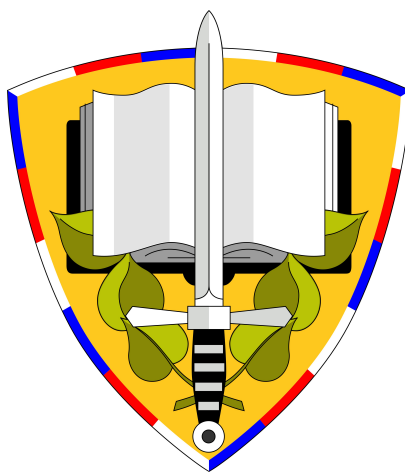


**University of Defense**

Faculty of Economics and Management



**Bachelor's thesis**

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Faculty of Economics and Management  
Department of Logistics

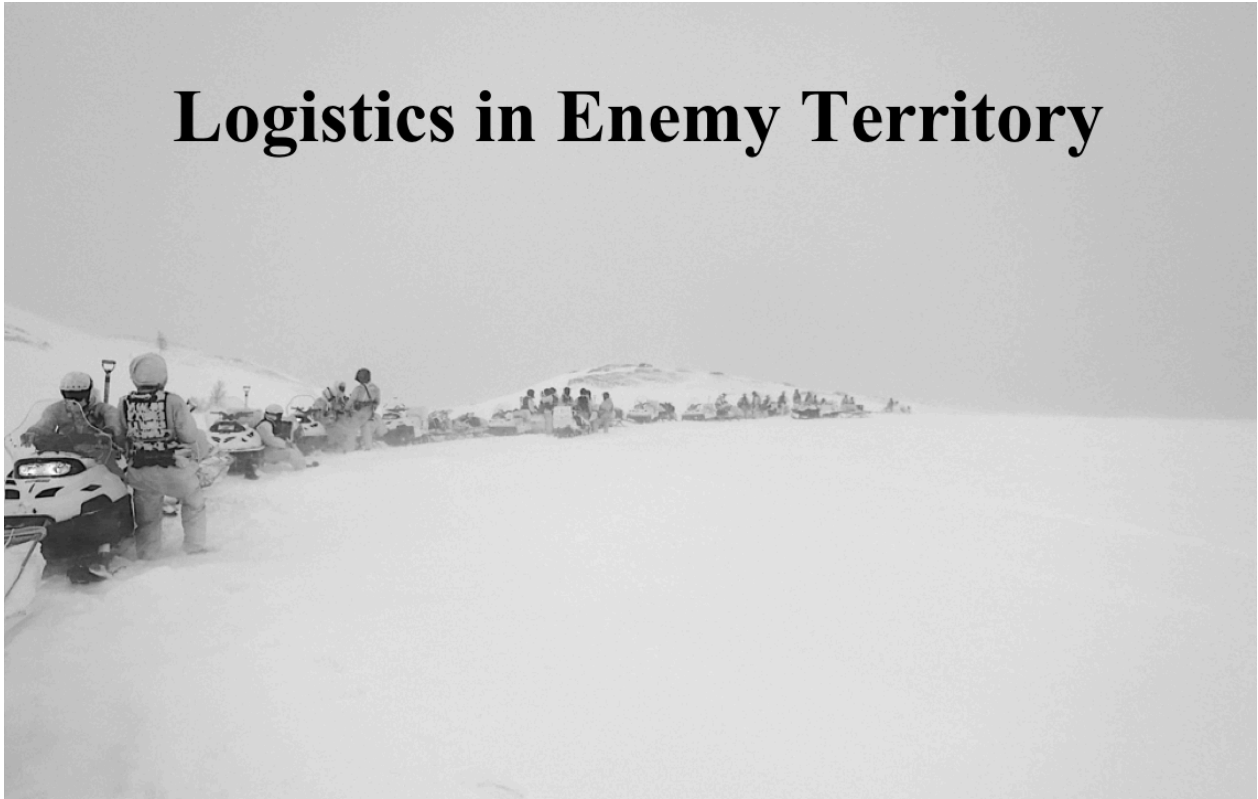
# **Logistics in Enemy Territory**

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# Logistics in Enemy Territory



*Photo 1: Logistics in Enemy territory<sup>1</sup>*

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<sup>1</sup> *Exercise Cold Challenge 11, A.Borres*

## **ABSTRACT**

The background of this study comes from the lack of documentation and knowledge about logistics in units, which has the main focus on combat or reconnaissance.

The aims of the thesis is to determine and compare the different methods used to provide logistical support to units operating in enemy territory by Sweden and the Czech Republic in todays convention and asymmetric wars.

Method of gathering information is through qualitative interviews using a semi-structured interview technique with both Swedish and Czech officers. The topics of the interviews are defined beforehand on an interview template and are based on the Swedish basic view of logistics. The three logistical branches that are covered are; service, movement and healthcare support.

The result shows that Sweden and the Czech Republic have largely the same methods in all three branches. Sweden has one method in both service and healthcare support, which the Czech Republic does not have. For service support the method is a “forward operating place” which is similar to a forward operating base but only smaller and within the enemies territory. With healthcare support Sweden has small competent medicalgroups further out in enemy territory. The conclusion is that although Sweden and the Czech Republic have mostly the same logistical methods in supporting units in enemy territory they sometimes use them differently. The Swedish armed forces have a more evolved system for logistical support in enemy territory, which is a consequence of the cold war and the Swedish decision of not joining NATO, according to the author.

## **List of pictures**

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Picture 2: MEDEVAC of Swedish soldier by helicopter in Afghanistan

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Picture 5: CASEVAC by foot march executed by squad members in Afghanistan

Picture 6: Doctors without borders refugee camps

Picture 7: Swedish waiting point for casualty in winter environment

## List of abbreviations

AMREF	African Medical Research and Education Foundation
ATV	All Terrain Vehicle
CASEVAC	Casualty evacuation
CL	Classes
CSS	Combat service support
FOB	Forward Operating Base
FRT	First Response Team
JP	Joint publication
HAHO	High altitude with high opening
HN	Host Nation
LTG	Light Trauma Group
LRS	Long-range surveillance
LRSU	Long-range surveillance units
LRSD	Long Range Surveillance Detachment
MEDEVAC	Medical evacuation
METT-T	Mission, Enemy, Terrain, Troops & Time Available
MTOE	Modified table of organization and equipment
MOVCON	Movement Control
NATO	North Atlantic Treaty Organization
NCO	Non-commissioned officer
NGO	Non-governmental organizations
PFP	Partnership for Peace
POL	Petroleum, oil and lubricants
U.S.	United states
SF	Special Forces
SOR	Statement of requirements
TCCC	Tactical Combat Casualty Care
QMT	Qualified Medic Team

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## **INTRODUCTION**

Time and time again, individuals, soldiers, units or regiments have found themselves in enemy territory throughout history and in all continents. Some are there by free choice, some are trapped or stranded and others have escaped. Being in enemy territory is something that some have to deal with more than others. Either they have to deal with the effects of the person or unit that is in the situation or what they cause.

Logistics in the armed forces is on the other hand about bringing support to those in need, for example medical, technical or movement support, whatever is needed for others to complete their task. This is easy when you are working nearby to those that you are supporting. The question is how to solve the support issue when the person or unit in need of support is located at a far distance from logistics support units and surrounded by enemy forces working towards preventing the supply of material and necessities.

Sweden and the Czech Republic are two countries that are similar in many ways. Both countries have approximately the same number of inhabitants, but geographically, Sweden is more widespread. Sweden has not been at war for the last two hundred years. Czech Republic is part of NATO and was involved in both world wars.

These are two different countries that face this old and still ongoing problem. How do they solve logistic support to units in enemy territory?

# 1. THEORETICAL BACKGROUND

This chapter will define the basic Swedish logistical concepts that will be the frame of what logistics comprises in this thesis. Then, the definition of “enemy territory” and “behind enemy lines” will be described and also how it is used in this thesis.

## *1.1. Definitions of logistics*

The term logistics may be explained by the following business definition:

“Logistics is defined as a business planning framework for the management of material, service, information and capital flows. It includes the increasingly complex information, communication and control systems required in today's business environment. - (Logistix Partners Oy, Helsinki, FI, 1996)”<sup>2</sup>

A military definition is:

“Logistics - The science of planning and carrying out the movement and maintenance of forces.... those aspects of military operations that deal with the design and development, acquisition, storage, movement, distribution, maintenance, evacuation and disposition of material; movement, evacuation, and hospitalization of personnel; acquisition of construction, maintenance, operation and disposition of facilities; and acquisition of furnishing of services. -- (JCS Pub 1-02 excerpt)”<sup>3</sup>

A good expression that sums up the two definitions is “Logistics means having the right thing, at the right place, at the right time.”<sup>4</sup>

The Swedish definition of logistics can be found in the book *Basic view of logistics*. This book is a part of the Swedish doctrine hierarchy, but it is actually not a doctrine. Its purpose is to describe how the Swedish military resources and its ability for armed conflict are used to support Swedish foreign- and security policy. It also guides the armed forces during operations on Swedish territory and international operations.<sup>5</sup>

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<sup>2</sup> <http://www.logisticsworld.com/logistics.htm> 2014-04-11

<sup>3</sup> IBID

<sup>4</sup> IBID

<sup>5</sup> Försvarsmakten, *Grundsyn Logistik*, Stockholm, Tryckeri: Alfa Print AB, 2007, p. 3-4

Within the Swedish armed forces the term logistics is to be used as following:

“Logistics aims to provide support for strategic, operational and tactical military functions. The purpose is achieved by establishing and maintaining request accessibility, endurance, and mobility of the Armed Forces' units.

