

Scenario Development for Crisis Response Operations

How to include the mental component?

Marian Voskuilen M.Sc. - voskuilen@fel.tno.nl

Bob Barbier M.Sc. - barbier@fel.tno.nl

Freek-Jan Toevank M.Sc. - toevank@fel.tno.nl

Belinda Smeenk M.Sc. - smeenk@fel.tno.nl

*TNO Defence Research
Physics and Electronics Laboratory
Operations Research and Business Management Division
P.O. Box 96864 2509 JG The Hague
The Netherlands
T +31 70 374 00 00
F +31 70 328 09 61*

TNO Defence Research is engaged in scenario development with the aim of supporting policy making, doctrine development and investment decisions for the armed services. Since the influence of the mental component on Crisis Response Operations (CRO)¹ is of great importance, this component, which pervades any scenario, needs to be addressed more explicitly during the development of scenarios. This implies that the armed forces' capabilities to engage the adversary's mental state should be made more conspicuous.

TNO's experience is that methods of scenario development used thus far are focused almost exclusively on the physical component and the engagement of the adversary's mental component is heavily under-exposed. This paper describes a method developed by TNO which incorporates the mental component -with to the physical component- in scenarios of Crisis Response Operations.

Introduction

In Crisis Response Operations (CRO) the success of the mission will most likely depend on striking the mental component of the enemy. Firstly because there will be an asymmetry between the rivalling parties with respect to their means. Opponents will increasingly not be in possession of a large amount of heavy (weapon) systems. The physical component of the enemy therefore cannot easily be recognised and even less easily be hit. Secondly the armed services taking action in the context of a CRO are guests in a country and it is therefore desirable to avoid (collateral) damage as much as possible. This desire is enforced by the fact that the intervening force is supposed to build up the country. It is hoped that the conflict can

be resolved by effectively influencing the mental component of the contending parties without using violence.

Since the end of the Cold War, one of the main tasks of the Royal Netherlands Army (RNLA) has become to carry out CRO. To perform well in this new context, the army needs being equipped and trained in an effective way. To establish this, there is a need of a common view of operations and the tasks the RNLA will be involved in. Based on that vision, decisions can be made for building and reorganising the Army.

TNO has developed a method to describe operational scenarios of CRO. This is done within the joint TNO and RNLA activities on scenario development. We shall discuss some characteristics of CRO and the concept of

¹ One can also read 'Military Operations Other Than War' (MOOTW) instead of Crisis Response Operations (CRO).

military power. We shall propose the idea that in an irregular conflict the mental component of military power is the more auspicious target to attack than in a regular conflict. We found the Confrontation and Collaboration Analysis (CCA) [1] has turned out to be a promising method to cope with the mental component. It also seems a good way to describe the influence of the mental component in a scenario of an irregular operation. We shall also discuss the way in which we have used the CCA to incorporate the mental component in a scenario. We conclude with an evaluation of CCA for this purpose.

Scenario requirements

The aim of the joint TNO and RNLA scenario development activities is to create an illustrative common view of possible deployments of the Netherlands Armed Services in a CRO. Therefore a set of scenarios has been constructed. The scenarios under development should be and indeed are generic enough to prevent the possibility of over-focussing on too specific an operation. To establish an effective procurement scheme towards an able and prepared RNLA, the set of scenarios is a valuable tool. It can be used to deduce specific (and probably more detailed) scenarios which form the basis of research on investments issues, on doctrine development and on organising the RNLA in such a way that the successful performance of the armed

services will be improved.

Within the TNO/RNLA collaboration, TNO focuses on the design of a methodology for scenario development while the RNLA provide the expertise and approves the validity of the developed scenario. An important factor to be taken account of in the development of scenarios is the need of their easy access in order to facilitate their use in the procurement and doctrine development processes. It is also important that *all* relevant aspects of the operations are included.

Military power

According to the RNLA military doctrine [2], military power is the result of a conceptual, a mental and a physical component. The conceptual component includes principles, doctrine and procedures. The mental component consists of three aspects: motivation to execute the operations as requested, effective leadership and sound management of personnel and materiel. The physical component -combat power- furnishes the means to fight, i.e. the resources to be deployed in combat. In peacetime, materiel is developed and personnel is trained. These resources are tailored for a specific operation when an operational deployment is imminent. Figure 1 depicts the production of military power. The doctrine mentions "by considering the functions as an integral whole during the

