Paper # 015

Consequences of the NATO Comprehensive Approach for Command and Control

Primary Topic 2: Approaches and Organizations

Secondary Topic 4: Collaboration, Shared Awareness, and Decision Making

Secondary Topic 9: Military and Civil-Military Operations

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Abstract

The NATO Comprehensive Approach or Whole Nation Approach is defined as the integration of military security efforts in diplomacy and development. The comprehensive approach urges the military to cooperate with non-military actors. This presents the research question: What are the consequences of the implementation of the comprehensive approach for command and control in NATO operations and exercises? By interviews, observations and questionnaires various aspects of military command and control were assessed in two NATO operations in Afghanistan and Libya and two major NATO exercises. From these assessments it appeared that key features of traditional military command and control are deeply challenged by the necessity to cooperate with civilian actors, who organize and perform in a different cultural context. Traditional military roles are still needed, but the traditional military culture is not enough open to optimize cooperation with non-military actors. It is recommended to bridge cultural differences between military and non-military organizations, which have to cooperate in the same field of operations, including the tactical use of social and other modern media.

1. Introduction to the research question, definition of command and control and aims of this study

Since the end of the Cold War many Western armed forces have been participating in various international military operations. These military operations, such as in Iraq and Afghanistan, are characterized by preventing, controlling and ending violent conflict. Military activities in defense, diplomacy and development are captured as a Comprehensive Approach or Whole Nation Approach, which are endorsed by the NATO summit of Lisbon in 2010 as the new NATO policy. NATO's new Strategic Concept, adopted at the Lisbon Summit in November 2010, underlines that lessons learned from NATO operations show that effective crisis management calls for a comprehensive approach involving political, civilian and military instruments. Military means, although essential, are not enough on their own to meet the many complex challenges to Euro-Atlantic and international security. Allied leaders agreed at Lisbon to enhance NATO's contribution to a comprehensive approach to crisis management as part of the international community's effort and to improve NATO's ability to contribute to stabilization and reconstruction. "*The comprehensive approach not only makes sense – it is necessary,*" according to NATO Secretary General Rasmussen. "*NATO needs to work more closely with our civilian partners on the ground, and at a political level – especially the European Union and the United Nations* [1] ." The effective implementation of a comprehensive approach requires all actors to contribute in a concerted effort, based on a shared sense of

responsibility, openness and determination, taking into account their respective strengths, mandates and roles, as well as their decision-making autonomy. In these activities soldiers are chasing insurgents, helping the local population, reconstructing buildings, restoring local government and are more policing than ever before. Admiral James Stavridis, the commander of the NATO Supreme Allied Powers Europe in Mons, Belgium, defined the NATO comprehensive approach as the integration of military security efforts in diplomacy and development[2]. It is also known as the approach of Defence, Diplomacy and Development (3D) or the Whole Nation or Whole Government approach. It is also sometimes referred to as the Hole Nation or the Hole Government[3] approach, as most the time this approach is needed in failing or failed states, where there is not a government at all or a nation as such. The comprehensive approach urges the military to cooperate with non-military actors in all the stages of armed conflicts, preparation, execution and evaluation. In this cooperation, frictions appear to originate from the protection of the humanitarian space, from issues of the identity of actors and from communication issues, the use of language and meaning[4]. The comprehensive approach presents new challenges by cultural differences between military and non-military organizations, which have to cooperate in the same field of operations. Processes of traditional command and control are deeply challenged by the necessity to cooperate with civilian actors, who organize and perform in a different cultural context. This study focuses on the question how the comprehensive approach affects command and control in recent NATO operations and NATO exercises. Traditionally, command and control is defined as 'the exercise of authority and direction by a properly designated commander over assigned forces in the accomplishment of a mission'. In the context of the comprehensive approach, the mandate of command and control over assigned forces in this definition does not include the domain of cooperation with civilian actors like diplomats and development workers. However, the ongoing implementation of the comprehensive approach in exercises and operations might have changed the reality, in spite of this traditional definition of command and control. This study aims to shed light on these changes in command and control in exercises and operations when the comprehensive approach is implemented.

2. Methods, objects and subjects

In this study, some aspects of the implementation of the comprehensive approach in NATO operations in Afghanistan and Libya have been assessed[5]. The NATO operation in Afghanistan, called the International Security Assistance Force, started in 2003 and is still ongoing. The NATO operation in Libya, called operation Unified Protector, started early March 2011 and ended late October 2011. This operation intended to execute the

resolution of the Security Council of the United Nations to protect the Libyan people, to endorse a no-fly zone and to endorse a weapons embargo. No NATO lives were lost in that operation, although a NATO fighter jet crashed into the Libyan dessert, but this crew was rescued. Key actors in these operations were interviewed and on-site observations in headquarters and compounds were gathered by teams of interviewers and observers.