Logistics of Armed Forces include the production, administration and control of provided support, which consists of both services and assets with accompanying information.

Logistics in the Armed Forces involve support for both the operational- and base structure and can be executed by own resources or together with other actors.”<sup>6</sup>

What this means is that Swedish logistics are about making sure that the different units will obtain and will continuously have the supplies, endures and mobility that they require.

The Czech Republic describes logistics in *multinational logistics in missions*. Their description of logistics according to AAP-6, NATO Glossary of terms and definitions is:

“The science of planning and carrying out the movement and maintenance of forces. In its most comprehensive sense, logistics covers those aspects of military operations that deal with:

Design and development, acquisition, storage, transport, distribution, maintenance

Evacuation and disposition of materiel

Transport of personnel

Acquisition or construction, maintenance, operation and disposition of facilities

Acquisition or furnishing of services

Medical and health service support.”<sup>7</sup>

This quote is similar to the Swedish *basic view of logistics* description; “the widest meaning of logistics in military operations.”<sup>8</sup>

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<sup>6</sup> BU06: HKV 2005-02-28, 23 383.63848, Bilaga 8.

<sup>7</sup> Cempirek, M. Korecki, Z. Mareš, J. Nyszk, W. Savu, T. *Multinational logistics in missions*. Land forces academy, SIBIU, 2011. p. 10

<sup>8</sup> Försvarsmakten, *Grundsyn Logistik*, Stockholm, Tryckeri: Alfa Print AB, 2007, p 10

In operational and tactical operations logistics is divided into operative/tactical support functions (sub-branches) such as: service support, movement support, transportation support, healthcare and other logistics. These elements, as well as logistics command and control, form the different sub-branches for the logistics planning in Sweden. They are in turn divided into service branches (or equivalent) with different sub-divisions.<sup>9</sup>

Logistics in the Swedish armed forces is an integrated part and is one of several decisive factors for success. Logistics has at an early stage of the planning process been taken into consideration, in order to ensure it will be incorporated to the whole plan or activity. The purpose of this is making the plan workable because logistics can be limiting in the solving of the task.<sup>10</sup>

Further on the logistics is constantly put before new challenges that demand adjustments. All the more rapid changes mean that the logistic solutions need to be more flexible to be able to solve the given task. This demand is hard to accomplish and in turn puts pressure on the personnel that will solve it to predict the influence the development of creating sustainable logistical solutions both in national and international missions.<sup>11</sup>

### **The five plus one sub branches in logistics**

As mentioned, Swedish logistics in operational and tactical operations is divided into five plus one sub-branches; this is the implementation of logistics within the Swedish armed forces.<sup>12</sup>

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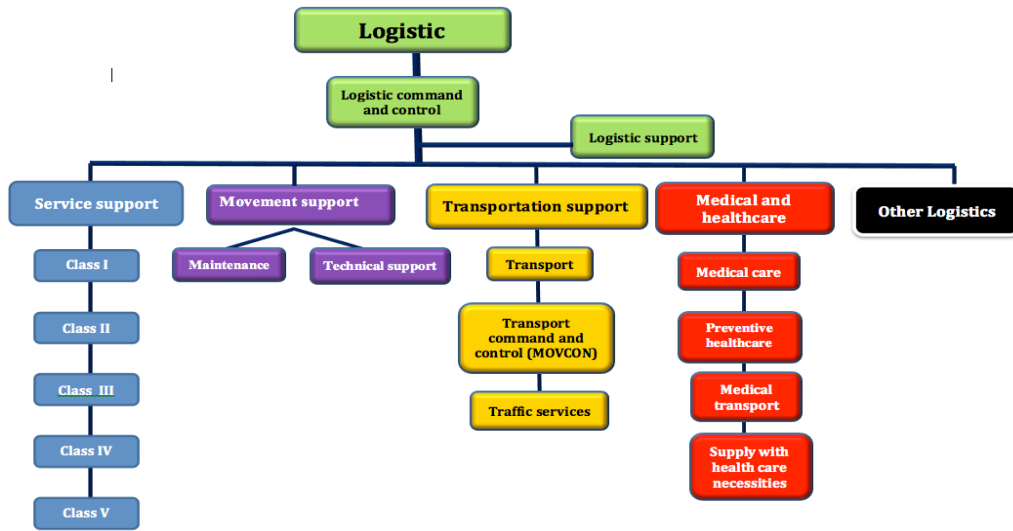
<sup>9</sup> IBID p. 8-10

<sup>10</sup> IBID p. 11

<sup>11</sup> IBID p.11

<sup>12</sup> IBID p.17

These five plus one sub-branches are:



*Annex B – Tree for sub branches*

## **Logistics command and control**

This branch shall be integrated with all command and control systems and processes on all levels and stages. The tactical logistics command and control aims towards distributing support with supplies and services to individual units within the area of responsibility. The tactical level is first and foremost about coordinating separate logistics operations- and resources in order to solve a given task.<sup>13</sup>

## **Service support**

This sub branch is about the 5 different classes, which are specified by NATO:

“NATO classes of supply are established in the five-class system of identification as follows:

### **Class I**

Items of subsistence, e.g. food and forage, which are consumed by personnel or animals at an approximately uniform rate, irrespective of local changes in combat or terrain conditions.

### **Class II**

Supplies for which allowances are established by tables of organization and equipment, e.g. clothing, weapons, tools, spare parts, vehicles.

<sup>13</sup> IBID p.17-19

### **Class III**

Petroleum, oil and lubricants (POL) for all purposes, except for operating aircraft or for use in weapons such as flame-throwers, e.g. gasoline, fuel oil, greases coal and coke.

(Class IIIa - aviation fuel and lubricants)

### **Class IV**

Supplies for which initial issue allowances are not prescribed by approved issue tables. Normally includes fortification and construction materials, as well as additional quantities of items identical to those authorized for initial issue (Class II) such as additional vehicles.

### **Class V**

Ammunition, explosives and chemical agents of all types.”<sup>14</sup>

These classes are then divided into different tasks such as in the Swedish armed forces:

Suitability, allocation, consumption, and decommissioning and their respective subdivisions.

Supplies, pharmaceuticals, ammunitions, clothing, fuel, food etc.

Dividing supplies and materials into groups.<sup>15</sup>

### **Movement support**

Consists of maintenance with different subdivision: corrective maintenance, preventive maintenance, spare-equipment support and recovery.

The other part is the technical support with its subdivision: material research, technical adjustment, modification, and operational aid.<sup>16</sup>

### **Transportation support**

This branch has three sub-branches. The first one is transport, which consists of bigger unit movements, service transports, personnel transport, evacuation of injured and sick, and transportation of the dead.<sup>17</sup>

The next one is transportation command and control. This means planning, implementation, follow-up and evaluation of transport. Transport command and control is often referred

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<sup>14</sup> Logistics capabilities section, NATO HQ, *Nato logistic handbook*, Bruxelles, 2012. P, 27

<sup>15</sup>Försvarsmakten, *Grundsyn Logistik*, Stockholm, Tryckeri: Alfa Print AB, 2007, p.33

<sup>16</sup> IBID p.33

<sup>17</sup> *Handbok insatslogistik*, FMLOG, Försvarsmakten, Grafisk produktion, Stockholm, 2012, p. 78

to internationally as Movement Control (MOVCON).<sup>18</sup>

The last one is traffic service which purpose is to simplify the march and road transport and transition to other ways of transport such as to railroad, sea or air transport.<sup>19</sup>

### **Medical and healthcare**

This branch in Swedish logistics consists of medical intelligence, preventive medicine, and medical-care including medical evacuation of injured/ill, medical rehabilitation and veterinary care.<sup>20</sup>

### **Other logistical elements**

The final branch comprised of various activities which cannot be classified under the other four sub-branches such as mail, courier, e-mail, cashier, lodging, catering, laundry, staffing and labor, burial services and work safety.<sup>21</sup>

### **Branches used in thesis**

From these branches this thesis will mainly focus on those that are most important for smaller units and which are relevant in operations in enemy territory and behind enemy lines.

For example, MOVCON is not relevant in operations behind enemy lines, because the transportation is not conducted through strategically movements, which is regulated by MOVCON. This means that the logistical transportations support branch will not have any part of logistics conducted behind enemy lines. Neither MOVCON nor traffic service is used nor implemented in enemy territory.

Other logistical considerations include those elements that do not come under other branches.

