of action (COA) on different domains. For example, inhibiting opium production, stimulating school attendance of girls, or preventing police corruption, are all typical behavioural changes that require non-military measures, though they fall within the current military scope. This implies that commanders of current operations need to be able to adopt different perspectives on the context of their missions, in addition to their military perspective. This paper reports on the development of a tool that supports task force commanders in their operational planning process to create change in their target populations.

Operations like Peace Support Operations (PSO), Stability, Security, Transition Reconstruction (SSTR), Counterinsurgency (COIN) or Influence Operations (IO)ⁱⁱ operations need to deal with influencing the perceptions, attitudes, and behaviors of different parties. All current operations concur with the notion of a comprehensive approach (or 3D or integrated approach) defining how political, military, and development goals relate. In an operational planning process this means that a military commander and his staff need to identify which behavioral changes and whose should be prioritized. Subsequently, they need to analyze how to actually change the identified behavior, before they can formulate and test a COA. To reach desired effects and avoid unwanted and unintended effects it is necessary to view and share the mission context from multiple perspectives (see Figure 1) during the collection and analysis of information, during the planning and implementation of operations and activities, during the deployment, adjustment and monitoring of operations, and during the evaluation of obtained effects.

ADAPT aims to support task force commanders in establishing behavioural change in target populations during basically all types of missions with goals beyond military goals only. The project will deliver a comprehensive approach support tool that task force commanders can use to translate global mission goals in their theatre of operations into specific behaviour changes for target populations. The tool enables them to incorporate non-military perspectives in planning, execution, and assessment, in a more comprehensive and structured way than is currently possible. The end result will allow commanders to make more informed decisions as the result of systematic inclusion of political, social, cultural, or economic aspects.

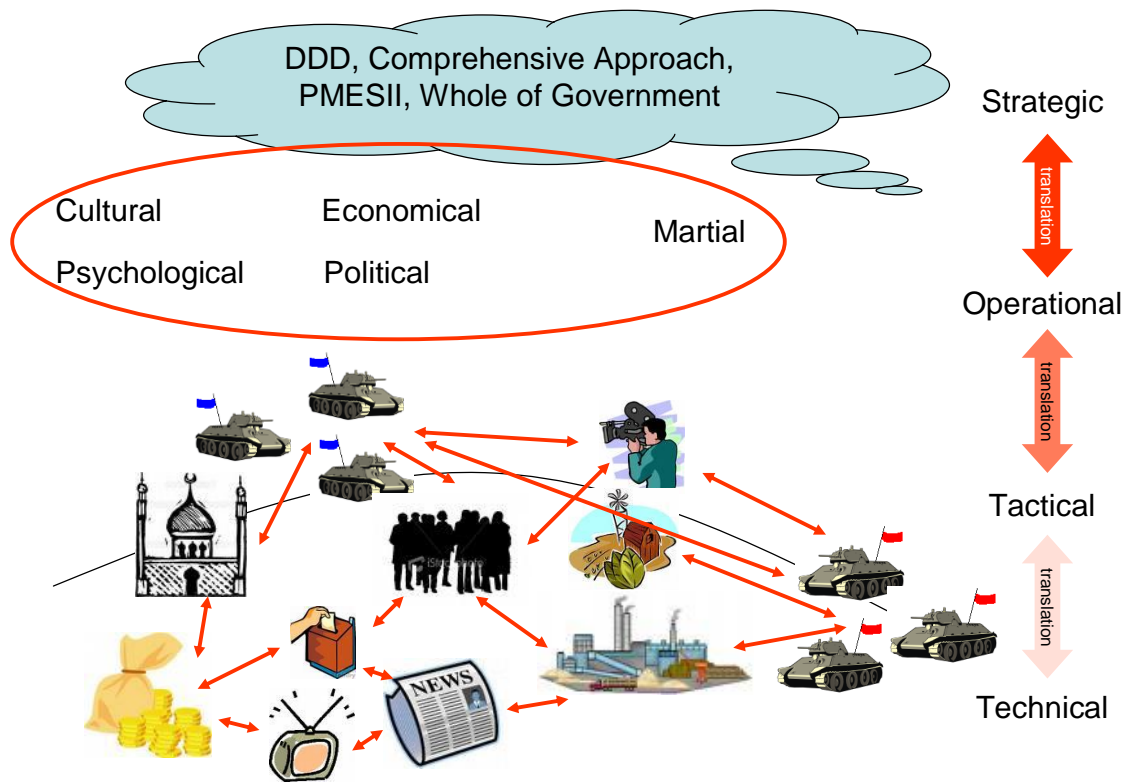


Figure 1: Making sense in the operational environment.

