Finabel

THE FUTURE OPERATIONAL ENVIRONMENT, ITS IMPACT ON THE DIFFERENT COMPONENTS, THE ROLE OF LAND FORCES AND THE PRIORITIES TO BE GIVEN AS FAR AS FORCE ENGAGEMENT IS CONCERNED

FINABEL

Promoting harmonisation of land doctrines

FOREWORD OF GENERAL (BE) Guy BUCHSENSCHMIDT, CHAIRMAN OF THE FINABEL PRINCIPAL MILITARY EXPERTS' COMMITTEE

Created in 1953, the Finabel committee is the oldest military organisation for cooperation between European Land Forces; it was conceived as a forum for reflection, exchange, studies development and proposals on common interest topics for the future of its members.

Finabel, as the only regional organisation at this level, strives at:

• promoting interoperability and cooperation of land components while seeking to bring together concepts, doctrines and procedures;

• contributing to a common European understanding of land defence issues. It focuses on doctrine, training and the joint environment.

Finabel aims to be a multinational, independent, apolitical and informal forum at European Land Forces level, based on consensus and equality of member states.

By offering the opportunity to the member states' officers and Land Forces Commanders to meet, Finabel favours fruitful contacts in a spirit of opening and mutual understanding.
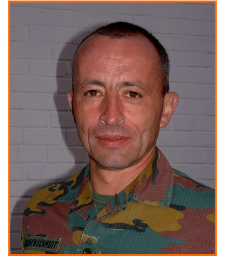
It contributes to reinforcing interoperability of Finabel member land forces in the framework of the North Atlantic Treaty Organisation (NATO), the European Union (EU), and ad hoc coalitions; Finabel neither competes with nor duplicates NATO or the EU military structures but contributes to these organisations in its unique way.

Initially focused on cooperation in armament's programmes, Finabel quickly shifted to the harmonisation of land doctrines, starting from the statement that should be first obtained a common vision of force engagement on the terrain before hoping to reach a shared capability approach and the realisation of joint equipments.

Finabel studies are recommendations freely applied by its members. However, these studies are the result of an intensive and in-depth work carried out by many officers from various EU member states, who have applied on them their expertise, operational experience and enthusiasm.

I sincerely wish that Finabel studies will be concretely useful and find the place they deserve in our Land Forces, in order to facilitate interoperability and improve our daily tasks of preparation, training, exercises and engagement in external operations.

Guy BUCHSENSCHMIDT

Working Group TANGO

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1. <u>**References**</u> : Minutes of the PME Meeting II/2008 Minutes of the PME Meeting I/2009	2. <u>**Other references**</u> : Focused Question Tango 1 Focused Question Tango 2 Study T .36.R Study C.33.R
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11. <u>**Abstract:**</u>
The study describes the most probable factors, threats and risks that will characterize the Future Operational Environment. The FOE will have consequences for the Land Forces' missions, capabilities and structures, with an increasing need of adaptability at all levels.
This study also lists the priorities to be given in the following lines of development:
- Doctrine & Concepts
- Organization and Capabilities
- Training
- Materiel
- Leadership
- Personnel
- Facilities
- Interoperability

Some conclusions are summarized below:
- Operations will be joint, multinational and inter-agency at lower levels;
- Adversaries will avoid direct approach, using all political, military, psychological and informational levers that they can employ. They will seek to disperse amongst an increasingly complex battle space;
- The most important issue in the operational environment is the population. Operations will take place among the people;
- Although technology will be important in the FOE, the human dimension will still prevail and must drive the capability development of Land forces of Finabel countries in the future.

1. **FOREWORD**

The traditional view of the spectrum of conflict is gradually being eroded as it presents the development of conflict as a linear process stretching from General War to Peacetime. Study of the evolving character of conflict suggests that this is no longer the case, and that different types of activity will be present on the battlefield at the same time. It is recognised that these discrete operational themes overlap and merge. Nowadays we see an increased blurring of the distinctions between adversaries and the way that they use force to achieve (political) goals. Future conflict will blend the lethality traditionally associated with state-on-state conflict and the fundamental and protracted fervour of irregular warfare. To that end, the spectrum of conflict is no longer thought of as compartmentalised or linear, rather it will be a mosaic of overlapping and interlocking activity.

