

THE SWEDISH ARMED FORCES'

ENVIRONMENTAL REPORT

2017



SWEDISH ARMED FORCES

INTRODUCTION TO THE ENVIRONMENTAL REPORT 2017

The Swedish Armed Forces publish an annual environmental report, which we consider fulfils the requirements of the EU Eco-Management and Audit Scheme (EMAS). The aim of the report is to give the reader an understanding of how the Swedish Armed Forces take environmental issues into consideration in all their activities, and our environmental performance during the previous year. The report covers the entire organisation and the information presented is based on data from the national activities of the Swedish Armed Forces. The information contained in this report has been compiled and quality assured by the Swedish Armed Forces' Joint Sustainability Department. For further information, see forsvarsmakten.se.



”GREATER SUSTAINABILITY”

THE PAST YEAR has been intensive, and we have taken several important steps towards a defence that is both stronger and more sustainable. An important milestone was, of course, the Armed Forces’ exercise, Aurora. It conveyed a message of strength, showing not only that we can operate with foreign units and civilian actors, but that we can also take environmental issues into consideration during our exercises.

Internally, environmental issues received a real boost during the year, with a new environmental review, proposals for new targets and environmental policy, environmental audits and an evaluation of the joint environmental management system, with committed Armed Forces’ management – all important elements of systematic environmental work in the Armed Forces!

In 2017, the heads of all defence sector authorities also made their positions on the environment clear, by signing the defence sector guidelines. This document provides important support to our work, now and in the future.

We have also begun to strengthen the Armed Forces’ leadership capabilities, including the appointment of an environmental coordinator in each of the planned new single-service headquarters. We continue to strengthen the Armed Forces’ sustainability efforts, linked to the global sustainability goals in Agenda 2030, and established a new sustainability section in the Armed Forces Headquarters at the turn of the year 2017/2018.

In 2017, a pilot study into climate change was launched. This will lead to a general increase in understanding of how climate change affects various aspects of the Armed Forces’ work and processes, and their relation to other relevant international agreements and objectives. It will also identify proposals for further exploration of possible ways to manage and minimize risks for current and future activities. The report was completed at the beginning of 2018.

All the indications are that 2018 will be a year of change!



Photo Niklas Ehlén/Swedish Armed Forces

A handwritten signature in black ink, which appears to read "Peter Sandwall".

Peter Sandwall
Director General, Swedish Armed Forces

ABOUT THE SWEDISH ARMED FORCES

We defend Sweden, the country's interests, our freedom and the right to live the way of our choice.

OUR MISSION

The principle task of the Swedish Armed Forces is responsibility for Sweden's military defence and the protection of Sweden. We do this by exercising and conducting operations 24 hours a day, all year round - on land, in the air and at sea. Anytime the needs arises, the Armed Forces must be ready to act. Sweden also helps other countries where there is war and conflict.

NATIONAL OPERATIONS

The Armed Forces conduct national operations within Swedish territory. These may concern the country's security: if ships or aircraft enter Swedish territory without permission, it is the Armed Forces' task to intercept them. Such operations can also concern Sweden's society and citizens: if an area is affected by forest fires, severe storms, flooding, or if people go missing, we will provide help.

THE ARMED FORCES ABROAD – INTERNATIONAL OPERATIONS

The Armed Forces have some 400 people abroad in countries affected by war and conflict. They are there on behalf of Sweden's government and parliament. Sweden wants to contribute to peace support opera-

tions – and not stand by, looking on. By attempting to resolve conflict and unrest beyond our borders, we can help prevent them spreading to other countries. It also reduces the risk of our own country being threatened.

OUR CONTRIBUTION AND MANDATE

We strive to deter – and face – all forms of military attack, ultimately through our capability of a fully armed response. We ensure Sweden's integrity, independently and together with others. We contribute to a robust society – in peace, crisis and war. We are a symbol of the country's democracy and its independence.