Data was also collected by interviews, observations and questionnaires in headquarters during major NATO exercises of the NATO Response Forces in 2011 and 2012. Table 1 presents the overview of methods and objects of this study.

Table 1: Overview of objects and methods used in this study.

Object / Method	NATO operations Afghanistan	NATO operations Libya	NATO Response Force 2010	NATO Response Force 2011	NATO Response Force 2012
Observations	X	X	-	-	X
Interviews	X	X	-	X	X
Questionnaires	-	X	X	X	X

From table 1 it appears that this study is based on a triangulation of observations, interviews and questionnaires, with exceptions for the use of questionnaires in the NATO operations in Afghanistan. The use of observations and interviews in NATO response force 2010 was not possible as this information was classified.

The subjects in this study were interviewed by teams of two interviewers. Sometimes a team was reinforced by a third interviewer, who planned the interviews and escorted the interviewee to a separate interview location to safeguard more privacy. At other times, interviewees were interviewed on their working stations. The interviewees cooperated voluntarily and were promised full confidentiality. The interviewees in Afghanistan signed an electronic version of an informed consent form. The ranks of the interviewees varied from four star general to private first class.

The questionnaires were filled out by a total of 263 respondents, mainly from the major exercises of the NATO Response Force. Operational requirements prevented to disseminate questionnaires to the fullest extent, as operations were ongoing during the data collection phase of this study.

Figure 1 presents the breakdown of respondents who filled out the questionnaire by nation. Whenever a nation exceeded the limit of five percent of respondents, the nation is mentioned. Below that percentage, the nation has been added to the category of other nations.
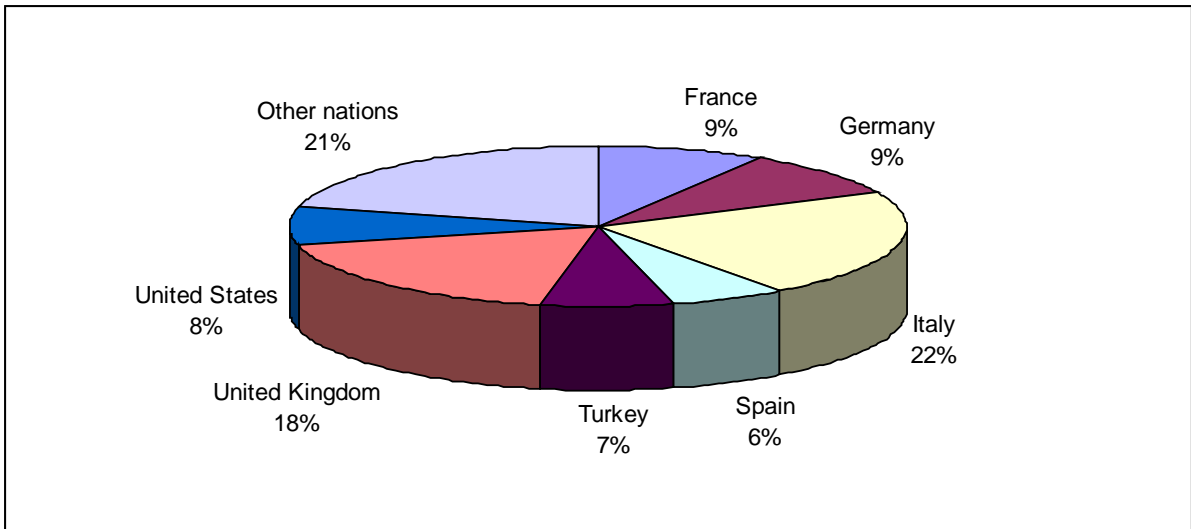
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Figure 1. Breakdown by nationality of respondents who filled out the questionnaire (N=263).

From figure 1 it appears that most respondents were Italian, followed by British, French and German respondents. Eight percent of the respondents are American, seven percent are Turkish and six percent are Spanish. Other nations, like Canada, Portugal, Greece, the Netherlands, Belgium, Slovakia and Norway are represented with less than 5 percent of the total number of respondents.