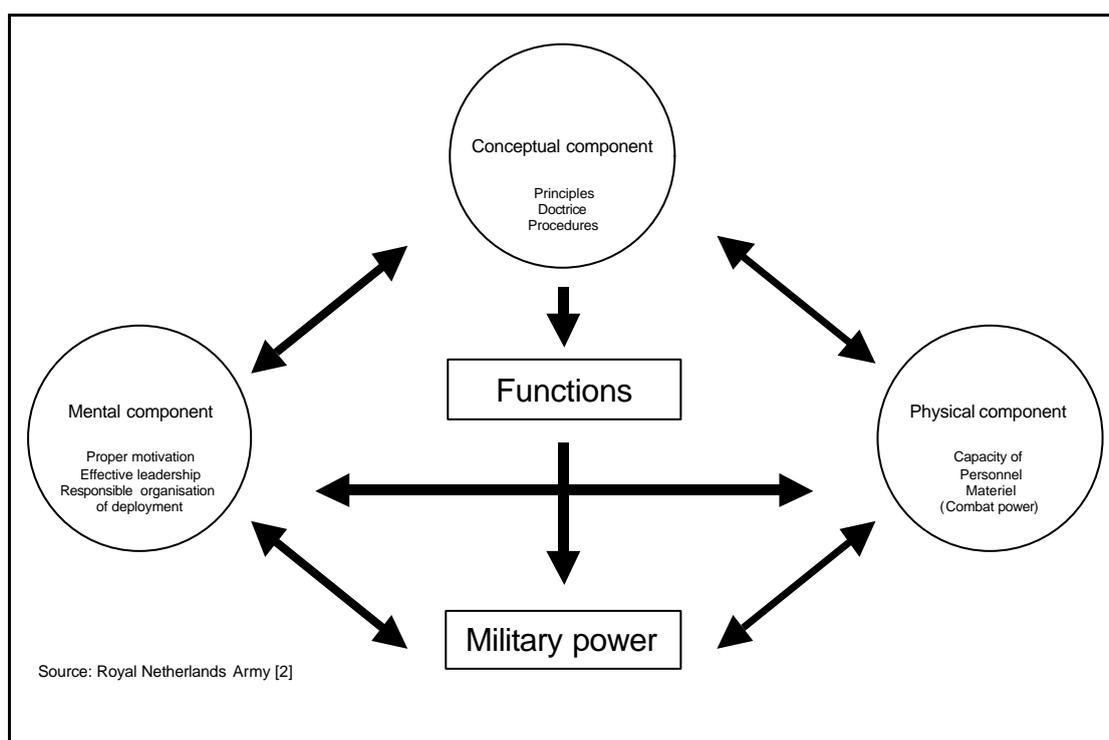


Figure 1: Development of military power

planning and execution of an operation, cohesion is created between the conceptual, mental and physical components of military potential." [3]

Crisis Response Operations and irregular forces

According to the RNLA military doctrine, "NATO uses the term 'Crisis Response Operations' for all operations for which military means are used for a purpose other than large-scale combat operations. NATO is working on policy and doctrine for Crisis Response Operations. It is conceivable that the outcome of this process will be that NATO Crisis Response Operations (CRO) will, apart from Peace Support Operations (PSO), also include (multi-)national tasks, such as antiterrorist and counter-drug operations as well as operations against irregular enemy forces." [3]

During the development activities for a CRO scenario we recognised an inability to cope with the so-called irregular aspect of the scenario. Therefore, we had to develop a method for tackling this problem.

Actions of parties (armed forces of states or warring parties) involved in a conflict are characterised as regular or irregular operations. Firstly, we give a definition of these regular and irregular operations.

"Regular operations are characterised by the deployment of organised units in what is usually an open, structured, large scale and coordinated way in accordance with established doctrine. Regular operations are characterised by, among other things, a structured command process and by the fact that they proceed according to proven procedures." [2]

"Irregular operations are characterised by manifestations of smaller units, often rebels, who operate locally and use the element of surprise as well as a high level of force. The chain of command could have disintegrated, as a result of which local commanders would have a great deal of power. Typical of such operations are covert actions aimed at creating confusion and chaos. Taking maximum advantage of the effect of surprise, irregular troops are highly mobile and they repeatedly execute missions at night in rough terrain. Irregular troops feel at home in built-up areas, in hilly or mountainous terrain, in dense woods and in the jungle. During irregular operations it is not always clear which party is responsible

for aggression. There are various kinds of irregular operations, e.g. actions by guerrillas, terrorists, bandits or mutinous forces." [2]