CORE VALUES

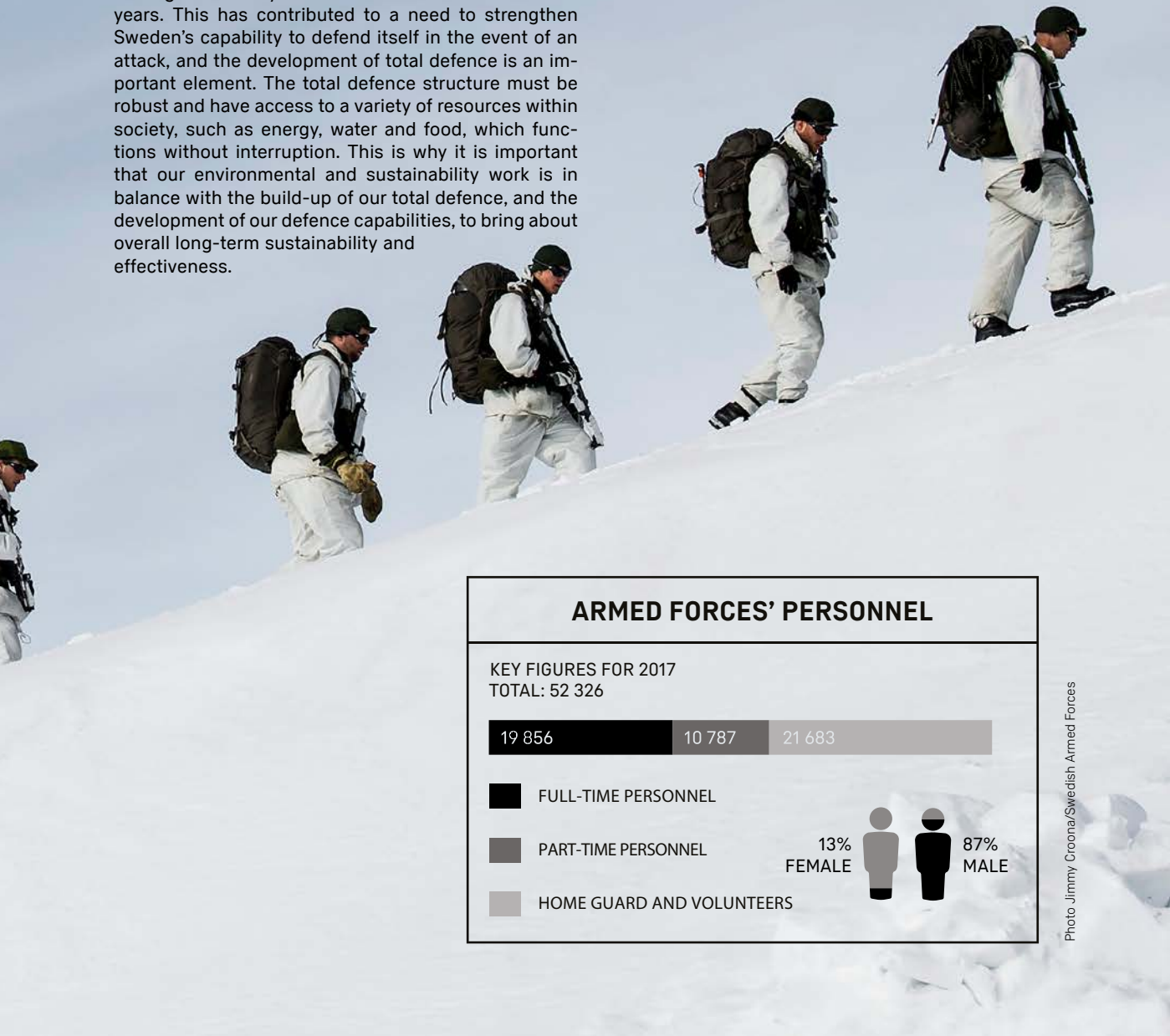
Our values are described under three central concepts: openness, results and responsibility, and in the Armed Forces' Code of Conduct, which applies to all personnel. These values should permeate everything we do.



OUR MISSION

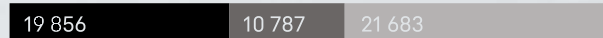
OUR MISSION SUSTAINABILITY – PART OF THE ARMED FORCES' DEVELOPMENT

Our regional security situation has deteriorated in recent years. This has contributed to a need to strengthen Sweden's capability to defend itself in the event of an attack, and the development of total defence is an important element. The total defence structure must be robust and have access to a variety of resources within society, such as energy, water and food, which functions without interruption. This is why it is important that our environmental and sustainability work is in balance with the build-up of our total defence, and the development of our defence capabilities, to bring about overall long-term sustainability and effectiveness.