Figure 2 presents the breakdown of respondents who filled out the questionnaire by rank.
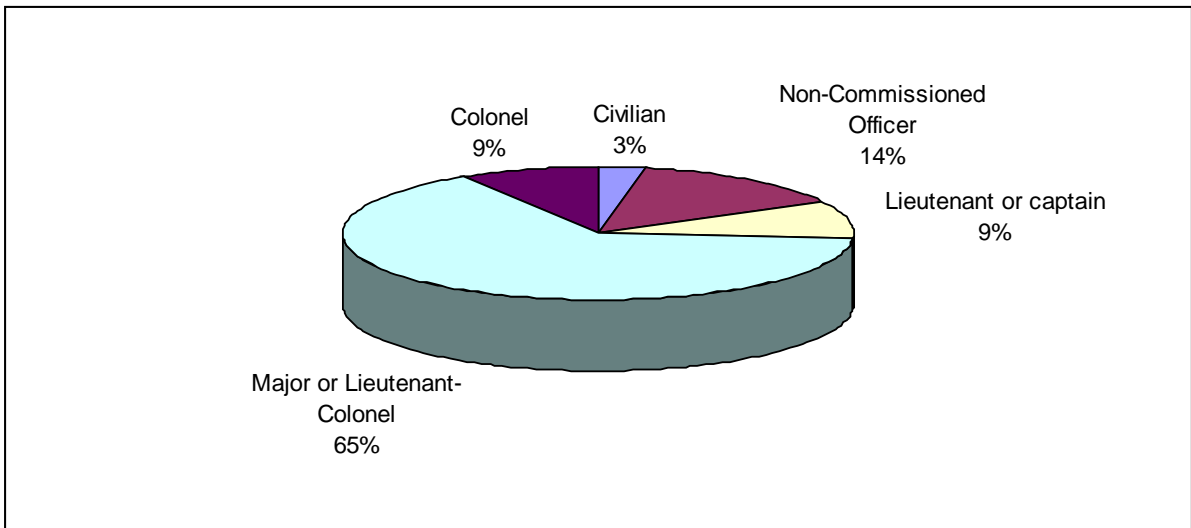

Figure 2. Breakdown by rank of respondents who filled out the questionnaire (N=263).

From figure 2 it appears that the vast majority of the respondents has the rank of lieutenant-colonel or major[a]. These ranks are most frequent in jobs in headquarters and subordinate commands. In that respect are the ranks of the respondents quite representative for the ranks in the entire structure of headquarters and subordinate commands.

Figure 3 presents the breakdown of respondents who filled out the questionnaire by service, like navy, army or air force.
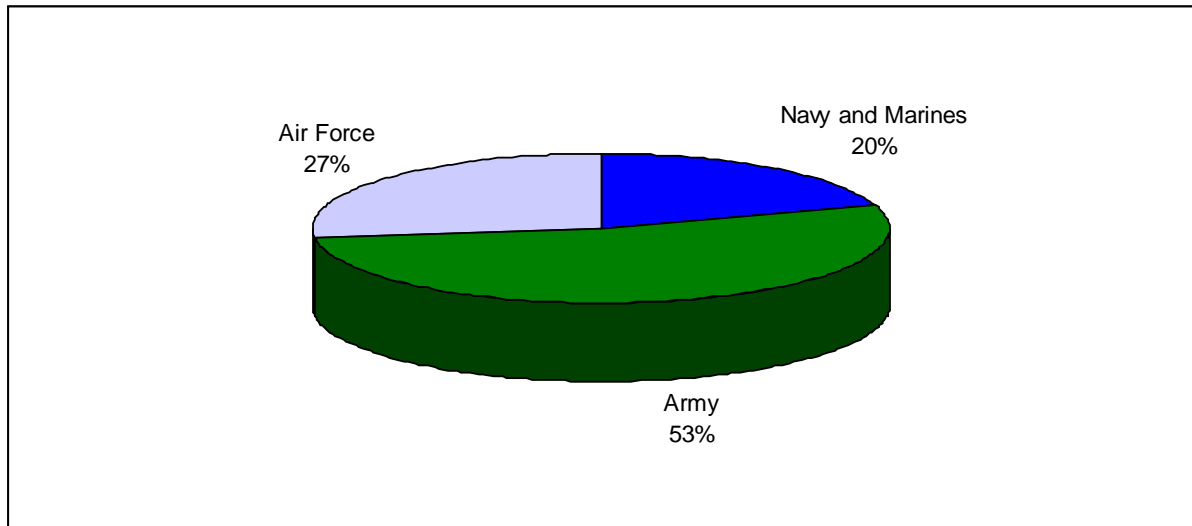

Figure 3. Breakdown by service of respondents who filled out the questionnaire (N=263).

From figure 3 it appears that a small majority serves in the army, which is the largest service in most countries, when measured in numbers of people. More than a quarter of the respondents serve in the air force and only twenty percent of the respondents serve in the navy. In this respect of service, the respondents represent the normal force structure in many nation and NATO bodies quite well.

The following paragraphs present the data from interviews and observation per operation and exercise. The final paragraph with results of the questionnaires covers all NATO exercises and operation in this study, so the comparisons between exercises and operations can be made more easily.