Towards a method for the description of the mental component

The RNLA military doctrine states: "To de-escalate and conclude CRO, the political leadership prefers to employ non-military means (such as diplomacy) rather than military means. The military contribution to the process of solving and settling a conflict is only one (and sometimes even a subordinate) component of the entire campaign. The primary endeavour is after all to bring about de-escalation by preventing and controlling the use of physical force. In addition, the political leadership will be attempting to create a relatively secure situation which will be conducive to finding a long-term solution to the conflict that is acceptable to all parties. The final result is primarily achieved through negotiation." [2]

According to the previous quote the opponent's mental component seems to be of great influence on the way an operation evolves. If striking the mental component in an operation is desirable, then the chain behind these means has to be organised in a way which is effective for the operation. People have to be trained and educated, for example, to carry out psychological operations, to negotiate about political matters or to use other manners of influence which have no direct origins in violence. To get an overview of which expertise and training the army needs in such operations and to quantify those needs for each purpose, a description of the influence of the mental component in a scenario might be a helpful tool, in addition to the description of the physical component.

During the scenario development activities regarding irregular conflict, it was recognised that (mainly) war-gaming the physical component of operations was not sufficient. In most CRO, forces are guests in a foreign country. They have to deal with restrictions because of international legislation and rules of engagement. They are restricted in using brute force and want to do as little damage as possible. Furthermore, it is not always clear who is the enemy and the enemy may use unusual means as a weapon. We needed a method to describe the influence of actions on the adversary's mental component to

complement the war-gaming method used for addressing the physical component. (Figure 1).

The book 'Confrontation Analysis' by Howard (1999) gave us the following idea for a solution to this problem:

"A Peace Operations campaign (or Operation Other than War) should be seen as a linked sequence of confrontations - in contrast to a traditional, warfighting campaign, which is a linked sequence of battles. The objective in each confrontation is to bring about certain "compliant" behaviour on the part of other parties, until, in the end, the campaign objective is reached. This is a state of sufficient compliance to enable the military to leave the theatre." [1]

If the so-called Confrontation and Collaboration Analysis (CCA) [1] is a suitable supplement in CRO, the actions and results should be implemented in the description of the scenarios. We decided to use the CCA as a different kind of war-gaming in the scenario development process for an irregular conflict in a CRO.

Confrontation and Collaboration Analysis method

CCA is a method derived from Game Theory and Drama Theory. CCA can be used for a systematic and scientific analysis of emotion, friction, irrationality and the Clausewitzian

"fog of war". It starts with the idea that defence forces must sustain and win not a battle but what is called a confrontation. A confrontation is defined as "a situation in which victory consists of compelling, persuading, or inducing others to submit to our will without, if possible, using violence, although violence, as well as other threats and inducements, must be a credible part of our armoury." [1] With the technique of CCA, a commander of a CRO is able to plan and execute a strategy to influence and defeat an adversary. CCA helps to structure the whole. Negotiations could be prepared with the help of the structure CCA offers.

We end this section with a brief description of Howard's Confrontation and Collaboration Analysis [1]. In the next section we show how we used the phases of CCA in our scenario development process.

Scene setting: bounding the situation

At first a number of parties is defined. The aim of setting the scene is the formulation of the problem between the parties that has to be solved. The input for this scene setting consists of the scenario context, the aims of a higher authority or the implementation of a former confrontation. It is important for each party represented in the CCA to have the same information at its disposal. This is called an "informally closed environment".