Experience shows that the incidence of inter-state conflict, particularly on the European continental land mass is decreasing; however it is likely to remain a feature of inter-state relations into the future. There is a realistic possibility for direct and indirect threats (for example consequences of regional instability) from regions outside the European Union. New threats might influence the health and security of the population such as the human impact on the biosphere with its consequences on global warming and the increased risk of pandemics. The proliferation of weapons of mass effect and cyber attacks against communications and information networks pose other threats for the prosperity and security of our societies. The increasing demand for resources of all kinds, particularly water, food and energy, can generate tensions between communities that are in competition to secure their future access to them.

1.1   Aim and Justification

 The likely future operational environment described in this study will form the basis for future studies by WG TANGO as well as other WG, and it will define a list of priorities that Land Forces will find useful and will examine future operations in 2020.

In order to optimise operational effectiveness in the Land Forces of Finabel countries, it is important to have a commonly agreed and well defined future operational environment. This will form a common base-line of understanding and will allow military planners from Finabel countries to focus on those essential capabilities needed in this future environment.

1.2   Limitations

This study is carried out from a Land Forces' perspective.

2. CHARACTERISTICS OF THE FUTURE OPERATIONAL ENVIRONMENT

Futture operational environment (FOE) will be characterised by uncertainty. Military engagement in crises and intra-state conflicts will be more usual, while engagement in a major inter-state conflict still remains a possibility[1].

Armed Forces are not the only element that contribute to a safe and secure environment. This fact is leading the Armed Forces of Finabel countries to train not only for major combat but for different types of activity present on the battlefield at the same time and with other military and non-military actors (IO's, GO's and NGO's) to really operate in a comprehensive way.

2.1 Factors

a. Complex/uncertain/unpredictable

These are the principle characteristics of the FOE.

The ability of non-state actors to use high levels of violence is already having a major impact on the characteristics of conflict, making it uncertain and unpredictable.

The current difficulty of conventional military forces to face and to fight against actors that do not apply conventional military rules and tactics is likely to consist. Are they either insurgents, terrorists or organised criminals it is nearly impossible to distinguish them from the local civilian population that they use very often as human protection shield.

Increased presence of IO's and NGO's in the battle space, the growth of services outsourcing and the appearance of private security companies, are indicators of an increasing complexity of the operational environment.

Threat occurrences are no more limited to specific areas, and certain threats such as terrorism will become more trans-national in character. Terrorist attacks on states that send troops to contested regions are likely to increase. This requires much closer coordination of internal and external security. Urbanisation, internet, international crime and illicit trade, ungoverned spaces or failed states and chemical, biological, radiological and nuclear (CBRN) proliferation will also hamper the creation and maintenance of a clear situational awareness.

The pace, scope, discovery and proliferation of information technology shows no sign of slowing and will impact on every domain and aspect of society. Smart materials, agile manufacturing and nanotechnology will change the way we produce devices while expanding their capabilities. Continuous organisational change will be required to leverage the opportunities this presents.

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[1] T.36.R

Information revolution (IR) is enabling new business models that are transforming the business and financial worlds. These are affecting the mechanism of governance and empowering new political actors and are being shaped by social and cultural values. The IR is changing the characteristics of conflicts. It favours and strengthens network centric organisations giving them an advantage, increasing the power of non state actors and our dependency on communications systems.

Artificial intelligence (AI) will be further developed and will simulate cognitive processes. It is likely to be employed in the management of knowledge and to support decision making, with applications across government and commercial sectors. Criminals, terrorists or other opponents will try to find AI vulnerabilities to influence the aforementioned processes.

The internet provides opponents a command and control system, intelligence gathering and learning tools, Information Operations (INFO OPS) capability and financial supply. Security may also be compromised. Actions conducted within cyberspace can cause catastrophic damage.

Military leaders of the future will have to deal with a complexity that we are currently only just beginning to fully comprehend. Many of the standard military attributes of our future leaders will remain unchanged, but in addition they will have to learn to deal with the complexity and confusion of the future battlefield. This additional complexity will arise from: joint, interagency and multi-national aspects, the omni-presence of the mass media and the multi-dimensional aspects (multi-national, multi-agency, multi-domain, multi-response) of future warfare. It has to be taken into account that soldiers cannot cover the overall range of tasks and so more specialists even at lower tactical levels will be needed.