ARMED FORCES' PERSONNEL

KEY FIGURES FOR 2017
TOTAL: 52 326



■ FULL-TIME PERSONNEL

■ PART-TIME PERSONNEL

■ HOME GUARD AND VOLUNTEERS

13%
FEMALE



87%
MALE

SWEDISH ARMED FORCES' UNITS, SCHOOLS AND CENTRES

1 STOCKHOLM

Armed Forces Headquarters (HKV)
Armed Forces HR Centre (GM HRC)
Karlberg Military Academy (MHS K)
Armed Forces Logistics (FMLOG)

2 BERGA

1st Marine Regiment (Amf 1)
4th Naval Warfare Flotilla (4.sjöstridsflj)

3 VÄLLINGE

National Home Guard Combat School (HvSS)

4 KUNGSÅNGEN

Life Guards Regiment (LG)

5 UPPSALA

Armed Forces Intelligence and Security Centre (FMUndSäkC)
Air Combat Training School (LSS)

6 ENKÖPING

Armed Forces Command and Control Regiment (LedR)

7 ÖREBRO

Armed Forces Communication and Information Systems Command (SwAF CISCOC)

8 VISBY

Gotland Regiment (P 18)

9 LINKÖPING

Armed Forces Helicopter Wing (hkpflj)

10 KARLSBORG

Life Regiment Hussars (K 3)

11 SKÖVDE

Skaraborg Regiment (P 4)
Logistic Regiment (TrängR)
Land Warfare Centre (MMS)

12 EKSJÖ

Göta Engineer Regiment (Ing 2)
Swedish EOD and Demining Centre (SWEDEC)

13 SÄTENÄS

Skaraborg Wing (F 7)

14 GOTHENBURG

Armed Forces Centre for Defence Medicine (FömedC)

15 KARLSKRÖNA

Naval Base (MarinB)
3rd Naval Warfare Flotilla (3.sjöstridsflj)
1st Submarine Flotilla (1.ubflj)
Naval Warfare Centre (SSS)

16 RONNEBY

Blekinge Wing (F 17)

17 HALMSTAD

Air Defence Regiment (Lv 6)
Military Academy Halmstad (MHS H)
Armed Forces Technical School (FMST)

18 REVINGEHED

South Skåne Regiment (P 7)

19 UMEÅ

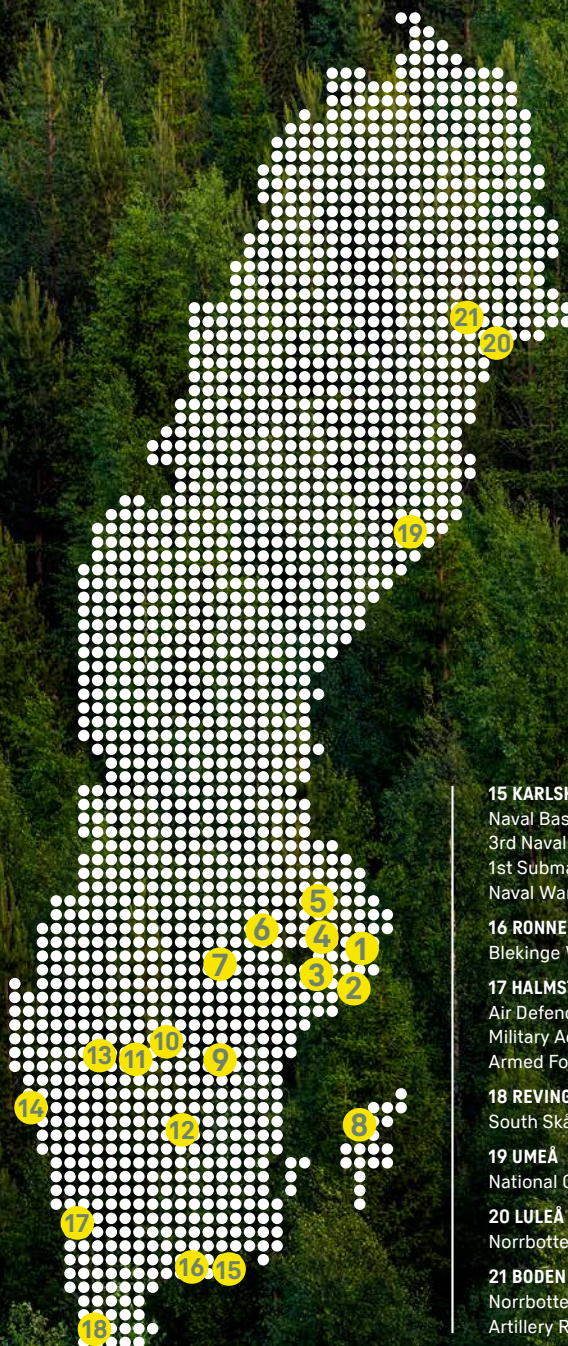
National CBRN Defence Centre (SkyddC)