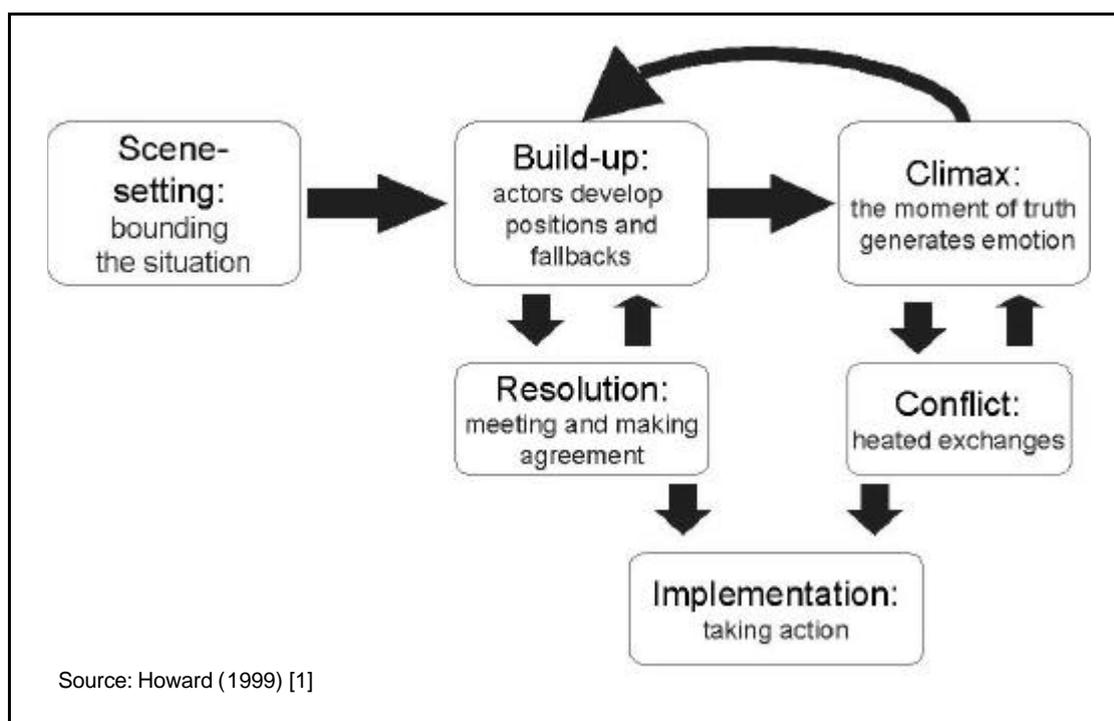


Figure 2: Six phases of conflict resolution

Buildup: actors develop positions and fall-backs

In the buildup phase two parties who feel they need to are going to talk with each other. The aim is to discover the motives and intended actions of the other party and to influence the conversation partner. Intended actions can be execution of threats or keeping a promise. Those intended actions are called "fall back positions". To communicate well, a common knowledge is needed about the way in which a conversation partner thinks. This is called a "common reference frame". Such a frame is important in order to understand each other well. During the conversation, parties can explore the way in which the other party reacts on statements. In the end, parties can determine a final statement about the issues at stake.

Resolution: meeting and making an agreement

When both parties agree on the subject of discussion and have formulated statements in which they say they trust each other and both agree on a solution to their divergence of views, parties have then reached the resolution phase. During the resolution phase, parties work out the details of their agreement and ensure that they understand the meaning of the resolution. The possibility of course exists that further details lead to a new point of disagreement.

Climax: the moment of truth generates emotion

Parties reach the climax phase when parties have disagreements or do not trust each other. This may end in an impasse. Parties have the possibility to execute the threats of fall-back positions they had in mind in the buildup phase. But this is not always desirable for one or both parties. To solve the problem, one of the parties may have to compromise.

When a disagreement reaches the climax phase, one or more of the following aspects of the situation has to change: aims of parties, threats, possible actions or the number of parties. Those changes can be induced by emotions or reasoning. Different types of communication -emotional or rational- may be used. If something changes in the impasse, parties enter the buildup phase again.

Conflict: heated exchanges

If parties do not come to an agreement and the impasse still exists, parties reach the conflict phase. Parties stop their dialogue and split up. Each party will have to make a decision about the execution of a threat or keeping a promise.

The members of a party will have to agree on the decision.

Implementation: taking action

The implementation phase means something is going to happen. Threats or agreements may be executed. Promises may be kept. (Both are examples of "resolution of the confrontation"). Agreements may not be executed ("false resolution") or threats may not be implemented ("flunked conflict"). The fifth manner to end a confrontation is to interrupt as important new information becomes available making assumptions not applicable any more.

Confrontation and Collaboration Analysis in scenario development

We shall describe the way in which we gathered the necessary information for the description of the mental component in CRO scenarios. Just like the scenario development for the regular conflicts, we organised expert sessions with officers of the RNLA. In this case, they did not represent the functions of military operations but the parties and key figures involved in the conflict. The confrontations occurred between key figures of parties. It was allowed that one party had more than one key figure.

Brainstorm: characteristics of the scenario

Before the above-mentioned phases of the CCA can be applied, a survey of characteristics is needed for the scenario under construction. Characteristics of the scenario context are for example the political and military embedding of the scenario, the mandate formulation, objectives of the higher command and sometimes the aim of an enemy. Other required scenario characteristics are conflicts, origins of conflicts, situations, parties involved, forms of rule, geographical characteristics and events that could happen in a CRO.

After carrying out the listing, characteristics were grouped so as to have the classes form a structure to fill in a specific scenario.

Brainstorm: characteristics of parties

Characteristics of involved parties are surveyed. Some categories of parties are: party doctrine, forms of leadership, fundamental attitude of a party, sources of revenue, characteristics of the exterior and origin of the party.