WHAT IS ADAPT

ADAPT is a comprehensive approach to the operational planning process, delivering a tool that helps commanders to analyze, decide, and assess the implementation of COAs. The basis of ADAPT is a limited number of views, or perspectives, on the operational reality. Within these perspectives (e.g., cultural, economic, political, socio-psychological, and martial) we identify the factors available from diverse scientific disciplines that significantly determine targeted behavioral changes of target populations. Crucial in the ADAPT approach is the use of a network structure of factors, within and across perspectives. There are causal relationships between factors and the behavior that they influence, and factors work together to influence behavior. We refer to these causal relationships as principles and they are fundamental to the perspectives that we develop. The causal links allow for the development of a conceptual map, a network of factors that is made accessible for military personnel and is explicitly aimed at enhancing sense-making, decision making and operational planning.

Thus, the perspectives in ADAPT contain a network of concepts and relations between concepts leading to behavior change. For example, a police force's attitude towards corruption could be explained by poverty of the employees (economic perspective) or influenced by using the scientifically underpinned principle of social proof (psychological perspective), which states that people are more likely to do something if they see that many other people are already doing it (or in this case rather, stop doing something if they see other people stop doing it). However, from a cultural perspective one might want to consider the fact that this social-psychological principle works more effectively in some cultures than others (e.g. conformist cultures).

The tool will thus makes available a small but comprehensive set of perspectives and within each perspective the relevant factors and principles are mapped. Links across perspectives are also mapped.

ADAPT supplies a systematic knowledge base and procedure to enhance sense-making. This process of sense-making entails the selection of targeted behaviour, identification of relevant factors and principles, application of these into COAs. Actual effects of the COAs can be assessed and provide feedback into ADAPT, making it an iterative and learning tool. We offer task force commanders and their staff several perspectives from which they will be able to choose prototypical behavioural changes with prototypical actors, represented 1) graphically by means of concept maps and 2) textually by means of a “wiki” like representation.

TARGETED USERS OF ADAPT

ADAPT is targeted at the task force commander and his staff in military missions and Stability, Security, Transition and Reconstruction (SSTR) Operations. It is a useful plug-in tool to be used in a range of operations (e.g., psychological operations, humanitarian missions) in a large variety of locations and cultures (e.g., Africa, Asia). Military personnel involved in planning, mission and factors analysis, generation of COAs, prioritizing targets, COA analysis, decision making, and assessment benefit from the knowledge and insights of ADAPT.

HOW TO USE ADAPT IN THE OPERATIONAL PLANNING PROCESS

ADAPT serves as a plug-in into the operational planning process such as Tactical Decision Making (TDM), facilitating the operational decision making processes at several stages. The tool is designed in such a way that most of the stages in the process are assisted by information in the tool (see Figure 2), without having to change the organization of the process. This way, scientific insights are linked to the military process. ADAPT supports task force commanders and their staff with regard to analysis, decision making, evaluation of COAs and sense-making in general.