A comparison between two countries is a substantial and highly challenging task, as the field of logistics has such a broad scope, encompassing so many areas that require analysis. To make such a comparison reliable, the contents of this branch would have to be specified and that is not the goal of this thesis.

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<sup>18</sup> IBID p. 85

<sup>19</sup> IBID p. 86

<sup>20</sup> IBID p. 87

<sup>21</sup>Försvarsmakten, *Grundsyn Logistik*, Stockholm, Tryckeri: Alfa Print AB, 2007, p. 10

Lastly, the logistic command and control is on a higher level of logistics and although it is a part of the planning of logistics, it constitutes part of all the different sub-branches. Consequently, even though it is not a specific focus in this thesis, it will be mentioned.

The three branches with some of their lower sub-branches, which will be examined in the thesis are:

Service support – Planning and preparations and distribution methods of the NATO classes I-V

Technical support – Preparation and support during an operation or mission

Medical and healthcare – Preparation, resources and transportation methods

## ***1.2. Enemy territory***

The expression “being behind enemy lines” in “enemy territory” is an old expression that has probably existed ever since there have been two parties fighting over ownership/control of territory. To get to the bottom of the term “behind enemy lines” requires that we first explain what the term “territory” means.

The meaning of territories can be:

1. Any tract of land; region or district.
2. The land and waters belonging to or under the jurisdiction of a state, sovereign, etc.
3. Any separate tract of land belonging to a state.
4. (often initial capital letter) Government.
  - a. A region or district of the U.S. not admitted to the Union as a state but having its own legislature, with a governor and other officers appointed by the president and confirmed by the Senate.
  - b. Some similar district elsewhere, as in Canada and Australia.
5. A field or sphere of action, thought, etc.; domain or province of something.
6. The region or district assigned to a representative, agent, or the like, as for making sales.
7. The area that an animal defends against intruders, especially of the same species.<sup>22</sup>

Adding the word “enemy” before territories denotes an enemy-controlled tract of land. During war or operations against an enemy force that holds territories, it will create an invisible line

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<sup>22</sup> <http://dictionary.reference.com/browse/territory> 2014-04-09

between friendly forces and the enemy. This is called the front line (in military terms the most advanced military units or elements in a battle).<sup>23</sup> In asymmetric warfare “in which opposing groups or nations have unequal military resources, and the weaker opponent uses unconventional weapons and tactics, such as terrorism, to exploit the vulnerabilities of the enemy”,<sup>24</sup> these lines are not as clear as in conventional warfare, but there can still exist areas where the own forces do not have total control and therefore they cannot conduct regular logistical support to units operating in that territory.

In order to put the definitions in a context I have chosen the US army Long-range surveillance units (LRSU).

“The employment ranges for the LRSU missions depend on METT-T, operational tempo, and support considerations. In a fast-paced battlefield environment, the depth of LRSU employment is greater because the area of interest is larger. Long-range surveillance detachment teams operate forward of battalion reconnaissance teams and cavalry scouts in the division area of interest. The long-range surveillance company teams operate forward of the LRSD teams and behind most special operations forces. (See Table 1-1.) The duration of an LRS mission depends on equipment and supplies that the team must carry, movement distance to the objective area, and resupply availability. LRSU teams normally operate up to seven days without resupply depending on terrain and weather. Teams may be deployed longer in special cases. Operations other than war are likely to be nonlinear, with no identifiable forward line of own troops. Surveillance must extend in all directions. Deployment considerations are adjusted with the political and geographical effects included. The specific areas of operations are changing as additional maneuver units are sent into the area of operations.”<sup>25</sup>

The quote gives a good example of where a surveillance unit can operate both in a conventional and asymmetric war. If these units would need logistic support while solving their tasks they cannot be reached by regular Swedish logistic units. Same types of missions are very likely to be conducted by the Swedish and Czech Republics reconnaissance and Special Forces units.

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<sup>23</sup> <http://dictionary.reference.com/browse/front%20line?s=t> 2014-04-09

<sup>24</sup> <http://dictionary.reference.com/browse/asymmetric%20warfare> 2014-04-09

<sup>25</sup> *LONG-RANGE SURVEILLANCE UNIT OPERATIONS*, FM 7-93, HEADQUARTERS, DEPARTMENT OF THE ARMY, Washington, DC. 1995, p. 8

Further on, the description of the capabilities for LRSU are:

“The organization, strength, and equipment of teams are based on the mission and the environment of the operational area. Long-range surveillance units have the capability —

- to be committed in specific locations within enemy-held territory by stay-behind methods or delivery by land, water, or air, to include parachute. Unit’s exfiltrate by land, water, or air.
- to operate in enemy-held territory for up to seven days with minimal external direction and support.”<sup>26</sup>

The expressions “enemy territory” and “behind enemy lines” and the usage of this expression in this thesis will be summarized as: missions conducted beyond the forward lines of own forces or in enemy-held territories both in conventional- and asymmetric wars, is being behind enemy lines.

Units that conduct these types of mission both in Sweden and in The Czech Republic are Special Forces and recognizing units. In Sweden the army ranger battalion conducts these types of missions as well.

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<sup>26</sup> IBID. p. 15

## 2. AIM, METHOD, SOURCES AND RESEARCH LIMITATIONS

The main aim of this thesis is to compare the different methods used by Sweden and the Czech Republic to solve the issue of logistical support to units in enemy territory, connected too the Swedish armed forces *Basic view of logistics*.<sup>27</sup> The comparison will serve as a background for an analysis of similarities and differences between the two countries.

### 2.1. Methods

The foundation of this thesis will build upon qualitative interviews with a semi-structured interview technique. The topics of the interview are defined beforehand but the agenda is flexible.<sup>28</sup> The questions are an open character enabling the interviewed person to elaborate in his or her answer. The interviews in the Czech Republic will be meetings face to face, while the Swedish interviews will be conducted via e-mail correspondence or Internet phone conversation (Skype). All the interviews will originate from the same interview template<sup>29</sup> and conducted by one interviewer (Adam Borres).

*The first part* of the thesis will be from collected information and will define the basic Swedish logistical concepts that will be the frame of what logistics comprises in this thesis. Thereafter, a definition will be given of what “enemy territory” and “behind enemy lines” is and what it means to operate there.

*The second part* is a description of the methods used by Sweden and Czech Republic for supplying their own units in enemy territory. This part is based on qualitative interviews.

*The third part* will provide an analysis and comparison of the different methods and solutions for how the two countries conduct their logistical support and with reference to written documentation. The final part consist of a discussion and conclusions will be drawn about similarities and contrasts between the different countries, and also what the two countries can

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<sup>27</sup> Försvarsmakten, *Grundsyn Logistik*, Stockholm, Tryckeri: Alfa Print AB, 2007, p. 9

<sup>28</sup> Denscombe, M. *Forskningshandboken : för småskaliga forskningsprojekt inom samhällsvetenskaperna*. Lund: Studentlitteratur, 2000

<sup>29</sup> Annex A

learn from each other based on the author's own point of view. The method for the reference handling will be according to the Oxford system.<sup>30</sup>

## **2.2. Sources**

The interviewees are active officers from Sweden and the Czech Republic, which have been contacted by the author, or his mentor<sup>31</sup>. The officers have selected due to their knowledge and work experience connected to the thesis topic.

The reviewed literature is Czech, Swedish, NATO and American military documents and manuals from either logistics departments or units that conduct operations or missions in enemy territories.

## **2.3. Research limitations**

Logistics is a very wide expression that is used in all countries, branches and companies.

It is therefore important that the term "logistics" is defined in order to avoid misunderstandings.

In this thesis, the concept of logistics will be based on the Swedish Armed Forces' *basic view of logistic* definition, which constitutes five sub-functions: supplies support, technical support, communication support, healthcare, other logistical support.<sup>32</sup>

All sub functions are quite broad and this thesis will therefore only cover supplies-, technical- and healthcare support.

Another key expression in this thesis is "in enemy territory". This expression will be defined according to military dictionary explaining the meaning of conventional and asymmetric warfare, territories and how this is connected to "in enemy territory".

There is a lack of documentation about this subject logistics in enemy territory because it is a specific subject and is an ongoing process regarding the methods that are been used. There is also classified information about the subject, which will not be processed in this thesis. The methods therefore will be based on interviews connected to the specific logistical branches mentioned earlier. The answers from the interviews can only represent that person or specific unit

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<sup>30</sup> <https://student.unsw.edu.au/footnote-bibliography-or-oxford-referencing-system> 2014-04-09

<sup>31</sup> Lieutenant colonel Jaromír Mareš.

<sup>32</sup> Försvarsmakten, *Grundsyn Logistik*, Stockholm, Tryckeri: Alfa Print AB, 2007, p. 9

he/she is representing, and cannot be taken as the general working method for that specific country.

The documentation of the interviews with the officers in the Czech Republic will be conducted through recordings. One problem with this is to document in informal conversations that will take place before or after and even during the sessions. The language can also be an affecting factor, when the interviewee is not fluently speaking English. Another factor that can affect the result of the thesis is that Czech officers are very knowledgeable of their specific work but lack some overall understanding when combining different branches like reconnaissance's and logistics.