3.1 Results from interviews and observations of NATO operations in Afghanistan

[a] Equivalent to the navy ranks of commander or lieutenant-commander.

From several interviews in Afghanistan in July 2008 it appeared that the Comprehensive Approach presents challenges to traditional command and control to at least some of the military.

Military personnel involved in diplomacy felt sometimes betrayed by local leaders, how did not follow on their promises. In some critical cases, local leaders promised to write letters on delicate questions, which did never did. In retrospect that escape and delay appeared to be a diplomatic way to say no, which was initially not picked up by the military. The saying that a diplomat never says no, otherwise he is not a diplomat, is not widely known in the military.

A more dramatic case of challenges in diplomacy in military operations, which resulted in the loss of two military lives, is shown in box 1.

Box 1. Loss of military lives in challenging diplomacy

An ISAF platoon commander operated in the North of the Balluchi valley in Afghanistan. His platoon worked for more than two months with a local Afghan war lord. They were quite isolated from the NATO headquarters and engaged in activities in defense, diplomacy and development. Their main task was to secure the North of the valley from entering Taliban troops from the North-West. The platoon commander and the Afghan war lord had built a trustful relationship in these months. A day before a military operation in the valley the platoon commander got a request from the local war lord. The brother of this war lord was killed by a chief of another tribe. The war lord lacked the manpower and the gun power to get even with the other tribe, so he asked the platoon commander to kill the chief of the other tribe during the planned military operation. This chief of the other tribe was also on the ISAF 'hit-list'. As a reward for this action the war lord would give the platoon commander names and locations of three other Afghan war lords who are also on the ISAF 'hit-list'. The platoon commander could make a good 'score' for his unit, for his career and for his ego. On the other hand he felt distressed by the pressure of the ethical dilemma in this proposal, so the platoon commander asked the battle group commander for advice. The advice of the battle group commander to the platoon commander was not to follow on the request from the war lord. The regular cooperation between the local war lord and the platoon continued. After the planned military operation for defense the focus of the platoon switched to more diplomatic activities.

A month later the local war lord warned the platoon commander that improvised explosive devices would be placed on the routes of the platoon patrols. He did not want to tell their exact positions. In that same meeting the war lord repeated his request to kill the chief of the other tribe who had murdered his brother. And by doing so, the risk that the improvised explosive devices would really be placed would decrease. Again the platoon commander asked the battle group commander for advise, and mentioned the threat of the improvised explosive devices.

The battle group commander made clear that for the sake of higher diplomatic goals that they could not kill the chief of the other tribe, although he was high on the ISAF 'hit-list'. The planned patrols went on. Four days after the meeting with the war lord, a platoon patrol was hit by an improvised explosive device and two platoon members died.

During the interview with the platoon commander he explained that he is aware that the grand diplomatic strategy has a higher priority than local planned military operational actions in defense. He even quoted General Von Clausewitz and repeated several time that he did the **right** thing, by not killing the chief of the tribe in return for the names and location of three other war lords. But with a two-thousand-yard stare his asked rhetorically: 'Why doesn't it feel good? Why doesn't it feel **good** at all to do the so called **right** thing?'

Berliner Mauer, Painting on the East Side Gallery, Berlin

From other interviews with ISAF military personnel it appeared that those who were involved in development and projects of the provincial reconstruction teams were sometimes harassed by their colleagues of the battle group who patrolled these areas with a lot of kinetic energy. According to one interviewee in a provincial reconstruction team it reminded him of the old days of the Cold War that large scale military maneuvers with heavy vehicles destructed a lot of private properties of local farmers in the areas of exercise. Officers handled the claims of those farmers right after the end of the exercise. In the areas of operations in Afghanistan these types of officers even set standards for the type of damage. A kicked in door was compensated with 50 US dollars and for instance burned down poppy fields with 100 US dollar per acre. Bottom line this is not development, but only repair of damage done earlier by the same forces. These conflicting efforts within the same forces led

sometimes to rather endless discussions of who is in the lead. In some cases, a mutual understanding of the common goals is lacking, as well as the respect of the need for each other's unique efforts.

In February and March 2012, two major military incidents took place in Afghanistan, which jeopardized the efforts in diplomacy and development even further (see box 2).

Box 2. Loss of lives by trespassing cultural borders

In February 2012, Qurans were accidentally burned in the NATO Airbase in Bagram in the province of Afghanistan by United States military personnel. Both the United States commander of the International Stabilization Forces in Afghanistan and the president of the United States apologized to president Karzai of Afghanistan and to the Afghan people. The commander declared the incident as an unintended mistake. He also announced an investigation board, which had to clarify the circumstances, in which this mistake could be made. In spite of the Western apologies in the days after this incident, up to 40 military lives were lost in protests and shootings by Afghan people, including four US service members[6]. A council of Islamic spiritual leaders asked for the punishment of the perpetrators.