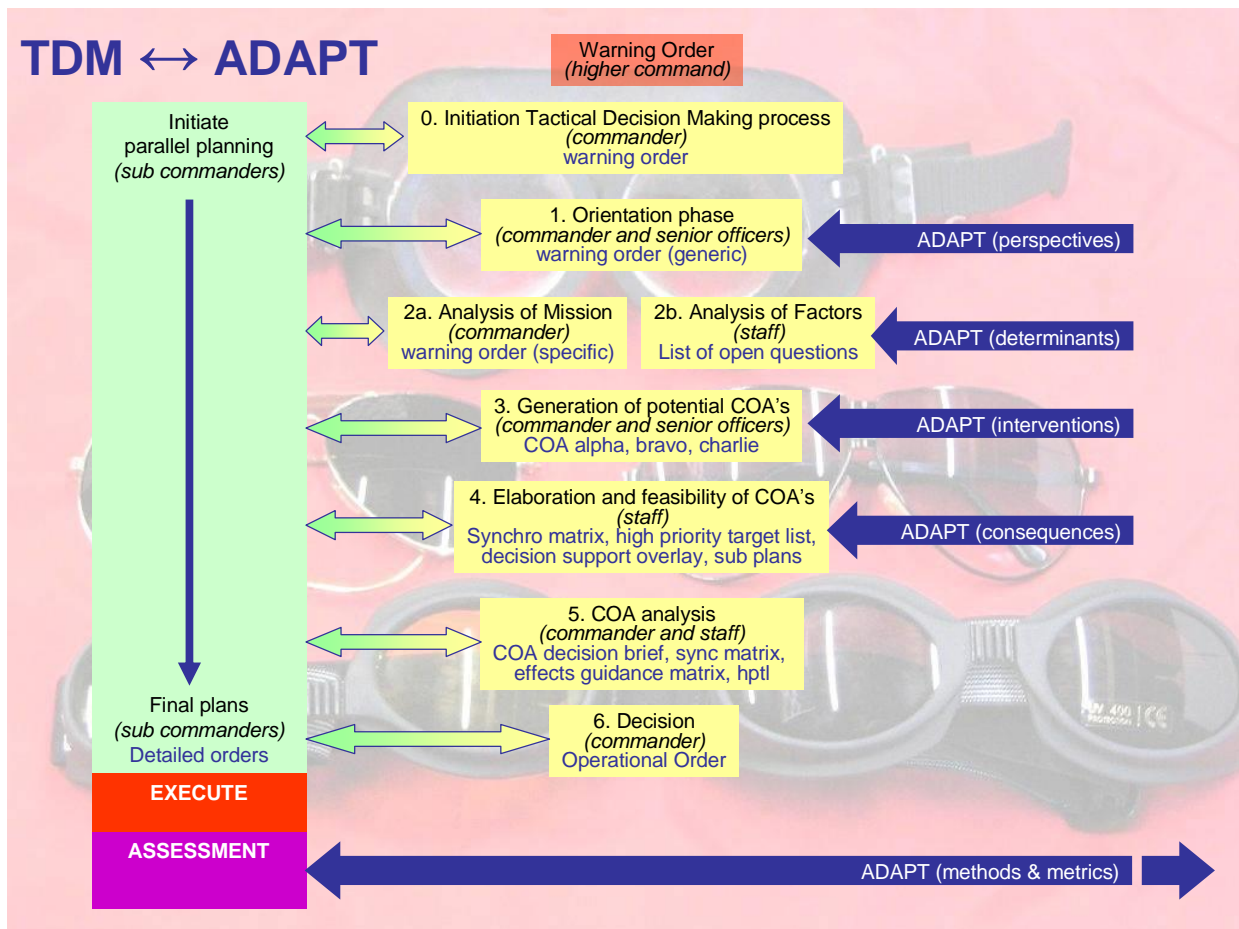


Figure 2: Plug-in ADAPT for TDM planning process.

In the orientation phase (1), ADAPT perspectives support the analysis of the mission (in terms of time frame, setting, and desired effects) and factors that are relevant for the goals of the mission (such as changed behaviors of actors and the consequences), leading to a more wide-ranging picture of relevant determinants (2) in a specific mission, in a specific country and involving specific populations. For example, police corruption may be viewed as an undesired behaviour but causes of corruption may differ depending on the perspective one adopts, e.g., political and organizational (factors that are intrinsic to policing as a job, the nature of police organizations), economic (the opportunities for corruption presented by the environment, low economic standard), and cultural (the acceptance of what is seen as ‘corruption’ across cultures). Relevant concepts as they follow from the perspectives indicate which information needs to be collected in order to analyze the mission.

Further, ADAPT supports the generation of potential COAs or interventions (3) by providing more and other views to the problem, thereby increasing the possibilities in terms of the number of options or enriching the options at hand. For example, corruption in the local police force could be reduced by performing media operations or strengthening an authority figure within the force. Subsequently ADAPT enhances the elaboration of these COAs and the evaluation of their feasibility and consequences (4). In other words, it gives the task force commander and his staff better and a more comprehensive insight into which COA elicits which intended and which unintended effect. For example, the commander planning to supply development assistance with the intention to increase well-being (such as facilitate building a school) should take into account that aid has both material and symbolic implications which can aggravate disputes within the broad context in which it is delivered (such as disagreement about girls attending

school). Perspectives may not give a straightforward solution to the proposed balance, but at least they provide insight to a commander and his staff which principles play a role, and thereby result in more and richer COAs and a more informed decision.

After implementation of the ensuing operational order, the assessment of the COA could also feed back into ADAPT. In order to learn from experiences, the perspectives support the commander and his staff in the process of sense-making of what happened and why it happened. Depending on the mission context (time, country, target population) different principles may work in different ways. The lessons learned about the environment, (un)intended effects, and the COAs become disseminated and available for new rotations. This way, ADAPT is a dynamic tool that enhances the operational planning process but is also enhanced by using it during the process. Having access to this tool will not only make available background knowledge but also facilitate communication with and understanding of the “other” behavioural change agents in the theatre of operations such as representatives of NGO’s, PRT’s, other departments, and the like.