There are three ways the interviews were conducted; interviews face to face, over phone, and e-mail correspondents. This may result in different answers. This is handled by having an interview template for all and the interviewer will record and write down the answers. The interviewees also had the possibility to contact the interviewer afterwards to add additional information.

This thesis written in English, based on data from two non-native English-speaking countries will result from translations from the native language to English. These language translations, specifically for; e-mail correspondents, Czech and Swedish literature and oral interview, will be conducted first and foremost by the author, secondly from Google translate.<sup>33</sup> Third from dictionary program Norstedts on the authors computer.

The meaning of mission and operation can often be misinterpreted and become mixed up. According to NATO description of operations and mission is as followed:

**Operation:** "A military action or the carrying out of a strategic, operational, tactical, service, training, or administrative military mission. (JP 3-0)<sup>34</sup>

**Mission:** "1. The task, together with the purpose, that clearly indicates the action to be taken and the reason therefore. (JP 3-0) 2. In common usage, especially when applied to lower military units, a duty assigned to an individual or unit; a task. (JP 3-0)"<sup>35</sup>. In this thesis mission will have the meaning of lower military unit solving a task, which could be either direct action or support. Operation will mean a country's participation in an armed conflict or situation.

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<sup>33</sup> <http://translate.google.com> 2014-03-14 till 2014-06-01

<sup>34</sup> Department of defense Dictionary of military and associates terms, Joint publication 1-02, 2010, p, 194

<sup>35</sup> IBID, p 174

### **3. THE INTERVIEWS WITH RESPONDENTS**

The following chapter consists of the interviews that were conducted. The questions originate from Annex A. The answers from each interview are first divided into the branches service, movement and healthcare support. Secondly the answers from the two countries are separated, and thirdly the answers are separated between the different questions for each branch.

#### ***3.1. Service support***

##### **The Swedish armed forces**

##### **What preparations are carried out before operations behind enemy lines?**

The foundation is a well elaborate operational planning, based on what task the unit will solve and the estimated time of the operation. Thereafter you can begin the more physical preparation on patrol level. The patrols strive to as far as possible to be self-sufficient during the mission. Patrols have well-established procedures for what should be done in the preparatory stage connected to logistics.<sup>36</sup>

The planning phase is based on the desired end state of the operating unit and is extremely important. What is it that needs to be focus on, based on the planned scenario. What is it that the unit will be in need of?

The battalion is mostly thinking fighting tasks, but is poor at planning the logistical support for the solution of the task and the following tasks.

The logistical concept's starting point is a forward operation place, which has all the logistical support functions. From the forward operation place you can send out "support points" that either contains all of the logistical support or is adapted to what the unit in support needs.

This forward operating place can be placed 20-30 kilometers behind the most forward unit preferably outside the artillery working range.<sup>37</sup>

Endurance is an important aspect of the whole staff work for the mission and operations. Preparation can vary greatly depending on whether it is an overt or a covert operation. The common denominator if a mission will have a long endurance is to always strive to use as little

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<sup>36</sup> Reconnaissance battalion

<sup>37</sup> GOOD, M

unique material as possible. Partly because it can be left on site without revealing identity or nationality but also to be able to get resupplied from all units in the area using the same equipment. Training and identification of the opponent material is also part of the preparations so the unit knows which material they can take over and operate. This does not only apply to arms and ammunition, but also other things for example fuel and medicine.

Currently the biggest problem all categories are the providing of special specific batteries.<sup>38</sup>

### **What different methods are there and which of these are used for the different classes I-V (NATO standard)?**

Drop-off point, CL I and IV

Parachute. All classes except CLIII are workable during a SF-mission or operation because of the depth, which the C-130 must act on, and the attention it attracts during a drop. It is also difficult to manage the size of the package (usually 4x 200l drums or several 50l barrels) for a patrol with light vehicles.

PUSH, all classes.

PULL, all classes.<sup>39</sup>

The aim is to utilize self-sufficiency during the operation. If we are on Swedish territory, it may be possible to use additionally drop-off points, i.e. patrols will get a reference point in their area, where it is prepared with certain supplies. If the mission is longer so that we cannot use self-sufficiency, the methods of using airborne supply or drop-off points may be appropriate, where we drive forward with supplies to the vicinity of the patrols. One can even imagine a combination of the two. This depends on whether there are personnel from the Combat service support (CSS) platoon in the front area that can receive the airborne supplies. The methods can be used on all five NATO classes.<sup>40</sup>

A probable method in a national scenario is that of using a lot of storage places in the coming area that you estimate that the battalion may or will work in. These do not need to be buried but concealed under, for example, snow or by camouflage nets, depending on the environment.

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<sup>38</sup> Swedish Special Forces

<sup>39</sup> IBID

<sup>40</sup> Reconnaissance battalion

Support points are more often used in international operations where the country that conducts the operation does not own the territory. Thus operations are also very dependent on air superiority and the use of helicopters is the key to the logistical support.<sup>41</sup>

### **What are the advantages and disadvantages of the different methods?**

Self-sufficiency:

- + Reduces the risk of getting made (discovered by the enemy).
- It gets very heavy, difficult to get adequate amounts of supplies. It means that you have to prioritize. Not everything is possible to bring.

Airborne service:

- + Fast and can be used in the case of long distances. One can replenish relatively large quantities.
- We do not own the resource ourselves. The unit may be a compromised when the enemy sees the airdrop. It requires resources in the form of vehicles and administration personnel and a suitable airdrop pace.

Drop-off points

- + Can be conducted relatively concealed. We own the resource ourselves.
- Great gamble and it deals with relatively small amounts.<sup>42</sup>

Support points can be used to get support very far into enemy territory. The downside is that it takes a considerable amount of personnel to conduct and it is very demanding. Another disadvantage is that the support point may be blown, which may result in resources falling into the hands of the enemies while own units are left without supplies.

Using helicopters enables customizing of logistics support. The right amount and the right type of supplies may be brought to the exact unit in need.

The downside is that either total air superiority is required or a flight based on where the enemy's air defense is weak.<sup>43</sup>

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<sup>41</sup> GOOD, M

<sup>42</sup> Reconnaissance battalion

<sup>43</sup> GOOD, M

Drop-off points, great level of preparation and primary it only works on own or allied lost territory. The alternative is that a contracted person or company stockpiles if you are in an unpredictable place. For example in the international arena are always companies or individuals who want to make money of the war. The problem then is to identify a "trusted partner" so you don't go on an economic or tactical failure.

Parachute. Drop at high altitude with high opening (HAHO) in order glide (with parachute) into the enemy's territory without exposing your own aircraft for the opponents air defense and fighter-aircraft range. This allows only supply with smaller package max 200-500 kg.

Push and Pull. Someone must pass the friendly forces forward line. Time consuming and high-risk taking but can be a genuine need if the patrols need to hand over material for example prisoners, acquired material or injured personnel. The intelligence service has to operate throughout the war and material must surely be brought back for processing and analysis.<sup>44</sup>

### **What is the maximum effective range for each of the different methods?**

What ultimately determines how far the into enemy territory the support may reach are the technical specifications of the vehicle or the aircraft that is used for the mission.<sup>45</sup>

The support points work for several kilometers behind enemy lines, approximate 0 to 30 km.

For the airborne logistics by helicopter, the fuel capacity and the distance of the flight determines the limits of the logistics support.<sup>46</sup>

No limit in distance on any methods, it only varies in the degree of risk-taking.

Push and Pull can be conducted by all different means of transportation and in all environments, (fixed-wing/rotary-wing, submarine/surface ships, wheeled vehicles or on foot).<sup>47</sup>

### **The Czech Republic armed forces**

#### **What preparations are carried out before operations behind enemy lines?**

Planning for long-range reconnaissance units receive 7 days of supplies.

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<sup>44</sup> Swedish Special Forces

<sup>45</sup> Reconnaissance battalion

<sup>46</sup> GOOD, M

<sup>47</sup> Swedish Special Forces

There is one Non-commissioned officer (NCO) responsible for logistics on company level.

Preparation face has one part where the unit focuses on logistical preparations.

The food, ammunition and weapons are pack and prepared.

If the mission will be for more the 3 days the soldiers have special training to get food, water from nature.<sup>48</sup>

The task is very important for the preparation of the logistics. Who is involved, how many and this should be connected to the equipment the personnel will bring. The size of the unit should not be bigger then a platoon or task force. Other important factors include how long the operational will proceed, what types of weapons the unit will use etc, and how infiltration and exfiltration should be conducted.<sup>49</sup>

**What different methods are there and which of these are used for the different classes I-V (NATO standard)?**

One method is to carry all that you need (self-sufficient). The other is using supply's that located behind enemy lines. These two methods are used to avoid getting supply's in to the area of operations. The purpose of that is to avoid detection.<sup>50</sup>

**What are the advantages and disadvantages of the different methods?**

In conventional warfare there is the difficulty to bring in supplies by air, and even by car.