At the highest level of leadership the challenge will be to avoid micromanagement.

b. *Access to vital resources*

Competition for increasingly scarce resources is likely to continue, and global demand for energy resources in particular, may increase significantly. Food and water too may be plentiful in the developed world, but starvation and water scarcity may remain a significant problem for sections of the developing world, the situation being exacerbated in the medium-term by climate change.

c. *Population centre of gravity*

Population will be the centre of gravity. The decisive battle will be for the 'hearts and minds' of the affected population. Environmental understanding[2] of the specific Area of Operations (AO) will

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[2] It is imperative for leaders to be aware of all factors affecting the operations. One of the most important is culture. Misunderstanding culture can exacerbate an insurgency, lead to negative public opinion and endanger both civilians and troops.

still be and may become even more important. An insufficient understanding and/or behaviour of troops in a mission can have devastating effects on the mission itself.

d. *Urbanization*

Urbanization will be one of the most important factors in the FOE. The last twenty years have seen mass migration of population to urban areas worldwide, in particular in the poorest countries, and most of these increases have been in the littoral areas. The economic opportunities offered by the urban environment and the access to social services will increase the number of mega-cities with populations of more than 10 million. However, uncontrolled population growth can produce an increase in criminality and instability, particularly if the urban system is not configured nor developed to receive such a population inflow. Failure to deliver basic social services to migrants will lead to disenchantment and criminality, and unrestricted urban growth will generate safe havens for criminals and their activities. Poor living conditions and poverty can create discontent within immigrant groups and tension with the indigenous population. Ghettos without any public order can grow up with a population that is separated from the rest of the society. The concept of failing states can be applied to failing cities too. Failing cities – particularly some of the larger ones – can become a hot-bed of criminality that can affect the stability of a state or a region.

Another consequence of urbanization is the risk of leaving rural areas, creating the conditions for criminal and terrorist groups to control them.

Population growth and its concentration in urban areas can also generate health problems. Together with the lack of a functioning public health service, infectious diseases, pollution and natural disasters could create new epidemics.

Urbanization will increase the likelihood of urban operations and will impact land force involvement in full spectrum operational tasks. Operations in an urbanised environment will likely demand a certain mass of security forces and any intervention forces are likely to have to be supplemented by additional security capability from within the host nation.

e. *Demographic evolution.*

Several demographic trends may place significant burdens on international stability in the forthcoming decades.

The density will change in number and age from one area to another and will be more significant in developing countries where youth population will be greater and life expectancy will be reduced, while in developed nations the situation will be reversed. The scenario will be First World ageing population versus Third World youthful population

Under-developed countries will continue to have large families creating a bulge of uneducated youth with few employment opportunities. The risk is that these states will not be able to absorb manpower in their economies, creating instability and a recruiting terrain for terrorist and criminal groups that could make use of young fighters and be concealed within the population.

f. Migration of population

In developed countries the decrease of fertility and the increasing of life expectancy will create an impact on migratory worker phenomenon's because of decreasing manpower. This will consequently have political, social and cultural challenges because of tension between native born and immigrant workers. Military recruiting policy may have to change in order to maintain an adequate number of military units that meet the national level of ambition.

Moreover, uncontrolled and unregulated immigration is one of the main causes of illegal activities such as clandestine human trafficking and weapons smuggling or other illicit activities.

Demographic differences (e.g. life-span and population growth) between the developing and developed may lead to significant migratory pressures from one to the other, thus increasing ethnic tensions and putting stress on employment and welfare systems.

2.2 Threats and risks

a. Regular threats

The occurrence of conflict between states will remain a possibility and will still be a part of the FOE. States can use conventional and unconventional methods to impose their will and achieve their goals.

b. Irregular threats

Dealing with irregular threats has been a challenge throughout history but today the impact of the actions is aggravated by the capability of instant global viewing.

In many future conflicts, success will heavily depend on the support of the population and thus conflicts will become more population-centric. This means that as well as more traditional forms of warfare, a mix of irregular threats and activities will be present and will have to be countered by the international community, supported by its armed forces.

Threats caused by armed non state actors will increase. They will become particularly dangerous when they are hosted or operate in conjunction with states; in such cases the state itself becomes a

functioning criminal enterprise while continuing to enjoy the international benefits of statehood. The traditional instruments of power are less effective against non state actors.