20 LULEÅ

Norrbotten Wing (F 21)

21 BODEN

Norrbotten Regiment (I 19)
Artillery Regiment (A 9)





PAGE 8 ENVIRONMENT AT ALL STAGES

In 2017 91% of Armed Forces' exercise orders had an environmental annex. These annexes are the basis for the inclusion of environmental considerations in exercises, and operations.

Photo Anna Norén Combat Camera/SwFA



PAGE 12 KEY PROGRESS FOR LAND AND ENVIRONMENT

For Annelie Strand, Environmental Officer at I 19, her work is about increasing confidence in the Armed Forces.

Photo Bezav Mahmud/SwFA



PAGE 14 OUR ENERGY EFFORTS

By 2020, the Armed Forces' use of energy should have decreased by 20% in less than a decade. Read more about how.

Photo Alexander Karlsson/SwFA

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Photo Bezav Mahmud/SwFA

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Jakob Gille, senior sustainability advisor, on how Armed Forces' energy efficiency tools and methods are achieving concrete results.

Photo Alexander Karlsson/ SwFA

PAGE 24 ENVIRONMENTAL GOALS

The Armed Forces have three goals linked to their greatest impact on the environment: energy, waste and exercises.

Photo Mats Nyström/SwFA

PAGE 25 ENVIRONMENTAL MANAGEMENT, AND A HEDGEHOG

During the year, the Armed Forces' systematic environmental efforts have taken important steps in the right direction. We take a look back – and a look forward.

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"The hedgehog represents perseverance, just like our environmental efforts"



PAGE 18 IN THE SAHARA

EHO (Environment Health Officer) is an important function in the Armed Forces, responsible for minimising a unit's impact on the environment and health during international operations.

Photo Alexander Gustavsson/SwFA



PAGE 21 WASTE GOALS

My Holgersson is the Environmental Officer in the unit responsible for the optimal disposal of waste resulting from Armed Forces' activities.

Photo Joel Thungren/SwFA



PAGE 26 ENVIRONMENTAL DIRECTOR'S CONCLUSION

The Armed Forces' first Environmental Director, Naznoush Habashian gives her vision.

Photo Stefan Isaksson/Johner



Photo: Anna Noren, Combat Camera, Swedish Armed Forces

EXERCISE ENVIRONMENTAL ANNEXES

THE SWEDISH ARMED FORCES' ultimate task and unique skills involve dealing with an armed attack. This means that the Armed Forces must exercise and train in armed combat. Exercise activities affect the environment in a number of ways. Exercises on land, at sea and in the air produce unwanted noise; activities, such as underwater explosions, vehicle movement, helicopter operations and fieldworks on land, have an impact on the natural environment.

The conduct of operations and exercises is governed by orders. In these orders, environmental activities are governed by an environmental annex, which describes in detail participating units' responsibilities, dealing with landowners, restrictions, dealing with incidents and damage, fuel and chemical handling, waste management and reinstatement. These annexes are primarily based on laws and regulations, implemented via internal orders and regulations.

THE ENVIRONMENT AT ALL STAGES



PRE-EXERCISE PLANNING AND PREVENTION

This is when the Armed Forces begin preventive work and create conditions to minimize the environmental impact of the exercise/operation.