So they will conduct the support by foot. If the infiltration is further than 30 kilometers the helicopter is the most suitable option.

A 5-15km infiltration can be conducted ether by on foot or by vehicle.

**Airborne resupply:**

Resupply is prepared sometimes before the operation by the unit assigned the mission. While at other times the second team will do it. The resupply container holds all the equipment that the unit needs: batteries, ammunition, healthcare supplies etc.

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<sup>48</sup> RIHA, J

<sup>49</sup> DROZD, J

<sup>50</sup> IBID

There are special drop point's techniques for airdrop. In the mission order under signals there are regulated what signs are used for the airdrop. Plans could state for example that every 24 hours the aerial vehicle will pass the drop-off points, but must not drop anything if no signal or sign is given from the ground unit. The container is sometimes dropped by helicopter about 3m above ground and it can also be dropped from higher up by parachute from airplanes.<sup>51</sup>

Regarding self-sufficient logistics the disadvantage is that the load may often be heavy to carry, and therefore it is slow. If the situation changes in some way, the units are not very flexible in changing task or extending the mission.<sup>52</sup>

### **What is the maximum effective range for each of the different methods?**

For the infiltration by foot or vehicle:

- Max 5 km on battalion level
- Max 15 km on brigade level
- Max 30 km<sup>53</sup>

For a foot patrol the maximum effective range is about 30 km. During this type of operation, there will be a three-day infiltration and a 3-day exfiltration. If a ground vehicle is added, the effective range can be extended to 70 kilometers.<sup>54</sup>

## ***3.2. Movement support***

### **The Swedish armed forces**

#### **What technical preparations are carried out before operations behind enemy lines?**

Preventive maintenance means verifying that the equipment is intact, clean and functional. In the Swedish armed forces there is a maintenance program called "vård FM".<sup>55</sup>

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<sup>51</sup> RIHA, J

<sup>52</sup> DROZD, J

<sup>53</sup> RIHA, J

<sup>54</sup> DROZD, J

<sup>55</sup> Reconnaissance battalion

The foundation of technical support is to go out with the best equipment possibly. It is extremely hard to conduct technical service once you have got behind enemy lines and there is very little that you can bring in for technical support. Most work is conducted in a warm, light environment with the proper tools.<sup>56</sup>

Same answer as on service support and simplicity is the goal. All of the unit have similar material to have easier maintenance and reparation.<sup>57</sup>

### **What technical support can be inserted behind enemy lines?**

Minimally, occasional support staff, for example vehicle mechanics may be allocated to the unit that will operate behind enemy lines.<sup>58</sup>

There is no actual technical support that can be brought in. Instead, the most important factor is usually how well trained the operator/soldier is in handling/operating his or her equipment.<sup>59</sup>

All technical support should be organic, i.e. be included in the team. In this situation, you cannot rely on resources that are not available "in house".<sup>60</sup>

### **What happens if problems occur with the equipment?**

The support from the technical personnel is very limited. If the unit has been reinforced as mentioned in the previous paragraph, this usually means that the resource is in a rear position at a command center and therefore cannot move unhindered in the area between patrols. This results in high demands on our soldiers to be creative and to be able to utilize unconventional repair methods. The same applies to towing.<sup>61</sup>

The equipment that is malfunctioning is either discarded or cannibalized. Cannibalizing is only conducted after seeking consultation with the technical chief at the battalion. One weak point

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<sup>56</sup> GOOD, M

<sup>57</sup> Swedish Special Forces

<sup>58</sup> Reconnaissance battalion

<sup>59</sup> GOOD, M

<sup>60</sup> Swedish Special Forces

<sup>61</sup> Reconnaissance battalion

in the technical system is the power supply as there is no easy way to recharge the batteries for different electrical equipment.<sup>62</sup>

Fix it or destroy it. This assumes that you do not have the unique material that forces you to haul around with broken equipment.<sup>63</sup>

### **The Czech Republic armed forces**

#### **What technical preparations are carried out before operations behind enemy lines?**

The vehicles are prepared for rucksacks to be placed on outside of the vehicles.

Before the operation personnel will check all oil, fuel and perform a technical inspection that constitutes a standard maintenance check up.

During two weeks prior to the summer and during two weeks prior to the winter, the vehicles are prepared for the upcoming season. This is conducted throughout the entire army of the Czech Republic.

In addition, the vehicles are thoroughly checked before every operation.

During the planning phase, the driver is part of the planning and reconnoiters the terrain to determine what preliminary actions to take in order to ensure the success of the mission and exfiltration.<sup>64</sup>

The operating unit will check and double-check all the equipment until it is perfect, all to enable the success of the mission. The supporting logistics unit has to know exactly what the operating unit is bringing. This is to facilitate the support if the operating unit needs something, for example, what fuel the vehicle runs on, what caliber their weapons have, and what type of batteries to use for electronic equipment.<sup>65</sup>

#### **What technical support can be inserted behind enemy lines?**

Airdrops are the best solutions. Fix-wing (airplane) is good especially in asymmetric warfare, but the best method is using rotary-wing (helicopter).

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<sup>62</sup> GOOD, M

<sup>63</sup> Swedish Special Forces

<sup>64</sup> RIHA, J

<sup>65</sup> DROZD, J

You can also plant stocks as drop-off point's s behind enemy lines.

This can be conducted either by planting the equipment there before a redraw by the troops that will come back, or one could use civilian supplies.

This is much easier to execute in a national operation, than in an international operation, but it is possible. The only thing is that you have to own the terrain first and know that you are going back to that place.

The units can also us captured enemy equipment.

Linkup with friendly units that has infiltrated is also another way. This is not very easy, and it has to be planned before the operating unit is deployed. The location is very essential. Then if unit personnel are spotted this method can be very difficult to conduct.

One method is to attach personnel with the proper knowledge of technical equipment that has a high risk of breaking down, before the operation takes place.<sup>66</sup>

### ***3.3. Medical and healthcare***

#### **The Swedish armed forces**

Preventive healthcare and maintaining good hygiene is the basic principle during the preparation phase. One can enhance the medical capability of the unit with a LTG (Light Trauma Group capable of pre-hospital care. The group consists of a doctor, a nurse and two medics) if the operational planning shows that this is needed related to threat assessment, distance and so forth.<sup>67</sup>

The first aspect to consider is to calculate the kind of casualties and diseases that are expected during the operation. The next thing is to make sure that every one is healthy on deployment. Having ill people on an operation can contaminate the whole unit. One way to prevent this is to have good hygienic conditions.<sup>68</sup>

Each soldier receives a high level of basic training in healthcare.

Pharmaceuticals far out in the organization.

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<sup>66</sup> DROZD, J

<sup>67</sup> Reconnaissance battalion

<sup>68</sup> GOOD, M

Licensed staff far out in the organization.<sup>69</sup>

A process we call MedUnd based on Medical Intelligence (read STANAG for details) In short we analyze which healthcare providers there are and where they are located, risks, distance, disease, environment, threats, the wide range of different injuries and available transports.<sup>70</sup>

### **What resources are available for care of injured personnel?**

On patrol level, at the end of the rope is the buddy care TCCC (Tactical Combat Casualty Care) that applies. The patrol also has a combat medic who can perform additional life support measures, until the casualty reaches the next step in medical care.<sup>71</sup>

Swedish armed forces has based their healthcare system on “10, 1, 2”. This means that within 10minutes an injured person has to be treated by medical trained personnel that can perform lifesaving measures. One hour after the injury the person has to have the possibility to obtain life saving surgery. And after 2 hours the person must be in contact with qualified surgical staff, (hospital/field hospital).<sup>72</sup>

Each group has a medic with “drugs & skills” for advanced resuscitation. Each group has the possibility to get to a support bases, with "medical duty personnel" equivalent to university hospitals. Each platoon has 30min to "own" easy trauma group / QMT (Qualified Medic Team) / FRT (doctor + nurse + their kit).<sup>73</sup>

### **What transport is available for the movement of injured personnel back to their unit lines?**

The opportunities to solve this with own resources are very limited. If the unit has been reinforced by the LTG, they may try to transport the injured there by their own means of transport, for example ATVs (4x4). What you could do at LTG is to continue life support measures and make the casualty ready for medical evacuation. Whether one has the LTG or not the basic alternative for evacuation of casualties is by helicopter.