In March 2012, a United States sergeant went in the middle of the night into three Afghan houses near his military compound in Panjwai in the Afghan province of Khandahar and shot sixteen people. Eleven of them were children. Again, the United States president called president Karzai to convey his condolences. The NATO secretary general made the following public statement: "I want to express my shock and sadness at the tragic shooting incident in Kandahar province, where it is reported that several people, including women and children, have been killed or wounded. I offer my heartfelt condolences and sympathy to their families and loved ones, and to the Afghan people and government. I fully support General Allen's commitment to establish the facts and hold anyone responsible to account." Still, president Karzai condemned the attack in strong language on Sunday: "This is an assassination, an intentional killing of innocent civilians and cannot be forgiven." A council of the Taliban announced the revenge of the innocent blood of the Islamic martyrs, who were killed so brutally.

From the statements on box 2 it seems that the reactions on both incidents seem to originate from Christian attitudes of asking for forgiveness and offering compassion. In the first case an investigation board was announced also. In that case, the offering of apologizes and compassion preceded the completion of the investigation board. However,

it seems that these action contradict each other. In a clear cut case, apologizes can be offered, but a investigation board is not needed. I a fuzzy case, an investigation can clarify the situation, but then apologizes cannot be given right away as the cause of the incident is unclear. The Eastern reactions in both cases focus on revenge and punishment of the perpetrators.

From observation on the composition of headquarters it appeared that the initial composition was almost military only. As time went by, more civilians were integrated in these headquarters up to the level of half military, half civilians[7]. The lack of sharing of information between the military and civilian actors appeared to be a source of much frustration and was fuelling a lack of trust[8].

3.2 Results from interviews and observations of the NATO operation in Libya

The NATO operation in Libya was typically an air campaign, with no NATO military feet on the ground. Interviews with key actors in the NATO operation in Libya revealed that the comprehensive approach gets many military people out of their comfort zone. The approach as such is common practice for only very few officers. Many of them tend to divert the responsibility for the implementation of this approach to the civil-military cooperation branch. However, in this civil military cooperation branch the main focus is on development, and diplomacy seems to be the proverbial stepchild or orphan. It was observed that convoys with diplomats of the Organization of the Islamic Conference were not known to military planners, who guided the fighter pilots into deliberate or dynamic targeting. Only by a just in time email messages from Turkish diplomats in the NATO headquarters in Brussels these kinetic operations were de-conflicted with these diplomatic efforts in the area of operations. These email messages came in on the open internet on a computer which was borrowed from the civil-military coopetayon branch, as the planners initially worked on NATO classified computers only. During naval gunfire support actions in the harbor areas of Misratha, civil ship movements disturbed the operational targeting area. The strategic leadership stressed the importance of timely taking out hostile ships, even in cases were the identification on friend or foe was not fully executed. This uncertainty clearly presented certain stressors to the chain of command. Underestimation of the presence of hostile forces lead to the loss of a Dutch navy helicopter in the Sirte harbor area in the weeks before the start of the NATO operation. The ship, which launched this helicopter, had requested for this information to the military intelligence service in The Hague, but that request was not received and responded to in a timely manner. As the window of opportunity was fading, the ships had to evaluate the risk of the operation by her own means of intelligence, which

resulted in a mixed picture of risks and opportunities to evacuate two clearly identified expats, which had to be evacuated. Based upon this mixed picture, the pilot flying had even aborted the flight in for the evacuation of these two expats in Libya. However, she was ordered to commence the evacuation. Upon the landing, it became immediately clear that pro Khadafy forces were present and used force to capture the helicopter crew. After intense diplomatic efforts in the following weeks, the three crewmembers were relieved, but their helicopter was lost. It can be concluded that in this case the diplomatic efforts saved military lives.

3.3 Results from the exercise of the NATO Response Force 2011

The commanding officer of the NATO response force 2011 stated in an interview with staff members of the Command and Control Centre of Excellence that a lack of gender awareness leads to a loss of effectiveness in the implementation of the comprehensive approach. 'There is too much male influence in the military environment. We need more females in NATO to get different views'[9]. As a vast majority of the military in all NATO nations is male, with a dominant male culture of competition and destruction, cooperation with less masculine organizations which provide care in not that easy. The first hurdle to take for male military is the cooperation with civilians. A lot of the military can take this hurdle by adopting an attitude of respect for civilians. Simply remembering that all military were born as civilians is a first and simple step. Saying farewell to the endless woods of military abbreviations in military speech and presentations is a second simple step to connect to civilians effectively. Being respectful to women, who are always a small minority in the military but are well represented in civilian organizations, might be a third step and hopefully not a bridge too far for military men.