- Contact with landowners
- Restricted area maps
- Training
- Environmental annexes to orders



DURING EXERCISE SUPPORT AND COMMUNICATION

Here personnel with specialist skills work to limit the impact of exercise events/operations on the land and the environment.

- Submit status reports to the Exercise Director
- Provide support during media contact



POST-EXERCISE DAMAGE MANAGEMENT, CONTROL AND LESSONS LEARNED

This not only involves clean-up work, but also all-important experience analysis – how we can be better next time.

- Continued damage management
- Damage control
- Experience analysis



Photo: Anna Nordin, Combat Camera, Swedish Armed Forces

DID YOU KNOW

There is wide natural diversity on many Armed Forces' ranges and training areas. Most often, this is because military activities have prevented other use of the land. In addition, the impact of exercise activities (e.g. land erosion, fire and tree damage) has created important habitats for many threatened animal and plant species.

The Armed Forces have taken the initiative to collect nationwide quality assured data and present it in a "Marine biological calendar". For the Armed Forces, access to this information means that we now have the opportunity to identify the where and when of sensitive aspects of nature in our areas of interest. This gives us an opportunity to adjust our activities in time and space so that we minimize the risk of damage to nature.

Read more at forsvarsmakten.se

ENVIRONMENTAL ANNEXES

NUMBER OF EXERCISE ORDERS CONTAINING AN ENVIRONMENTAL ANNEX

2015
73%

2016
86%

2017
91%





EXERCISE AURORA 17 FROM A LAND AND ENVIRONMENTAL PERSPECTIVE

Thanks to thorough exercise planning, the land and environmental damage during Aurora 17 was limited. Extensive training and continuous risk analysis throughout the planning and the exercise itself are two factors behind the successful outcome.

THE LARGE NUMBERS of participating personnel, vehicles, boats, ships, helicopters and aircraft, combined with the demand for realistic training situations, were a challenge for everyone – not least the land and environment staff. The size and complexity were on a completely different scale from any previous exercise since 1993.

Lieutenant Commander Björn Almqvist, in the Sustainability Section, was one of those responsible for the land and environmental function during Aurora 17. Planning began in 2015, two years before the exercise was due to take place. He realized at an early stage that the preparatory phase would be decisive for the outcome.

– I realised that Aurora 17 would have a variety of impacts on the land and environment. From experience we know that road movement alone has an impact in terms of both accessibility and the environment. The goal during this exercise was to limit the land and environmental impact as far as possible.

In summary, from a land and environmental perspec-

All areas where units wished to exercise were investigated on site several times, to ensure that the desired events could be accomplished without immediate risks of damage to the land and environment. Areas and objects with particular protection, e.g. ancient monuments, were marked, as were areas unsuitable for heavy vehicles.

The information was also published in the digital map tool Collector, which was used during Aurora 17.

– The Exercise Director for Aurora 17, Major General Bengt Andersson, saw at an early stage that land and environmental considerations were important, and in every presentation he gave across the organization, he stressed the importance of land and environmental issues. This created a high level of commitment in units, says Björn Almqvist.

Björn Almqvist was careful, throughout the planning, to continuously carry out risk analyses to identify potential problem areas at an early stage.

”The goal during this exercise was to limit the land and environmental impact as far as possible.”

tive, the exercise went very well. In total there were 355 land and environmental incidents; three were major – two traffic accidents and one involving damage to land when heavy vehicles drove into a field. All incidents were resolved in accordance with the land and environmental training held, and the instructions issued.

RESTRICTED AREA MAPS – ALL IMPORTANT

One of the keys to success was the training and information work carried out. All 20,000 participants underwent training where they learned how to act in the event of incidents, divisions of responsibilities, landowner issues related to restricted areas, handling of chemicals and waste, and how damage should be dealt with. The successful training of so many participants was a challenge.

Foreign units participating in the exercise were sent an information and training package before their arrival in Sweden, in order to be able to train their personnel and prepare for the exercise. In Sweden, visiting units were allocated a contact person for land and environmental issues and during the exercise, they received support and help from unit instructors.

In addition to training and information, so-called restricted area maps were central to the planning and conduct of the exercise.