These opponents are not bound by International Law and Geneva Conventions and they will use all possible methods, also unconventional and inhumane, to achieve their goals.

c. *Hybrid threats*

The forces of Finabel countries are characterised amongst other attributes, by a continued technological superiority and the respect of international law during all their activities. Potential future adversaries will seek to compensate their disadvantage as far as possible by conducting warfare using a blend of conventional, unconventional and irregular methods. These methods will be presented in an unknown mix. The multi-threat characteristics of future conflict will be evident in a variety of societal domains including the physical, cognitive (psychological), informational, political, financial, economic and virtual ones.

d. *Failed states together with regional instability*

Civil wars can be a cause as well as a consequence of failed states. The implications on Armed Forces will be an increased effort on stabilization and increased focus on preventive action. We might orient toward specific areas in the world (like Africa that fails presently to benefit from globalization) knowing we still might be involved anywhere in the world.

e. *Proliferation of weapons (including high tech)*

Weapons of mass effect (lethal and non lethal) will also be developed and employed and will include methods to reproduce environmental disaster, economic and financial crises, electromagnetic pulse or catastrophic computer viruses causing widespread damage to the military forces and domestic economies. The challenge is to define the role of the military forces in support of the local authorities.

f. *Climate change/natural disasters*

Climate change is a constant natural phenomenon with significant variations occurring over geological time. Without taking into account the causes, there is evidence that global temperatures are rising and it could physically affect the whole globe. As part of the effect of global warming, the sea levels are expected to rise, flooding coastal areas. Currently, many cities are at or below sea

level and close to the coast, putting increasing numbers at risk of flooding, disruption of industry, agriculture and commerce.

Temperature and precipitation changes will affect the amount of land that is suitable for growing crops. Suitable areas will increase in higher latitudes but decreasing availability of clean fresh water is expected and will cause desertification and semi-arid areas.

g. *Cyber warfare*

The pace of technological change is accelerating exponentially. Those advances will be used by opponents to attack, degrade, disrupt communications, the flow of information and also to influence perceptions of population and adversaries. Total dependence on cyberspace creates significant vulnerabilities.

h. *Proliferation of CBRN weapons*

A number of countries are likely to continue their nuclear, chemical and biological programmes. Countries without nuclear technologies may decide to seek such weapons if their neighbouring and regional rivals are doing so. Accessibility to chemical and biological agents, and eventually to nuclear material will pose a substantial threat, particularly from terrorist groups.

i. *Uncontrolled use of space*

Space is a fundamentally different environment with no boundaries and with an almost absolute freedom of movement. Space can be used by potential adversaries in addition to or as substitute for other resources such as situational awareness, intelligence, communication and command and control.

j. *Pandemics*

Globalization is increasing the risk of occurrence of pandemic diseases.

2.3 Characteristics of Future Conflict

Security challenges will characterise future conflict in the following ways:

- Prevalence of asymmetric / non-traditional and hybrid conflicts as opposed to what was previously termed symmetric or traditional conflict;

- Persistence of conflicts, requiring long term intervention to produce long term effects;

- Congestion of parts of the battle space, ranging from congested entry points to the fact that many engagements will take place in littoral or urban areas with the presence of a large number of actors (multinational, joint and governmental, non-governmental, international, population, etc) in the area of operations;

- Difficulty to identify targets. Given the large range of actors present in a congested battle space it will be very difficult to discriminate between benign and malign actors;

- Vulnerability of forces, in particular lines of communication, military infrastructure and aerial port of debarkation/ seaport of debarkations (APOS/SPOD);

- Increasing restrictions imposed by national and international laws and public support.

In summary, whilst the characteristics of conflict will be changing significantly, some themes are enduring. War will continue to be a mix of violence, emotion, political will, risk and luck that give rise to the fundamental uncertainty of warfare and will require units and soldiers able to adapt to the rapid changes of the situation.

3. CONSEQUENCES FOR LAND FORCES

3.1 Adaptability

Adaptability is a key consequence for future operations and is reflected in the operational and organisational aspects.

The ability to adapt operationally is fundamental in developing an understanding of complex situations and in order to seize, maintain and to exploit the initiative.

This requires that every Commander holds a perfect mastery of the principles of warfare so as to be able to employ the units in the pursuit of operational, strategic and political objectives.