WHAT IS DONE

Phase 1: Initializing Perspectives

In Phase 1 of the project, a Morphological Analysisⁱⁱⁱ was performed in order to establish the basis for the network of concepts and principles in the perspectives that are relevant for behavioural changes in missions. This method allows for structuring and analyzing complex problem fields into well-defined dimensions. During three two-day workshops, a group of diverse subject matter experts with operational experience as well as political, cultural, anthropological, historical, developmental/humanitarian, environmental, organizational or economic knowledge formulated relevant behavioural changes for SSTR missions. In addition, they linked them to the concepts and principles that could lead to these behavioural changes. This framework of behavioural changes and related concepts and principles served as a blueprint for 1) establishing the final perspectives, and 2) developing ADAPT, and are supplemented with research-derived concepts and principles in Phase 2.

Phase 2: Detailing Perspectives

In Phase 2 the perspectives are fleshed out and expanded with formal scientific and operational models and guidelines derived from the literature. This theoretical information is applied into practical principles and guidelines to the commander. TNO Human Factors has considerable experience in using different perspectives, such as social, psychological, economic, political, cultural, and martial perspectives in operational settings. Furthermore participation in the RTO SAS 074² group has been very beneficial in generating and formulating these robust principles and factors.

The elaboration of each of the perspectives comprises among other things the determination of the relevant and essential questions for that perspective by means of scientific concepts and related measurable factors. The realization of the perspectives is important to finally develop and test methods/ instruments to support integrated intelligence, planning, and monitoring processes.

² RTO SAS 074 Integration of Psycho-Social Models and Methods in NATO’s Effects-Based Approach to Operations

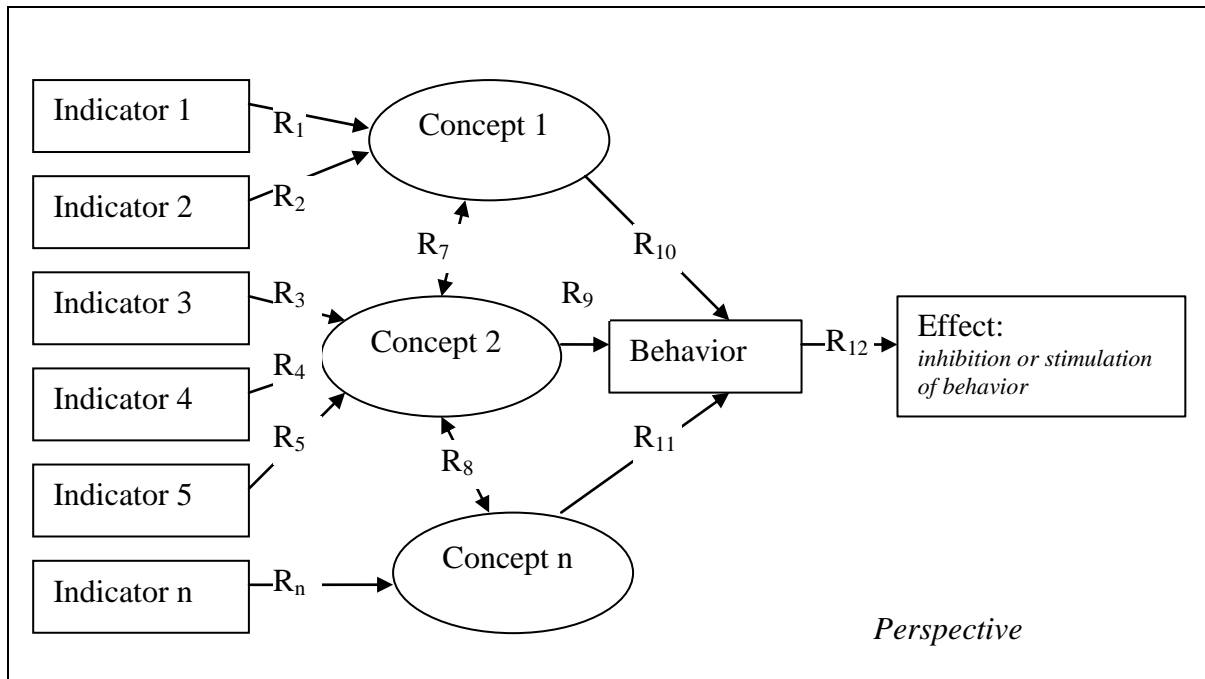


Figure 3: Generic representation of a perspective.