From the questionnaires on network enabled capabilities, which were filled out by only 15 subjects in this exercise it appears that interoperability between networks is not optimal. Neither was training optimal, which resulted in stressors, due to malfunctioning of technical networks, knowledge networks and social networks. In the preparation of the May 2012 NATO summit in Chicago, USA, the connected forces initiative will undoubtedly generate action items to improve this interoperability.

3.3 Results from the exercise of the NATO Response Force 2012

From observations at the exercise site in Pabrade, Lithuania, close to the Russian border, the capability package of material and facilities seemed to be sufficient for the exercise circumstances. Systems worked well and there were no power outages observed during ten days of exercise. However, in real life circumstances the shelter of tents only could not be sufficient as armed opponents easily use rocket propelled grenades or other rocket systems to shell the command post facilities. In addition to that, major changes in the hardware set-up of computers, faxes, printers and scanners needed to be made when the leadership observed that a lot

of so-called injects of non-military actors, incidents created in the training scenario, came in on open e-mails, open phone-lines or by simple hardcopy letters.

The leadership as such appeared to be a critical factor. Many officers on the strategic level handed over their command frequently, without redundant communications about these handover takeover moments. This resulted in some stressors of uncertainty at the strategic apex, which dripped down in the entire command post. However, implementation of the comprehensive approach urges senior leaders to deal with senior civilians, so the immediate and continuous presence of leaders seems to be changing to a more intermediate presence of leaders.

On some occasions a certain amount of disrespect for subordinates and civilians and rather sick jokes worsened the work climate. The so-called bubble of obedient and silent staff members around some of the commanding officers seemed to filter or delay critical feedback to them. Sometimes, strains of alienation were observed.

In the training scenario, pro-active and constructive engagements with non military actors by the strategic leadership were expected, but did not happen. Invitations for such engagements with key leaders like the prime minister and the minister of the interior of the host nation or the chief of defence of the host nation were not answered or followed up. This reinforced the aforementioned strain of alienation among some staff members and a lot of non-military actors.

Last but not least the need for engagement with mass media in press conference was not fully met by the senior leadership. When the press kept pressing, this resulted in strains for the commanding officers by very tensed and condensed press conferences in a rather late stadium of the exercise.

From the questionnaires, which were filled out by 29 subjects in this exercise it appears that interoperability between technical networks is good, including the frequent and effective use of tele video conferences. Audio conferences were sometimes less effective, due to a lack of language skills of some non-native speakers. Life meetings and a major conference, which was organized by non-military organizations in the military headquarters, were well attended, but not attended by the strategic military leadership.

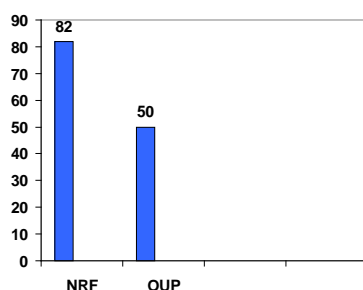### 3.4 Results from the questionnaires

The items for the assessment of the implementation of the comprehensive approach were derived from a large questionnaire on network enabled capabilities[10]. The target audience for the questionnaires consisted of military staff in various headquarters. Table 2 presents the response rates per exercise or operation.

Table 2. Response rate per exercise and operation and in total

Sent out	Filled out and Returned in	Response Rate
NATO Response Force 2010 (298)	210	70%
NATO Response Force 2011 45	15	33 %
NATO Response Force 2012 (78)	29	37%
Operation Unified Protector (24)	9	38%
Overall (445)	263	59%

From table 2 it appears that the overall response rate was 59 %, which means that the results of these questionnaires have to be interpreted with some caution. In the operation Unified Protector the questionnaires were only sent out to the joint combined headquarters for this operation, not to the superior headquarters or subordinate commands. As a consequence, the results only apply to this headquarter, with a special caution for the low absolute numbers.

The first item on the critical conditions for the comprehensive approach focuses on the leadership of the headquarters. The items reads: "This Headquarters leadership stimulates communication and interaction with all relevant partners'. Figure 3 presents the percentages of respondents at the NATO Response Force (NRF) exercises and the NATO Operation Unified Protector in Libya (OUP) who somewhat agree or agree on this statement.

- This HQ's leadership stimulates communication and interaction with all relevant partners

- Percentage of Respondents who (somewhat) agree

Figure 3. Percentages of respondents at the NATO Response Force (NRF) exercises and the NATO Operation Unified Protector in Libya (OUP), who agree on the statement: This Headquarters leadership stimulates communication and interaction with all relevant partners'.