Commanders will also need to be able to employ joint, land, interagency and multinational capabilities in favour of operations, in order to protect and to reassure the local population and simultaneously to define, isolate and defeat adversaries in dynamic and uncertain conditions.

The capability to adapt organisationally implies the development of an approach that brings:

- The ability to generate forces in a cyclical fashion and to regenerate them according to current trends and future military changes.

- The flexibility to develop new weapon systems, train units and prepare commanders in such a way that they are able to be employed in diverse theatres of operation, in different roles and for multiple mission types.

3.2 Missions

Land forces in the future will have to change their mission sets mainly due to the complexity and persistency of stability operations, including support to restoration of essential services, governance and order. These stability operations will also be conducted in the wake of conventional operations. This will be an enduring feature of the future operating environment and will lead to armed forces with a broad range of capabilities.

Other factors to force changes will be:

- The wide ranging employment and simultaneous tasks for Land Forces;

- Expeditionary commitments (causing robust and expensive logistics);

- Complexity for the commanders and soldiers;

- Humanitarian and disaster relief;

- Support to civilian authorities including homeland defence.

3.3　Force structures

Given the previously described operating environment and the requirement to operate throughout the entire operational spectrum, Land Forces structures must be versatile and modular, capable of combining a mix of capabilities that have the flexibility to accomplish assigned tasks and be prepared for any contingency.

These multifunctional units must be able to conduct complex, network enabled operations autonomously in a Joint, Inter-agency, Multinational (JIM) environment. They will have to harmonize different operational functions reducing the need for specialized augmentation through training. The wide range of tasks and missions will require a balance of capabilities appropriate to the potential risks, and consequent kinetic and non kinetic effects.

The need to establish and maintain command and control over a large battle space will necessitate numerous small formations (Company/Platoon level).

A balance amongst different types of forces will be needed to operate in the future environment. Light and environmentally specialised forces (airborne, mountain, amphibious, airmobile, etc.) are characterised by quick response, tactical mobility, fast strategic deployability and operational versatility. Medium forces have the best balance of capabilities allowing them to operate across a wide range of missions.

Given that major combat operations are likely to occur, both in a state on state or asymmetric conflict, Land Forces need to maintain a capability that guarantees strong offensive fighting power and mass manoeuvre (heavy forces). These three wide groups of capabilities have to be enabled by specialised combat support, combat service support and special forces assets (see Focused Question Tango 1).

3.4　Capabilities

Land Forces must routinely be prepared to operate within urban areas, developing special techniques, training and equipment for the three dimensions (underground, ground level, above ground level).

Operations in an urbanised environment will likely demand a certain mass of security forces. Any intervention forces are likely to have to be supplemented by additional security capability from the host nation. Due to the fact that most of the missions will take place in urbanised areas, existing equipment and Tactic, Technics and Procedures (TTP) will have to be adapted and/or investments in new equipment will be needed. Collateral damage during (urban) operations should be avoided. Combat power and firepower have to be scalable, precise and able to reach longer distances.

Due to the increasing urbanization of the coastline, littoral and amphibious capabilities are required to conduct entry operations from the sea. The consequences of this for the land forces will be a requirement for greater integration and coordination with maritime assets especially for Command and Control (C2), sharing situational awareness and intelligence, joint fire control and sustainment from sea basing.

As operations will be focused on the population (centre of gravity), units will be in close contact with local populace, and INFO OPS and other influence capabilities will have to be introduced at lower tactical levels. Language skills, niche capabilities like cultural, historical, economic, political advisors will be a necessity.

Media coverage is already playing a major role in operations, therefore public affaires capabilities will also have to be present at lower tactical levels.

Due to the increasing proliferation of weapons, irregular and hybrid threats, and FOE complexity, Land Forces will have to invest in force protection (personnel and equipment). Failure in this area will lead to loss of public support in Finabel countries.

In addition, future armies have to invest in the intelligence area. Intelligence and knowledge will be crucial for success. Efforts have to be made to gather and exploit information in both the military and the political, economic, social, cultural, historical, religious and information aspects of FOE.

To support knowledge gathering, planning and execution of military activities a robust C4I system (protected for all threats including cyber threat) is essential.