Each perspective can generically be regarded as shown in Figure 3. In case of ‘influencing’ the desired effects can be formulated as stimulating, or inhibiting (/preventing) of certain (classes of) behavior of certain targets (individuals, communities, clans, etc.). Certain scientific concepts (from one discipline) coincide with these behaviors. Moreover, these concepts may have a qualitative/quantitative basis defined by indicators. These indicators can be used to monitor or measure the current state of affairs in relation to the effects wanted. Measured over time, indicators provide insight into the progression or the deterioration of the effects.

One may view the perspective as generic influence-diagram. Each perspective differs in described concepts, their interdependencies, and their indicators, but there is partially overlap. Moreover, the formulated (un)desired behaviors enforce further integration because each perspective may or may not have pointers, which are (groups of) concepts related to those behaviors.

The perspectives serve as a generic knowledge-base, and will unfold into a far more detailed and referenced digital knowledge base when put in a mission context. This means that the generic knowledge base will provide generic factors and principles, whereas a use case e.g. Sudan will provide application of these principles regarding the Sudanese environment. For example, the principle of social proof and the principle of individualist and collectivist cultures are described and linked in the generic knowledge base, and the specific cultural aspects and how they relate to applying this social proof principle should be determined for the Sudanese context. The same holds for the description of the identified (un)desired behaviors.

For each of the selected perspectives from the morphological analysis a group of experts related to this perspective (two to three experts) was asked to gather content for the tool. In order to have a certain degree of consistency in the gathering of content the use of a template was encouraged. The used template was a result of 1) letting each expert group elaborate on several given concepts, of which it was already know they would be important to use (i.e. corruption, crime, misbehavior, intimidation, and discrimination), and 2) afterwards selecting which template was thought to be most suiting for all groups.

Awareness Development Across Perspectives Tool (ADAPT)

There were many different possible templates and the selection therefore needed to be done by both a theoretical expert and a field expert. Finally it was discussed with all expert groups until there was an agreement.

The gathered content eventually became a set of instantiations of the selected template. Though there was a possibility that each instantiation possibly overlapped with those of other expert groups, each group was asked to generate content individually. Also they were asked to remain conscience of the fact that eventually military personnel is required to understand at a glance what has been written down. Eventually all instantiations were integrated into non-redundant content. This integrative approach and the focus on eventually supporting military personnel in the field makes this content different from what one can find in regular books or on the internet.

Phase 3: Integration and Use Case

Phase 3 is centred on making the perspectives explicit visually in concept maps and verbally in a detailed multi-media Wikipedia-like knowledge tool. The tool is designed to be culturally and geographically neutral so it can be used in different missions and different operational contexts. However, as an interactive Web 2.0 tool, various concepts will then be available to be populated with mission-specific data such as names of tribes and leadership, important trading relationships, historical background, and so on.

In the fall of 2010 and the spring of 2011 ADAPT will be evaluated within a NL MoD planning experiment. The results of the evaluation will be used to further enhance the content and usability of the tool. Furthermore the evaluation will supply insights into to what extent a broadening of perspectives has taken place with the users of the tool.

Once implemented, the tool will increase in fidelity as additional data, concepts, and principles are added. Within the ADAPT project we will deliver one fleshed out and ready-to-use case to demonstrate the usability of the tool.

SUMMARY

ADAPT delivers a comprehensive approach support tool that task force commanders can use to translate global SSTR mission goals in their theatre of operations into specific behaviour changes for target populations. The plug-in tool enables them to incorporate non-military perspectives into their planning, execution, and assessment process, in a more comprehensive and structured way than is currently possible. The ADAPT tool supplies multiple perspectives on the operational reality and the prospective impacts of their actions, deepening the understanding of commanders on how to change behavior and broadening the range of alternative COAs. For example, corruption can be addressed from a legal perspective, but also from an economic or a cultural perspective. Commanders can select their COAs based on a single perspective or on a combination of relevant perspectives. Within each perspective (e.g., economic, psychosocial, cultural, political), inter-related factors that determine the target behavior are made explicit. Thus, ADAPT will allow commanders to make more informed decisions because of the systematic inclusion of political, social, cultural, or economical aspects.

REFERENCES

-
- ⁱ Weick, K. (1979). *The Social Psychology of Organizing*. New York: McGraw-Hill.
 - ⁱⁱ USAF (2005), "Information Operations", Air Force Doctrine Document 2-5
 - ⁱⁱⁱ van den Broek, H., & van Hattem, N. (2008), "Determining the relevant dimensions of Effect Based Operations at Task Force Level: a wicked problem approach", TNO –report