From the scores in figure 3 it appears that 82 percent of the respondents in the NATO Response Force agree on the statement that their leadership stimulates communication and interaction with all relevant partners. Fifty percent of the respondents in the NATO operation Unified Protector agree on this statement. The percentages as such indicate that a majority of respondents agree in this statement, which indicates that the leadership stimulates the comprehensive approach, i.e. the integration of military efforts with relevant partners in diplomacy and development, can be integrated by communications and interactions. However, the difference between the respondents in the exercise and the operation is statistically significant, which indicates that the conditions for implementation of the comprehensive approach are better met in the NATO exercises of the Response Force than in NATO operation Unified Protector.

The second item on the critical conditions for the comprehensive approach refers to the capability of military personnel in the headquarters to work in complex and culturally diverse environments. The interactions and communications with relevant partners, as mentioned in the first item, will only be successful when military personnel overcomes the cultural differences between the military and diplomats or organizations for development. The item reads: "This HQ's personnel is capable of working in a complex and diverse cultural environment". Figure 4 presents the percentages of respondents at the NATO Response Force (NRF) exercises and the NATO Operation Unified Protector in Libya (OUP) who somewhat agree or agree on this statement.
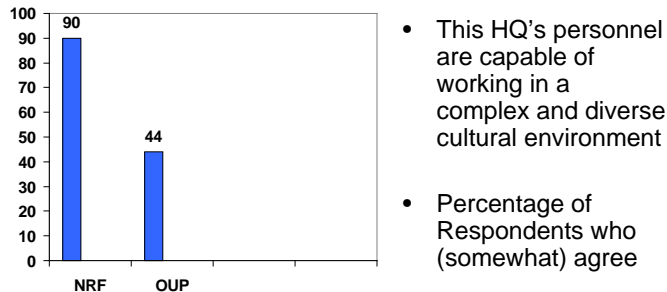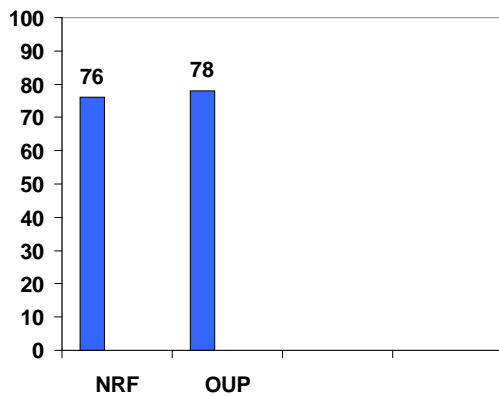
Figure 4. Percentages of respondents at the NATO Response Force (NRF) exercises and the NATO Operation Unified Protector in Libya (OUP), who agree on the statement: "This HQ's personnel is capable of working in a complex and diverse cultural environment"..

From the scores in figure 4 it appears that 90 percent of the respondents in the NATO Response Force agree on the statement that the military personnel is capable of working in a diverse cultural environment. Forty-four percent of the respondents in the NATO operation Unified Protector agree on this statement. The percentages as such indicate that almost all respondents of the NATO Response Force agree on this statement However, less than half of the respondents in the NATO operation agree on this statement. Again, the difference between the respondents in the exercise and the operation is statistically significant, which indicates that the conditions for implementation of the comprehensive approach are better met in the NATO exercises of the Response Force than in NATO operation Unified Protector.

The third and last item on the critical conditions for the comprehensive approach refers to the trust that military people put in the information coming from external and partner organizations. This item indicates also an important condition for the successful implementation of the comprehensive approach. The item reads: I trust the information coming from external and partner organizations. Figure 5 presents the scores of respondents in the NATO response forces and of the NATO operation Unified Protector.

- I trust the information coming from external and partner organizations

- Percentage of Respondents who (somewhat) agree

Figure 5. Percentages of respondents at the NATO Response Force (NRF) exercises and the NATO Operation Unified Protector in Libya (OUP), who agree on the statement:. I trust the information coming from external and partner organizations.

From the scores in figure 5 it appears that 76 percent of the respondents in the NATO Response Force agree on the statement that the military personnel is capable of working in a diverse cultural environment. Seventy-eight percent of the respondents in the NATO operation Unified Protector agree on this statement. The percentages as such indicate that more than three quarters of the respondents of the NATO Response Force and the NATO operation agree on this statement. The difference between the respondents in the exercise and the operation is not statistically significant, which indicates that these conditions for implementation of the comprehensive approach are both met in the exercises of the NATO Response Force and in NATO operation Unified Protector.