Decentralised operations will also lead to a much greater requirement for initiative at all levels. This initiative will however, still be based on a thorough understanding of the Commanders intent and the desired end state to be achieved. Within the context of the Comprehensive Approach a Network Enabled Capability (NEC) will increase interoperability and collaboration between the armed forces, various components and government organisations both nationally and internationally. (Other consequences on capability development are mentioned in Focused Question Tango 1).

3.5 Partnering

a. *Jointness*

Jointness is a key factor and is growing in importance at the lower tactical levels. This means first, an in-depth education of low tactical level (Plt/Coy) commanders on the capabilities of Air, Navy and Special Forces power and on the effects that can be achieved. Secondly keep or improve the exchange of information through liaison elements at Battalion/ Battle Group level (or lower if

achievable) able to deal with Joint Fires Support and also at the other Components' combat units with a land manoeuvre specialist team in preparation of upcoming support to a particular Land Operation. Thirdly, work together on the realisation of a real Joint Intelligence Surveillance and Reconnaissance (included satellites as sensors) capability and have an efficient and secured exchange of information system, in order to create a much better situational awareness for personnel belonging to all Components based on a true Joint Common Operational Picture.

b. *Multinationality*[3]

Operations will be more and more multinational at increasingly lower tactical levels. This means, for instance, that junior leaders must be able to work in a multinational environment and for that, they need to increase their language skills (English), cultural awareness[4] and feel confident to work under multinational leadership. Headquarters at low tactical level (starting Brigade) will be asked to think in effects and comprehensively. Therefore (as in the EUBG concept) multinational experts like LEGAD, POLAD, INFO OPS, CIMIC, PSYOPS, PAO, SSR, etc, will be needed. Interoperability is key to success. Interoperability has to be established in the field of SOP´s/ TTP´s, equipment etc. There are other harmonisation aspects that will have to be addressed more thoroughly in the future in order to assure the normal conduct of operations. Some of these aspects are:doctrine, equipment, CIS and C2 aspects.

c. *Interagency*

New conflicts are emphasising the need for collaborative processes between Government Departments as well as a need for shared understanding and concerted, or coordinated, action. It does not mean that all Government Departments adopt the same processes or procedures; rather that they are agreed on the same general approach. A comprehensive approach recognises that Government Departments need to understand each other at the institutional level. They need to have a shared understanding of the situation and a common understanding of what needs to be done in order to resolve the situation. Finally, they need to be able to coordinate (or at least deconflict) their activities in pursuit of the commonly agreed goals.

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[3] The "EU" level of interoperability for Finabel countries is defined in Focus Question 2
[4] Inside the multinational environment

4 ROLE OF LAND FORCES

Military forces are one of the instruments in achieving the end state that has been decided in a political context.

In the FOE Land Forces will act in the whole spectrum of conflict, from Peacetime Military Engagement, Peace Support, Counterinsurgency to Major Combat[5]. Land Forces will need to be flexible and structured in order to be able perform different roles within the same campaign. For each campaign theme, the main roles of Land Forces are described below. The fact that a role is listed in a concrete campaign theme doesn't limit the possible occurrence of the same role in another campaign theme.

4.1 Peacetime Military Engagement

Typical activity within the context of a PME would be an exchange programme, joint training and exercises, the provision of advisors and other specialist training teams, disaster relief, etc.

4.2 Peace Support

Main roles for Land Forces could be delivery of humanitarian assistance, reconstruction of critical infrastructure, restoring essential services, and SSR

4.3 Counterinsurgency

Land forces in this case will contribute to the neutralisation of the insurgents by, for instance, disrupting the support they receive from the population in order to create the conditions to start reconstruction and peace support.

4.4 Major Combat

The main role of Land Forces in major combat is to carry out offensive and defensive (combat) activities and tasks on a large scale in order to defeat the enemy and return to a peaceful situation as soon as possible.

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[5] See T.36.R

5 PRIORITIES

5.1 Doctrine & Concepts

Land Forces will need to confront opponents and situations with a broad range of capabilities, retaining the ability to conduct protracted major combat operations after an appropriate preparation period. Land Forces must be capable of major combat, yet be optimised for stabilisation tasks, often at significant levels of intensity. Whilst there is a clear requirement to focus effort on the development of capability related to Stability and Security Operations, this must not be at the cost of a full warfighting capability. Development of concepts and realisation of the Comprehensive Approach (CA), related to close coordination and cooperation with other government departments, IO's and NGO's will be necessary to support education, training and execution of new missions with such actors. The time to integrate lessons learnt in operations in order to adapt relevant concepts and doctrine must be reduced.