CONTROL AND REINSTATEMENT

A land and environmental cell was established at the Central Exercise Control and continuously manned throughout the exercise. The cell’s task was to help Exercise Control with land and environmental issues during the exercise and to quickly take any measures necessary when incidents occurred.

In each exercise area, specially trained personnel, who had daily contact with the central land and environmental cell, monitored and supported all land and environmental activities.

After the exercise, work was carried out to repair and reinstate any damage remaining after completion of the exercise. Finally, all experiences relating to land and environmental activities were gathered and compiled from those who were responsible for the field and environmental function out in the exercise areas.

These experiences are important and will form the foundation for future activities and exercises.

– Thanks to the measures we took, and our planning, we managed to keep down the costs of land and environmental damage and avoided any major land and environmental incidents. I would like to commend Aurora 17 as a good example of the Armed Forces’ environmental work, concludes Björn Almqvist.



Björn Almqvist,
staff officer



Photo: Beazav Mehmetov/Swedish Armed Forces

ENVIRONMENTAL PROGRESS

For Annelie Strand, environmental work is all about reinforcing public confidence in the Armed Forces. As Environmental Officer with I 19, she is primarily involved in the continuous development of the land use- and environmental function.

EXERCISING TOWARDS the right goal, with the right methods and the right personnel is not enough. The effects of all military exercises on the land and environment must also be taken into consideration. Twenty years ago, this idea would have been met with scepticism in many parts of the Armed Forces. Today is different – explains Annelie Strand, Environmental Officer with I 19 in Boden.

– There is widespread acceptance of land and environmental issues today. We are also more sought after. You want to do the right thing, in all respects.

She has seen the development within the Armed Forces since 2006, when she started as an Environmental Officer. She has a background as a civil engineer, and her work has the most direct impact on military activities. It is about trust, she explains. If the unit's exercises result in damage to land that is not repaired, and environmentally hazardous

spillage, not only is the public image of the Armed Forces damaged, it will also become more difficult to get access to land for exercises.

It would be impossible to conduct an exercise like Aurora 17 without sympathetic landowners, because a large number of exercise events took place outside our own exercise areas.

– We had a lot of help from the new tool Collector, a mapping app with a host of features, including information about buildings, damage reporting and actions taken.

Collector was used for the first time during Aurora and Annelie Strand believes that it played a vital role in the success of the exercise, from a land and environmental perspective. In addition, because of smoother reporting and information gathering, Collector was also able to give a complete picture of the situation

– That way, all land use and environment



Annelie Strand,
Environmental
Officer

personnel could see incoming and current cases. When the public called any of us with questions we were always able to give quick and accurate answers.

ENVIRONMENT'S LONG ARM

Important parts of Annelie's and her colleagues' work are planning and cooperation. A presence is required out in the field both before and during an exercise. Land use and environmental officers always participate in larger exercises.

field with units provided good support and were able to respond quickly and effectively to those affected by any damage, says Annelie Strand.

VALUABLE KNOWLEDGE

After completion of an exercise event, the area concerned is always checked. Any damage is recorded and reported "as quickly as possible". Annelie Strand Points out that it is important to contact land or property

"The close cooperation between the Army, Air Force and Navy was new to us and worked really well."

"We seldom need to intervene, but it does happen, for example, in cases of major fuel spillages or unsuitable areas for troop locations.

Often, exercise instructors are involved. Their tasks include ensuring that regulations are followed, and therefore they become the long arm of the land use and environmental function.

The single most important factor behind the successful work during Aurora 17 was having one dedicated function, stretching from the central Exercise Control down to each individual unit.

- The land use and environmental personnel in the

owners before they discover any damage themselves.

– When we come forward and explain what has happened and how we provide compensation, we are met with a much more positive attitude.

Exercise Aurora 17 was not only a success for Annelie and her colleagues, but it also provided valuable knowledge for the Armed Forces' continued development in this area.

– The close cooperation between the Army, Air Force and Navy was new to us and worked very well. If we continue to work together in the same way, we can achieve even better results.