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<sup>69</sup> Swedish Special Forces

<sup>70</sup> LEXELL, J

<sup>71</sup> Reconnaissance battalion

<sup>72</sup> GOOD, M

<sup>73</sup> LEXELL, J

What you can pre-plan during the operational planning is to point out a number of helicopter landings nearby to the patrols in the event of an injury requiring helicopter transport. Usually this is the only way to quickly take, seriously wounded personnel to the nearest healthcare provider within an hour.<sup>74</sup>

Helicopter is the best alternative. Moreover, there is always the possibility of creating a medical convoy by road and trying to evacuate the personnel but this should really be considered a last resort, and constitutes a considerable risk.<sup>75</sup>

Allied/mission transport (e.g. us helicopter), Own vehicle (often wheel), Private contactors (e.g. flying doctors or AMREF).<sup>76</sup>



*Picture 2: MEDEVAC of Swedish soldier by helicopter in Afghanistan.<sup>77</sup>*

### **What other options are available if no transport is available?**

There is not much more to do than the measures that may be carried out on site. During planning, it may be helpful to clarify the details of civil state and the infrastructure of the operational area. Do people have a friendly or hostile attitude towards us? Is there a functioning medical facility in the area that the unit can use in case of emergency?<sup>78</sup>

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<sup>74</sup> Reconnaissance battalion

<sup>75</sup> GOOD, M

<sup>76</sup> LEXELL, J

<sup>77</sup> FÖRBANDSREGLEMENTE FLYGBASJÄGARKOMPANI Slutligt 2013-01-18

<sup>78</sup> Reconnaissance battalion

In an international scenario, if the time limits “10, 1, 2” are not required during the solving of a task, this will probably be cancelled and transition to something else. This is because the Swedish government is not willing to take risks for potential casualties in international operations.

In a national scenario, it is up to the commander how much risk he or she is willing to take. On international missions, it is very clear how logistics and especially healthcare operations are to be conducted. In contrast, in the national scenario and the defense of Sweden the plan is very vague for how such operations should be conducted.<sup>79</sup>

The unit must solve its mission so the question is whether the injured person has a unique function. If the unit is unable to solve the task without the injured person they must be replaced. In such case, they can put up a base and wait to be relieved and care for the wounded as best they can.

If the unit can continue to solve the task the injured party is either left in the base or taken to a civilian establishment. It should be expected that he or she will then be put into the hands of the enemy’s intelligence service, and this may not always be the best solution.<sup>80</sup>

Prolonged Field Care (we use HITMAN Protocol). Care is conducted up until emergency medical evacuations are possible or under foot-march to own lines. Physicians on available support bases support prolonged Field Care.<sup>81</sup>

## **The Czech Republic armed forces**

### **What preparations are carried out before operations behind enemy lines?**

One person in the squad is given nurse medical training, which takes between 6-12 months. If the individual is a Special Forces soldier, the training is far more extensive and they have the capability to carry out life saving surgery.

All personnel have their own first aid-kit in their left arm pocket. They also carry 3 injection needles, one for sarin-gas and one for morphine.<sup>82</sup>

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<sup>79</sup> GOOD, M

<sup>80</sup> Swedish Special Forces

<sup>81</sup> LEXELL, J

Before leaving on an operation, the unit creates a plan of extraction where they can be picked up if they sustain a casualty.

All personnel are at least “combat life-saver” trained with their own medical equipment.

The unit may also bring equipment that can help them bring back personnel in the form of a casualty evacuation (CASEVAC).

They have every opportunity to add extra equipment depending on the mission.<sup>83</sup>

### **What resources are available for care of injured personnel?**

All soldiers carry first aid kits.<sup>84</sup>

### **What transport is available for the movement of injured personnel back to their unit lines?**

CASEVAC and MEDEVAC are prepared within 5 minutes. They train and help the civilian departments such as medical care providers and the fire brigade, to maintain their competence.<sup>85</sup>

You will take what’s available; own, civilian or enemy vehicles. The best alternative is by helicopter. With a medevac or a casevac you will conduct diversion maneuvers to remove focus from the helicopter.<sup>86</sup>

### **What other options are available if no transport is available?**

The unit will stabilize the wounded and do what ever they can with the resources have. After that the, unit becomes stationary at the patrol base. And finally they will carry the injured person back to friendly lines.<sup>87</sup>

Firstly, categorizations of the injured person and his/her injuries are made. Special Forces that conduct interaction with the local people can sometimes use the local healthcare

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<sup>82</sup> RIHA, J

<sup>83</sup> DROZD, J

<sup>84</sup> IBID

<sup>85</sup> RIHA, J

<sup>86</sup> DROZD, J

<sup>87</sup> RIHA, J

centers/hospitals. However, for reconnaissance units whose survival and accomplishment of the task depends on stealth and avoiding detection, this solution is not possible.

In some cases they have to carry the injured person back to friendly forces.

They can also stabilize the injured person and wait for help from a linkup force, but this type of missions is very complicated to conduct.

If non-governmental organizations (NGOs) are working in the area the unit could cooperate with them.<sup>88</sup>



*Picture 3: 6th Field Hospital in Kabul.<sup>89</sup>*

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<sup>88</sup> DROZD, J

<sup>89</sup> KEJŘOVÁ, S. Vybavení vojenské polní nemocnice lékařskou přístrojovou technikou [Bakalářská práce], Brno 2010

## 4. ANALYSIS OF THE INTERVIEWS

In this chapter the answers from the interviews are collected and linked to literature. The literature is other units that use the same methods, which has been documented.

### 4.1. Service support

During the preparation phase, both countries have a similar way of preparing, which is relatively straightforward. They both describe the analysis of the mission and all the logistical parts that can affect the mission and this is taken under consideration.

If they reach the conclusion during the preparation phase that they will need to be resupplied they will prepare this before the mission. This is to make sure that they will get what they need during the resupply; additional supplies can be added by other personnel to ensure that the right material is delivered.

The long-range surveillance units (LRSU) the USA use have the same type of preparation before going on missions in enemy territory.

“Resupply operations for surveillance teams are normally planned and coordinated during the planning phase.”<sup>90</sup>

One method that sticks out from the rest is the Swedish army ranger battalion way of deploying a forward operation place. It seems to be built on the same concept as a forward operating base, which is used on a broad front in Afghanistan, only further into enemy territory. From there the logistics support can be distributed.

Having this forward operating place might require that the signals and logistical units all have terrain capability, and in winter, over snow capacity.

The primary methods used for bringing supplies by units infiltrating into enemy territory is first and foremost for both countries, the units’ self-sufficient logistics. The method is based on bringing the supplies needed for the mission. This has several advantages and disadvantages, which is mentioned in the interviews both by Swedish and Czech officers.

The US LRSU also uses this type of logistics for mission. “Required supplies are normally carried in by the teams to preclude compromise during resupply.”<sup>91</sup>

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<sup>90</sup> *LONG-RANGE SURVEILLANCE UNIT OPERATIONS*, FM 7-93, HEADQUARTERS, DEPARTMENT OF THE ARMY, Washington, DC. 1995, p, 85

<sup>91</sup> *IBID*, p, 85

“Deployed teams normally rely on the Class I that they can carry into their area of operations. They may also carry freeze-dried rations. For long missions, the team must consider caching rations. Resupply should be the last resort.”<sup>92</sup>

The US LRSU describe that resupply should be the last resort. According to the interviews the biggest concern for resupplying is that the unit operating in the area might be revealed. Consequently, the greatest advantage is that the operating unit in enemy territory can stay concealed with this type of logistics concept. The disadvantages however according to the Swedish Reconnaissance battalion is that it get very heavy, difficult to get adequate amounts of supplies and you have to prioritize. The Czech officers also mention this. A quote that strengthens the disadvantages with self-sufficient logistics:

“Special operations forces, by virtue of their insertion methods, are generally unable to sustain operations for an extended period. Whether they insert by glider, parachute, or C-130 aircraft, commands are limited in their firepower by what they can carry.”<sup>93</sup>

The range that the units can operate within in front of their own forward unit lines in enemy territory is determined by different factors both for the Czech and Swedish units.

When it comes to foot-patrol, the two countries have the same affective range, which is about 30km. Using aerial transportation such as fixed-wing (airplanes) or rotary-wing (helicopter) you can increase the depth of the mission and operation to the level of the vehicle’s maximum range. It may also depend on the risks you are willing to take according to the Swedish Special Forces.

One method used by the Swedes but only mentioned by the Czechs is the drop-off points. The technique is basic, to place supplies in a certain concealed location or position. Mark the spot preferably by tanking out the coordinates. Later units in need of supplies can be given the coordinates to conduct resupplying.

This method is also used by the LRSU, “When resupply of deployed surveillance teams is required, a drop point is established well away from the hide site and the surveillance site.”<sup>94</sup>

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<sup>92</sup> *LONG-RANGE SURVEILLANCE UNIT OPERATIONS*, FM 7-93, HEADQUARTERS, DEPARTMENT OF THE ARMY, Washington, DC. 1995, p, 85

<sup>93</sup> McRaven, W. *Spec ops : case studies in special operations warfare : theory and practice*. Novato, CA: Presidio, 1995. p, 67

<sup>94</sup> *LONG-RANGE SURVEILLANCE UNIT OPERATIONS*, FM 7-93, HEADQUARTERS, DEPARTMENT OF THE ARMY, Washington, DC. 1995, p, 85

Using personnel or organizations as contractors that sets up these drop-off points is also a solution, but the problem is finding those who are trustworthy.

The US Special Forces state that their logistics support can sometimes consist of a range of all the different types of methods that have been mentioned in the different interviews.