Special focus will be put on the development of concepts about Counterinsurgency Operations (COIN).

5.2 Organization and Capabilities

Continuation of the transformation process to a more effective structure of Land Forces will be necessary. Flexibility (in the choice and use of Forces, according to the mission) and force balancing between light, medium and heavy units, assuring force protection and deployability, are essential to be successful. The improvement of interoperable Reception, Staging, Onward Movement (RSOM) and expeditionary logistics capabilities will remain a prerequisite for future expeditionary operations. Due to stretching AO's, special focus needs to be put on in intra-theatre mobility modularity to the lowest tactical levels (such as Forward Operating Bases). To operate successfully among the people, strengthening INFO OPS and CIMIC capabilities will be very important.

5.3 Training

Resource limitations will require prioritising training efforts to enable focus on key capabilities. Special focus should be on Military Operations in Urban Terrain (MOUT) and COIN, individual training and proficiency development, education and training of leaders and soldiers to cope with the challenges of the FOE. Given the increasing emphasis on JIM operations, and the incumbent difficulties in resourcing training for all eventualities, priorities should fall as follows: Joint

Training, Interagency Training and Multinational Training. Thus, while it is vital that these training activities are conducted, it is clear to commanders where to allocate scarce time and resources. Exercises, taking in account JIM environment will be carried out starting at lower tactical level. This will be even more important during the pre-deployment training, which will require a common certification system and criteria. The increased use of simulation tools will be envisaged in order to make training more cost-effective.

Next to that, creating cultural awareness at different levels (from advisors to senior commanders and soldiers) will be indispensable to gain and maintain populace support.

Further development of Network Centric Warfare capabilities and intensification of training with those capabilities will be key to optimize the use of modern information technology (mainly in reconnaissance, command and joint fires areas).

5.4 Materiel

A priority has to be given to investments in force protection, especially for personnel and platforms in which soldiers operate, in order to save lives and to maintain public support. It will be also important to improve the precision, range and scalability of effects of indirect fires with special attention to avoid collateral damages. The balance between protection and tactical mobility should be respected. Maximum use of emerging new technologies will be key to keep the actual supremacy and to enhance effectiveness of individual soldiers. At the same time new initiatives have to be taken in contra cyber threat activities and capabilities. And last but not least investments in intelligence assets will be essential.

5.5 Leadership

Future leaders will need JIM education and experience earlier in their careers than has been the norm in the past.

They will also need to maintain and increase their skills by continuous learning and training and by developing initiative, critical and independent thinking and understanding.

Social education and interaction are fundamental to understand different cultures, the human system and the dynamics in which they will be expected to be fully immerse.

5.6 Personnel

All personnel will have to be flexible, capable of adapting to complex, unpredictable and changeable situations in a very short period of time.

Future battle will also require them to confront different type of threats and acquire proficiency in the use of a wide range of new technologies.

It is essential that they have mature judgment, professional skills and experience. In addition to basic military skills, other important aspects are: computer based education and training, language skills (English), international cooperation and exchange programmes.

Soldiers need to be educated to maintain high morale, human rights, values and ethical behaviour (honour, fidelity, firmnesses, etc) and to respect in every situation national and international laws.

Soldiers will operate on the ground and will have to represent the overall values of their nations or international organizations which they represent (NATO, EU, UN…).

5.7 Facilities

Priorities for development here are the same as those given for training. There is a need of enhanced facilities for COIN training, in order to integrate all actors and characteristics of the FOE.

Simulation centres must be further developed and integrated to cover the full spectrum of operations and activities at all levels in a JIM environment. Fundamental to training for future operations is the provision of training areas and facilities that reproduce, as closely as possible, the operational reality faced by forces in theatre.

5.8 Interoperability

To operate successfully in the FOE in a strengthened multinational cooperation, optimized interoperability will be crucial either with allies and coalition partners. The creation of common doctrine, education and training programs, SOP´s and TTP´s are necessary first steps. Interoperability have to be reached at joint, multinational and interagency levels.