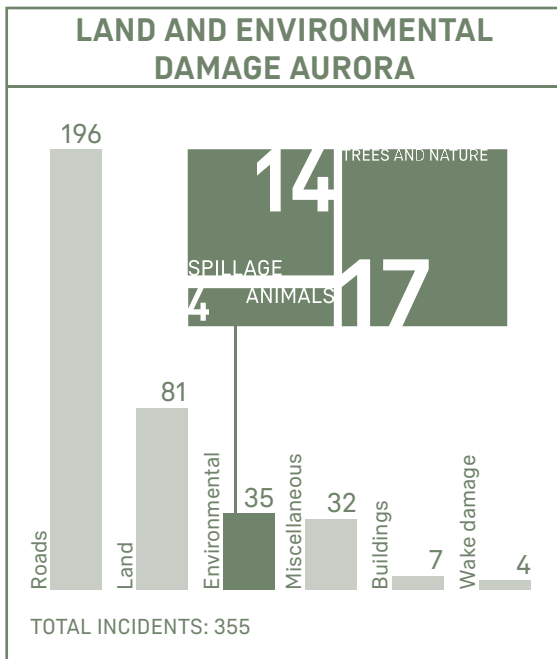


Photo Pernilla Lindblom

COLLECTOR

The support system, Collector, was used throughout the exercise, from planning to the subsequent settlement of claims. The system is an app for mobile devices that was used by land and environmental personnel. The system allowed personnel easily and directly to submit good quality reports about any environmental damage and complaints. The system also gave a common, up to date situational picture of landowners' contact details, environmental damage, complaints and restricted areas.



BETTER EFFICIENCY BETTER CLIMATE

To meet the demands related to global climate challenges, and to promote environmentally sustainable development, the Armed Forces must optimise their use of energy to reduce emissions of greenhouse gases to as low a level as possible.

IMPROVEMENTS IN THE ENERGY FIELD have a positive impact on the environment in several respects and, at the same time, can create synergies that support the Armed Forces in increasing their operational capabilities, and ensure the security of their energy supply.

Building a systems perspective involves a holistic approach to energy supply, taking account of all possible effects, from energy source to energy use. Measures to achieve energy efficiency, and reduced dependence on fossil fuels, must be evaluated from a systems perspective to avoid sub-optimisation, and to ensure the Armed Forces have the required capabilities.

Our efforts include the current project, Fossil-free Armed Forces 2045, which aims to identify opportunities, risks and methods in meeting the 2018 Budget statement: "The defence sector will continue to reduce its dependence on fossil fuels. This is in line with Sweden's goal of being climate neutral by 2045, but is also based on security

policy". Work is being carried out in cooperation with the Defence Materiel Administration.

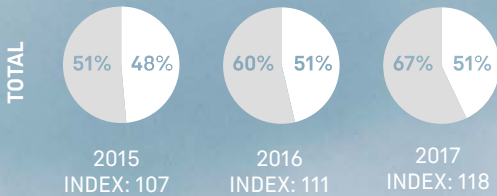
Other ongoing work is more efficient use of energy related to real estate. This accounts for about a third of the Armed Forces' total energy use, which is another target area for the Armed Forces. Energy efficiency and energy savings provide increased security of supply, and increased sustainability. The synergy effect is that the Armed Forces benefit from more effective energy use than previously, and that the actual energy supplied lasts longer.

ENERGY: GOAL 2017

Energy statistics have been difficult to interpret, as shown in the graph on the right. We are still a long way from the target level (Index: 80 in the year 2020), but since last year we have reduced energy consumption somewhat (3 index units). The variation in consumption per Annual Manpower is not as great as that in actual energy consumption.

ENERGY CONSUMPTION

HEATING (NORMAL YEAR) ELECTRICITY

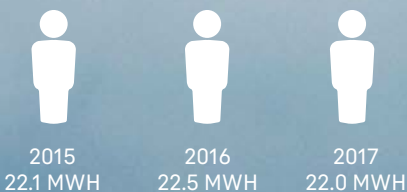


2020

2020 GOAL: The Swedish Armed

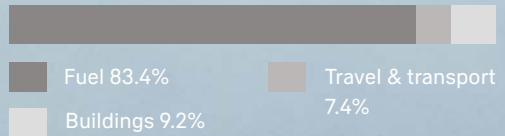
Forces will reduce their use of electricity and heating by 20% between the base year, 2011 (Index: 100), and the target year, 2020 (Index: 80).