The mixture can consist of 30 days of self-sufficient logistics, air-borne logistics for class I, III and V. Further on class I can be obtained by local contractors. They also mention that they routinely purchase Classes II, III and IV supplies locally or from third-party contractors.<sup>95</sup>

#### **4.2. Technical support**

Preventive maintenance is big in both countries when it comes to preparations before going on missions in enemy territory. Having equipment that functions one hundred percent effectively is a key factor for avoiding malfunctioning equipment during a mission.

Both countries use preventive maintenance programs and programs for conducting inspections of the vehicles before missions. The US Special Forces have also arrived at similar conclusions, documented as following:

“Preventive maintenance checks and services are critical in tropical, arid, or arctic environments that typically exist in undeveloped theaters. The frequency of periodic services often differs in these regions. Repair facilities in an undeveloped theater are often unavailable as well. The SF group commander should review the MTOE to determine the items he needs to meet increased maintenance demands caused by operations in an undeveloped theater. For example, he may need repair parts, special tools, or diagnostic equipment for testing and measuring items. The SF group should identify maintenance support in the SOR before deployment. The group commander may also contract for Host Nation (HN) maintenance support of its equipment.”<sup>96</sup>

This clearly states that preventive maintenance checks and services are critical. They also point out that repair facilities in an undeveloped theater are often unavailable, making the pre-check of equipment extremely vital.

Regarding the question on what technical support can be inserted behind enemy lines, both Sweden and the Czech Republic state that insertion of personnel is challenging. The solution

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<sup>95</sup> FM 3-05.20 (FM 31-20) SPECIAL FORCES OPERATIONS, Headquarters, Department of the Army, 2001, p, 149.

<sup>96</sup>IBID, p, 149.

to this hard and dangerous task is to attach competent personnel during a specific mission before the infiltration into the enemy territory. LRSU conduct the same procedures when they need maintenance support. “Neither the LRSC nor LRSD have organizational maintenance personnel. The communications platoon or section of the LRSC or LRSD perform operator maintenance on communication and electronic equipment. Organizational and direct support maintenance is requested through the unit assigned to provide support.”<sup>97</sup>

During the interview with Swedish Special Forces they mention that “in this situation, you cannot rely on resources that are not available in house.” What they mean by that is that during missions in enemy territory the situation can be very demanding and dangerous, so they only bring personnel that they have under their own roof (working within the Special Forces), people that they can trust. This can be traced back to the quote:

“Further on the logistics is constantly put before new challenges that demand adjustments. All the more rapid changes mean that the logistic solutions need to be more flexible to be able to solve the given task. This demand is hard to accomplish and in turn puts pressure on the personnel that will solve it to predict the affect the development of creating sustainable logistical solutions both in national and international missions.”<sup>98</sup>

The last question about technical support was what happens if problems occur with the equipment. Unfortunately, the interviewees from the Czech Republic did not have an answer for this. However, the Swedish way was simple. It is up to the soldiers to either repair, cannibalize, discard or destroy the equipment.

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<sup>97</sup> *LONG-RANGE SURVEILLANCE UNIT OPERATIONS*, FM 7-93, HEADQUARTERS, DEPARTMENT OF THE ARMY, Washington, DC. 1995, p, 87

<sup>98</sup> Försvarsmakten, *Grundsyn Logistik*, Stockholm, Tryckeri: Alfa Print AB, 2007, p.11



*Picture 4: Replacement of wheel on a Swedish vehicle in the field.<sup>99</sup>*

### **4.3. Healthcare**

The medical preparation before missions in enemy territory is very different depending on the unit interviewed, but the overall methods are similar within both countries. The first step for both countries and all units is the medical training. The level of training in terms of competence and skills acquired depends on the unit and its task. The more complex the task and level of independence the unit has, the more advanced the training.

After this, maintaining good hygiene to prevent diseases from spreading is a key factor to keeping everyone healthy. Subsequently, the decision on whether a person is coming on the mission or not needs to be made. This is based on the health status of the individual. Bringing personnel that are not in good health can jeopardize the, safety of the units and the mission.

Concerning the resources that are available for care of injured personnel in enemy territory the Czech way is based on the training that the personnel have obtained prior to the mission.

The Swedish way on the other hand does also rely on the soldiers and medic's prior training, but only in the beginning between the first 10 minutes to 60 minutes. Next they try to transport the casualty to a forward medical unit. Such as the QMT, FRT or LTG depending on the unit and

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<sup>99</sup> FÖRBANDSREGLEMENTE FLYGBASJÄGARKOMPANI Slutligt 2013-01-18

where it is operating. After that they attempt to transport the casualty back to a hospital/field hospital for medical expertise within 2 hours. US Special Forces have a similar way “At the FOB, the surgeon and the physician’s assistant can perform advanced trauma life support procedures and provide limited resuscitative care.”<sup>100</sup>

To summarize the Swedish healthcare system aims to administer care of the casualty with Tactical Combat Casualty Care within 10 minutes and after that have the casualty receive lifesaving surgery after 1 hour and medical expertise after 2 hours.

Regarding transportation of casualties back to own territory, both countries state that helicopter transport is the best alternative for movement. If the helicopter alternative is not available the other methods employed by the two countries are similar. The methods are using own, enemy or civilian vehicles or carrying the casualty back.



*Picture 5: CASEVAC by foot march executed by squad members in Afghanistan<sup>101</sup>*

The final question of what other options are possible if no transport is available both countries mentions the use of local health centers and hospitals. But this is not always possible. There are many factors to take into considerations. For example, does the population support the troops in the area? Is the operation or mission covert and no one can know that the unit is operation

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<sup>100</sup> FM 3-05.20 (FM 31-20) SPECIAL FORCES OPERATIONS, Headquarters, Department of the Army, 2001, p, 150

<sup>101</sup> FÖRBANDSREGLEMENTE FLYGBASJÄGARKOMPANI Slutligt 2013-01-18

in that area? The Swedish “airbase rangers” have in their units regulations described other healthcare establishments as:

“Other units and nations military forces have their own health care resources, the medic is responsible for finding out what those resources are and where they are located and if possible establish personnel contacts. An example of other actors in an area in an international operation is the Red Cross, Doctors Without Borders and other voluntary health organizations in the area. Medic should find out the extent to which and where it is possible for their own units to use these in an emergency. It is also important to know where the local hospital is located.”<sup>102</sup>

This is a good summary of what other forms of medical assistance a unit can obtain when the own resources are not available or are not adequate.

US Special Forces also use the host nation or a third party during different missions.

“In an undeveloped theater, the group surgeon may use U.S., HN, or a third country’s medical facilities during normal operations to augment the medical capabilities of the group and battalion medical sections.”<sup>103</sup>



*Picture 6: Doctors without borders refugee camps*<sup>104</sup>

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<sup>102</sup> FÖRBANDSREGLEMENTE FLYGBASJÄGARKOMPANI Slutligt 2013-01-18 p.157

<sup>103</sup> FM 3-05.20 (FM 31-20) SPECIAL FORCES OPERATIONS, Headquarters, Department of the Army, 2001, p, 150

<sup>104</sup> [http://www.healthcareglobal.com/global\\_hospitals/Refugee\\_camp\\_bannon\\_01.jpg](http://www.healthcareglobal.com/global_hospitals/Refugee_camp_bannon_01.jpg) 2014-05-21

## **5. DISCUSSION AND AUTHORS POSITION**

This chapter contains discussion and authors own view regarding the sub-branches service support, movement support and healthcare based on the material collected during the interviews about the given subjects.

### **5.1. Service support**

The first big difference between Sweden and the Czech Republic when it comes to service support is the forward operating place that the Swedish army ranger battalion uses. This method of pushing forward all the logistics and command and control functions is neither new nor revolutionary but a hard one to handle in enemy territory. It has been conducted to make logistics lines shorter and communication easier. One example of this is all the Forward Operating Bases (FOB) put up in Afghanistan, which can be connected to how the “enemy territory” could look in an asymmetric war. From the interview with the C S4 at the ranger battalion, it can be ascertained that the forward operating place is a lot like a FOB, only smaller, lighter, more maneuverable and can be located inside the enemy’s territory during conventional warfare.

All light infantry units both in Sweden and in Czech Republic can probably learn this method when it comes to a nation scenario such as defending the own country in a conventional war.

It is what you could call an unconventional method in a conventional war. From my point of view, this method could increase the range and endurance for sabotage and reconnaissance units. Most of the time these units have a limited number of days that they can operate without being resupplied. After that they need to conduct an exfiltration, which is a hazardous part of the mission. Removing this part with a forward operating place, making it possibly to resupply and recharge within the enemies territory will shorten the time that the squads need between different missions.

When it comes to service support in asymmetric wars such as in Afghanistan the Czech Republic and Sweden have many similarities. NATO has undoubtedly a part in this. Czech Republic is a NATO nation and Sweden a Partnership for Peace country and both are participating in a NATO lead operation in Afghanistan. In my opinion, this will affect the way service support is conducted by the two countries in overseas joint operations. The usage of helicopters is the major asset to the allied coalition force, both for service support and other logistics tasks, which has been provided by the US military force.