6 CONCLUSIONS

The spectrum of conflict is no longer thought of as compartmentalised or linear. The result is a mix of blurred warfare categories that more accurately reflects the complexity and dynamism of the modern battlefield. In case that forces of Finabel countries will have technological superiority, future adversaries (conventional, irregular and terrorist) will seek to negate or reduce this advantage as far as possible by conducting warfare using all forms of war and tactics, perhaps at the same place and time (Hybrid War). Adversaries will avoid direct approach, using all political, military, psychological and informational levers that they can employ. They will seek to disperse amongst an increasingly complex battle space where we will find it difficult to dominate by superior technology alone.

The most important issue in the operational environment is the *population*. Operations will take place among the people and opponents will use the population in order to reach their goals**.** The support from local and homeland population will be key success.

Information operations will be an important tool in the current and future operational environment. The requirements of the FOE will necessitate a decentralisation so that every Task Force that will be deployed in a wide area of operations will have a better understanding of its own situation. It will need to conduct INFO OPS at its own level maintaining, simultaneously, a coherent link to central themes.

Intelligence will play a crucial role. Intelligence gathering will allow a permanent evaluation of the threat. The commander will need accurate and opportune intelligence to take decisions, conduct operations and evaluate the effects of activities throughout the battle space.

Media will remain omni-present on the battlefield. Moreover, new technologies and the information revolution will expand the role of the media providing it with far greater speed of dissemination of information.

The opponent will use mass media to influence public opinion especially in troop contributing countries. He will acquire a growing expertise in manipulating perceptions amongst target audiences, and will use all available means to communicate his message to an audience as wide as possible.

It will be crucial to communicate a consistent and clear narrative for the whole the campaign.

The *logistic support* capabilities will have to transform accordingly to the expeditionary character of current and future operations, i.e. the sustainable projection of multinational forces at long distances, submitted to asymmetrical threats, with limited or no host nation support.

The provision of logistic support in the future, will remain a national responsibility, but where ever possible multinational solutions have to be aspired (for further details see Finabel study C.33.R). At the same time every effort must be made to enhance standardisation and interoperability for operational and technical requirements as well as procedural aspects ; a logical consequence of the multinationality of joint and combined operations. Given these characteristics there is likely to be a degree of overlap in the provision of Logistic support and increased standardisation will reduce duplication and unnecessary effort within the chain.

Training should be developed in the way to provide a wider range of skills and awareness to every soldier and also create synergy between every unit through common pre-deployment training and certification.

Non-continuous battle space will require *leaders* at all tactical levels capable of acting independently, basing their decisions in an autonomous evaluation of the operational environment.

Force protection will continue to have great importance. All protection measures of the forces must not hamper its freedom of action and its ability to fulfil the mission.

Although technology will be important in the FOE, the *human dimension* will still prevail and must drive the capability development of Land forces of Finabel countries in the future.

ABBREVIATIONS

AI	Artificial intelligence
AO	Area of Operations
APOD	Aerial Port Of Debarkation
BG	Battle-Group
Bn	Battalion/
C2	Command and Control
C4I	Command, Control, Communications, Computers, & Intelligence
CBRN	Chemical, Biological, Radiological and Nuclear
CIMIC	Civil-Military Co-operation
CIS	Communication and Information System
COIN	Counterinsurgency
Coy	Company
EU	European Union
EUBG	European Union Battle-Group
FOE	Future Operational Environment
GO's	Governmental Organisations
HQ	Headquarters
INFO OPS	Information Operations
IO's	International Organizations
IR	Information revolution
ISR	Intelligence, Surveillance and Reconnaissance
JIM	Joint, Inter-agency, Multinational
LEGAD	Legal Advisor
MOUT	Military Operations in Urban Terrain
NATO	North Atlantic Treaty Organisation
NEC	Network Enabled Capability
NGO's	Non-Governmental Organisations
PAO	Public Affaires Officer
Plt	Platoon
PME	Peacetime Military Engagement
POLAD	Political Advisor
PSYOPS	Psychological Operations
RSOM	Reception, Staging, Onward Movement
SOP	Standard Operating Procedure
SPOD	Sea Port Of Debarkation.
SSR	Security Sector Reform
TTP	Tactics, Techniques and Procedures
UN	United Nations
WG	Working Group

NOTES

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