Brainstorm: characteristics of key figures

Possible characteristics of key figures have to be listed. Characteristics are grouped so as, again, to have the classes form a structure, but this time to fill in a character of a key figure.

Classes of characteristics of key figures are:

- General description of character (e.g. level of education, family situation, sex, posture and age);
- Power basis (e.g. charisma, inherited, advantage taken of a political vacuum);
- The way in which the key figure manages his/her supporters (e.g. democratic, dictatorial);
- Personal motives in the conflict (e.g. family honour, making some money);
- Principles of the character (e.g. honest, never keeping promises, used to swindling);
- Sensitivities/vulnerabilities of the character (e.g. for emotions, proofs, arguments, blackmail);
- Methods the character uses to convince someone (e.g. emotions, proofs, arguments, blackmail, promises and irrational behaviour).

After the initial brainstorm, the scenario context, parties, key figures and their relations are further defined by using the developed structures.

Formulating the scenario

Decisions about the context of the scenario and other characteristics have to be made. A mandate is to be formulated. Parties are to be shaped. A party might have more key figures. Key figures within parties are chosen. The results of the listing of scenario characteristics can be used for those purposes. Next, these subjects can be elaborated on.

Characterisation of key figures

Participants choose a key figure. Subsequently key figures are filled in with the help of the classified key figure characteristics. Parts of the characterisations of the key figures are shared with other parties.

Relationships

Mutual relationships of parties and key figures are outlined and the confrontations between key figures are prepared. For that purpose each key figure has to answer the following questions:

What do other key figures expect of me?
What do I expect about the means of coercion or promise the other is going to use or make? Concretise, for example, promise, action or sanction.

What do I expect of a key figure?
Which means of coercion or which promise am I going to use? Concretise, for example, promise, action or sanction.

After this elaborate preparation, the actual role play can start.

Choice of events

Participants of the expert session choose collectively an event whereupon one or more key figures feel the necessity to react. Each key figure chooses one means of coercion he has suggested when answering the questions above and describes his side of the event. Characteristics of the event are obtained by answering the questions:

Where did the event happen?
Who is responsible for the event?
Where are the locations of all the parties involved in the scenario?
What is happening at this moment?
In which way did the involved parties react to the event?
What was the purpose of the event?

Preparing the confrontations

Each key figure commits on paper his tactical goals and the way in which he plans to reach them.

Arrangements for dialogues are made and each party verifies his expectations of other parties. Key figures communicate their promises or sanctions to enforce their claims. After the dialogue, representatives of key figures decide to use the communicated sanctions and/or to keep their promises. The phases of confrontation and collaboration analysis as described above can be executed if necessary.

Next event

The next event may be the execution of a sanction or promise or a new chosen event.

Evaluation of the method

Using the structure given by the CCA was beneficial to the RNLA scenario development process. It helped focusing and structuring the discussion as a different way of war-gaming. It proved useful in describing an irregular operation. It was the first time the CCA was used by us and some refinement of our method based on the current expertise is necessary.

An important note is that an elaborate preparation before the expert meeting is preferable, thus making the session itself more effective.

War-gaming is still needed as a method to devise and describe the influence of the conceptual and physical component within operations. The CCA is an addition that can do justice to the importance of the mental component in achieving the intended effect of an operation.

We expect the method we have used for the development of scenarios of irregular operations in CRO to also be suitable for the development of scenarios of irregular operations in a war context. We think the method is suitable for the description of all kinds of operations where the mental component plays an important part in achieving the operational aims. CCA may also be a valuable tool in Course of Action analysis, for which it was originally devised.

Conclusions and way ahead

The result of our scenario development efforts with the CCA is a set of descriptions of events, characters and characteristics that enables further research for specific purposes. Especially the described environment (starting position) and desired end-state are valuable.

Questions could be asked as to whether the evolution within the scenarios is realistic and generic enough if the CCA is used. For instance, it is extremely difficult to predict the behaviour of a person living in a totally different (non-Western) culture. Further familiarisation by both TNO and the RNLA with Crisis Response Operations and experimentation with the new method of scenario development will provide more insight into the usefulness of this method and will create ideas for improvement.

References

- [1] Howard, Nigel, *Confrontation Analysis - How to Win Operations Other Than War*, Department of Defense C4ISR Cooperative Research Program, Washington D.C., 1999
- [2] Royal Netherlands Army, *Military Doctrine - Royal Netherlands Army Doctrine Publication I*, SDU Publishers, The Hague, 1996
- [3] Royal Netherlands Army, *Peace Operations - Royal Netherlands Army Doctrine Publication III*, SDU Publishers, The Hague, 1999

© TNO 2002