The question to consider is if the way service support is conducted will change after Sweden leaves Afghanistan this year (2014) or if Sweden will be more NATO oriented with relying on helicopters even after the cooperation ends in Afghanistan?

Another difference between Sweden and the Czech Republic in service support, based on conclusions drawn from the interviews, is that Sweden relies more on drop-off points and link-up than Czech Republic. It appears that the Swedes look on this method as an easier task than the Czechs, as the Czechs “need” to plan this before heading out on a mission for the method to work. Especially when it comes to link-up. The reason for this could be the legacy from the Swedish battle-plans during the cold war when service support had to be conducted over great distances and sometimes to units cut off from regular supply routes. There had also been major preparations for stationery drop-off points all around the country, for example, to provide ammunition. Although some of this has been forgotten the technique still exists in small fractions in the Swedish army. This is something that I think the Czech Republic could develop. The reason for this is that the method can be used in a diverse number of ways, both in conventional, unconventional wars and for different units. The method is a good way to prolong the endurance for units operating in the area, which is a key factor for winning wars.

## **5.2. Movement support**

Maintenance of equipment is one of the most important factors in preventing malfunction. Both countries have resolved to create preventive maintenance programs for everything from vehicles to equipment. The structure of these programs has not been looked into but the purpose of them is quite clear: to keep the equipment in good shape and thoroughly check it before a mission.

One thing the Czech Republic does differently than Sweden is having two weeks in which they prepare their vehicles for the coming season either for winter or summer. From personal experience, the Swedish armed forces only change their tires going from summer to winter or the opposite. Comparing the weather conditions in the two countries would probably show that Sweden has greater climate shifts between summer and winter than Czech Republic. Without knowing in detail what measures the Czech army take during their two-week preparation, it would not be too daring to suggest that Sweden could probably learn a great deal from this method and create a similar system with their own procedures for their vehicles.

After analyzing the answers from the questions of what technical support can be inserted behind enemy lines and what happens if problems occur with the equipment, the interviewees from Sweden mentions that it is hard to insert personnel that can repair equipment once it is located in enemy territory. Therefore most of the units rely on the technical skills of soldier operating the equipment to repair it. This has several advantages and disadvantages. The advantages are that the unit hopefully can repair the equipment if it breaks down and depending on the circumstances this can be done relatively quickly. It also means that the unit can remain concealed and can work more independently. The disadvantages is that if they don't have the capability or knowledge of how to repair the equipment the unit either have to destroy, cannibalize it or bring it (if it is sensitive equipment that the enemy must not see). The Czech Republic way is more similar to the methods they use for supplying service support. It also seems that they rely more on being able to insert personnel with technical knowledge. The advantages of this method are that it is possible to repair equipment and continue on with the mission without having to replace necessary equipment or units. The disadvantage is that if the insertion of personnel fails it will be more difficult for the unit to fix the equipment or they will have lost a lot of time waiting for help that does not arrive.

Training this method of inserting competent personnel is not a bad idea. In my opinion, this is something that Sweden could adopt. However, this method could not be the one and only option and countries should have redundancy with backup plans for important equipment.

### **5.3. Medical and Healthcare**

Most countries that train military personnel have tactical combat casualty care (TCCC) embedded in their army's basic training. After that, there are plenty of courses that soldiers and officers can attend in order to practice the skill of TCCC. The level and complexity of these courses vary depending on whom and what units are training. This is a factor that I believe all countries have realized is key to saving the lives of their soldiers: Sweden and Czech Republic are no exceptions. Consequently, I believe both countries preparations before an operation or a mission in enemy territory are similar for the individual soldier.

One of the interviewees mention medical intelligence. This is described as information about existing health care providers and where they are located, details of risks, distance, diseases, environment, threats, the wide range of different injuries and available transports.

Some of these aspects are brought up in other interviews but only separately. In my view, all units should follow some kind of medical intelligence procedure, where they assess the mission and the different dilemmas that may present as mentioned earlier.

Another factor taken up by the Swedish battalion interviewees is that they have light maneuverable medical squads or platoons that can follow fighting units into enemy territory and conduct lifesaving surgery and stabilize casualties before they are taken back to friendly units or transported by casevac or medevac to hospitals.

This means that Sweden has smaller qualified units farther out on the line creating freedom of action, for example, for a platoon commander operating in enemy territory to take greater risks because he knows that casualties will be close to qualified medical care.

In my opinion, this lighter medical team's reason for being lies in the geography of Sweden. Sweden is a large country in comparison to number of inhabitants. In addition, the lowest population density is from the central regions and upwards into the north of Sweden. This creates long transport distances for casualties, which could result in fatalities. Having these small skilled medical teams nearby to the units will probably shorten the distance to medical aid and save lives. So why have the Czech Republic not developed smaller medical units that could be based on their proximity to stationary medical arrangement.

One other explanation could also be that Czech Republic is a NATO country and Sweden is not. Being in an alliance with bigger countries could lead to reliance on others' support, for example medical assistance and medevac by helicopter. Sweden, on the other hand, is not a NATO country. In a national defense situation, it is unlikely that Sweden will have air-superiority. This means that Sweden as a country needs to devise ground methods for transporting casualties back to safety.



*Picture 7: A Swedish waiting point for casualty in winter environment<sup>105</sup>*

The Swedish time guidelines of 10, 60 and 120 minutes for severely injured personnel have been implemented throughout the entire armed forces. The time sequence is a good way to connect time and the severity of injury to the different role levels that exist in NATO. During the interviews, this has not been mentioned in relation to the Czech armed forces. One suggestion to the Czech Republic could be to implement a similar time pattern based on their experiences with transportation time to different role levels.

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<sup>105</sup> *Förbandsreglemente flygbasjägarkompani Slutligt 2013-01-18*

## CONCLUSION

The main aim of this thesis was to compare the different methods used by Sweden and the Czech Republic to solve the issue of logistical support to units in enemy territory.

Sweden and Czech Republic have similar methods of logistical support to units in enemy territories. The main differences lie in the extent to which each method is used in different scenarios. In some cases, the two countries choose completely different methods for when encountering the same problem, but the countries have knowledge about the other alternatives.

In all of the three branches that have been compared, both countries have mentioned the usage of helicopters. The reason for this has not been thoroughly investigated but a qualified guess is that the recent conflicts in both Afghanistan and Iraq have affected both the Swedish and Czech Republic way of conducting logistical support for both service and health support.

Differences in methods in the branch of service support concerns mainly Sweden e.g. the army ranger battalion and their way of deploying a forward operating place with all the different NATO classes positioned in enemy territory. For technical service, both countries have the same methods but their main focus varies. Czech Republic relies on deploying assets before or during the mission or operation and Sweden trusts their soldiers more in the field to solve problems of malfunctioning equipment. In terms of healthcare support, Sweden unlike the Czech Republic has a more developed system of small and qualified groups or units being close to the units operating in enemy territory.

In the modern world, it is not often completely new methods or techniques are invented. The differences lie within which ones to choose and how to use them. Even if Sweden and the Czech Republic operate in similar ways they are also different and can learn much from each other.

Author's recommendation of further research in the subject of logistics in enemy territories is the development of this subject is to compare the methods used by the United States' armed forces. The reason for this is their experience in Special Operations and conflict all over the world that

could give a different point of view on the subject. Another approach could be to compare a country that is not part of NATO or PFP and has only focused on national defense.

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## **ANNEXS**

**Annex A – Interviews for thesis**

**Annex B – Tree for sub-branches**

## **Annex A**

### **Persons for interviewing**

#### **Sweden**

Major Matts Good. C S4, Head of logistics at battalion level, Army ranger battalion (AJB)

Major Reine Larsson. C S4, Head of logistics at battalion level (Reconnaissance battalion)

1. Lieutenant Tom Lutmark. Second in command of logistics at battalion level (Reconnaissance battalion)

1. Lieutenant Johan Lexell. Creator of QMT, Head of Healthcare (AJB)

Staffan XXXX. Head of Logistics Swedish Special Forces.

#### **The Czech Republic**

Major Jan Drozd. Vice dean at University of Defense, Czech Republic.

Lieutenant colonel Josef Říha. Served at reconnaissance battalion.

1. Lieutenant Martin Čech. C S4 Head of logistics at battalion level at Bagram military base in Afghanistan in 2014.

### **Questions:**

#### **Supplies support**

1. What preparations are carried out before operations behind enemy lines?

2. What different methods are there and which of these are used for the different classes I-V (NATO standard)?

3. Distribution methods:

- What are the advantages and disadvantages of the different methods?
- What is the maximum effective range for each of the different methods?

#### **Technical support**

4. What technical preparations are carried out before operations behind enemy lines?

5. What technical support can be inserted behind enemy lines?

6. What happens if problems occur with the equipment?

### **Healthcare**

7. What preparations are carried out before operations behind enemy lines?

8. What resources are available for care of injured personnel?

9. What transport is available for the movement of injured personnel back to their unit lines?

10. What other options are available if no transport is available?

# Annex B

## Tree for sub-branches