4. Discussion
This study has several limitations and strengths, which have an impact on the reliability and the validity of the results.
The fact that the interviews, observations and questionnaire only capture the views of the military is a limitation of this study. Only with interviews,

observations and questionnaires with civilian actors and respondents a complete answer on the research question can be found. The small number of respondents, especially form the NATO operation Unified Protector, is another limitation, as well as the fact that no questionnaires were sent to superior headquarters or subordinate commands in this operation, nor to the military and civilian actors in the NATO operation in Afghanistan. All those limitations have affected the reliability of the results.

The validity of this study is limited by the fact that only preconditions and processes of the implementation of the Comprehensive Approach are examined. The real outcomes of the Comprehensive Approach were not observed, like completed developmental projects or signed diplomatic letters of intent or memoranda of understanding. Only the latter ones can serve as clear proofs that the Comprehensive Approach is implemented and from that status, the critical changes in military command and control can be examined.

This study has some strengths as well. The construction and testing in this study of a scale to measure the preconditions and processes of the Comprehensive Approach is a first and critical step. The reliability of this scale is acceptable, almost good and the first results are encouraging. The scale also connects earlier measurements of command and control to the important domain of the comprehensive approach.

Another strength of this study is the real life character of the NATO operations, which are so significant for decades on the geopolitical level. It is noted to be rather rare that during ongoing real life operations, key actors can be interviewed and observed in their action stations, but it was very much appreciated. Some even thanked the teams of interviewers and observers for taking the trouble to visit them and explore their work in such critical circumstances. The exercises had a high level of face validity, as they were grading exercises or real life operations.

Last but not least the importance of the comprehensive approach should be discussed. Especially the question if the comprehensive approach is a lasting change in NATO needs consideration. As this approach was on the agenda of several recent NATO summits, the answer to this question is a definite yes.

5. Conclusions and recommendations

From the observations, interviews and questionnaires in NATO operations and exercises it can be concluded that the implementation of the comprehensive approach presents a variety of consequences to traditional command and control.

First of all, the traditional definition of command and control does not cover the interactions with non-military actors, as it only covers assigned forces. Therefore it is recommended to widen this definition to include the activities of contact with and consultation of non-military actors. This recommendation also urges to include their views and opinions in further research.

Secondly, the rather closed culture of the military should be opened to gain more respects and bear more fruit from military interactions with non-military actors. The development of diplomatic skills to respectfully and effectively interact with civilian actors is a critical part of the opening of this rather closed culture. Social media can be a powerful tool to expose the military to the outer world and to connect the outer world to the military.

Even in full civil environments, the military tends to concentrate and operate in military camps and tents. It is recommended to mingle with civilian actors, on base and off base. Gender issues and the majority of men with a minority of women, deserve permanent attention as well.

Thirdly, the military should acquire more knowledge of major non-military organizations, which are active in the area of operations. Engagements of strategic leadership in key leader meetings appear to be essential, as well as the use of social media, which easily initiate and foster social networks.

Fourthly, the implementation of the comprehensive approach in very kinetic operations, like Unified Protector in Libya, needs further analysis. There is little doubt that an air campaign only can hardly be decisive in an armed conflict. However, in the Libya operation the concerted actions of NATO air assets, maritime assets and local forces on the ground was successful. There is little doubt that social media have reinforced the impact of these local forces, especially when they were multiplied by traditional mass media like mass media in newspapers and on television.

Finally, it is recommended to enlarge the body of knowledge on the success factors for the implementation of the NATO comprehensive approach. Therefore it is necessary to continue to monitor and provide feedback on implementation of the comprehensive approach in major NATO exercises and operations. Upcoming assessments of information management in the comprehensive approach in Afghanistan provide an excellent opportunity for this, as well as the assessment of command and control in the comprehensive approach in the NATO counter piracy operation Ocean Shield in the Somalia waters.

Disclaimer

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[5] The author expresses his gratitude to his team members, who cooperated in conducting the interviews in Afghanistan, colonel Eric Vermetten MD (NLD) and lieutenant-commander Rodney De Vries of the Netherlands Armed Forces. The observations and interviews in the other NATO operations and exercises were collected in close cooperation with lieutenant-colonel Grady Walsteijn, Netherlands Air Force and captain Jaroslav Didik of the Slovak Republic Air Force.

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[10] The initial questionnaire on network enabled capabilities had 9 scales with a total of 92 items on Doctrine, Organization, Training, Materiel, Leadership, Personnel, Facilities, Interoperability and Liaison Officers. These scales have acceptable or good scale reliabilities, except for the scales of Training, which appeared to consist of subscales of individual training and group-training. The scale constructed for the critical conditions for the Comprehensive Approach has a scale reliability of .78 (7 items, n=205).