PER ANNUAL MANPOWER

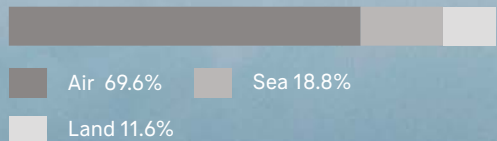


CARBON DIOXIDE EMISSIONS

DISTRIBUTION OF CO2 EMISSIONS



FUEL: DISTRIBUTION BETWEEN THE THREE ARMED SERVICES 2017



TOTAL: 225 978 TON CO2

Photo Alexander Karlsson/Swedish Armed Forces

THE ARMED FORCES LEAD THE WAY IN REDUCING ENERGY CONSUMPTION

The Armed Forces are participating in a European energy management systems initiative. Following a pilot project, all units, schools and centres in the Swedish Armed Forces now have tools to make energy use more efficient.

EVERYONE CAN MAKE a difference, as the saying goes. However, Jakob Gille, Senior Sustainability Advisor in the Armed Forces, would prefer a variation on this: everyone is needed to make a lasting difference. In any event, this is the overall conclusion of the pilot project for more efficient energy use, carried out by the Armed Forces in cooperation with the Defence Materiel Administration (FMV) and the Fortifications Agency.

The project came under the framework of an initiative by the European Defence Agency (EDA), which is involved in developing energy management systems for EU countries' armed forces.

– During the pilot pro-

ject, which took place at Karlberg Military Academy, we tested some of the methods and tools developed by the EDA within the framework of the initiative, says Jakob Gille.

EQUIPMENT AND BEHAVIOUR INTERPLAY

The project was specifically about inducing personnel to change their behaviour and optimize the energy used by equipment in buildings. These two issues are often very closely linked, because the equipment itself affects behaviour, and changing them places particular requirements on the equipment, points out Jakob Gille.

– Therefore, the Armed Forces must cooperate with FMV, which procures equipment, and the Fortifications Agency, which



manages our buildings.

One lesson learned is that you should never underestimate the challenge of changing behaviour. This work was carried out with the help of comprehensive information campaigns using posters, presentations and workshops.

– In our workshops personnel have contributed their own ideas about how we can reduce energy consumption. Any good idea must be given consideration, and everyone needs to feel involved if change is going to happen.

PERSONNEL MUST BE ONBOARD

From the project at Karlberg Military Academy, we have developed a set of tools and methods for energy efficiency. These have been passed to all organisations (units, schools and centres) in the Armed Forces for use in their planned activities for 2018-19.

In summary, it involves compiling a basic energy inventory to get an understanding of how energy is being used today. Then our organisations will gather ideas for improvements and measures to be taken.

– Here it is also important that organisations broaden their thinking and invite the Fortifications Agency to participate. Personnel will find it difficult to make changes if they cannot take part

and control the technology in their premises, emphasises Jakob Gille.

– On the other hand, changes that the Fortifications Agency want to make may also be ineffective, if in turn our usage and behaviour are inappropriate. Everything is interrelated.

Because everyone is using the same tools and methods, different organisations will be able to compare their energy efficiency with others, thus creating a good foundation for further improvements. Ideas will be collected so that, among other things, units can learn from each other and achieve good results quickly.

Sweden is highly committed to the joint development work being conducted by the

EDA and is a long way ahead in terms of creating working practices and methods for robust energy management across the Armed Forces. By saving energy we also gain other benefits, in that more money can be spent on what is the Armed Forces' core task - the defence of Sweden.



Jakob Gille,
senior sustainability
advisor

Photo Alexander Karlsson/Swedish Armed Forces





Photo Alexander Gustavsson / Swedish Armed Forces

ENVIRONMENT AND HEALTH IN THE SAHARA

Some 300 personnel from the Swedish Armed Forces who are participating in the UN military operation, MINUSMA, in Mali get great support from their EHO. We got a personal insight into a role that is all about protecting the health of personnel and minimizing the unit's environmental impact.

TAKING ENVIRONMENTAL issues into consideration is a central element of the Armed Forces' main task.

This also applies to operations far beyond Sweden's borders. Environmental legislation in the country concerned should be respected and, as far as possible, Swedish environmental legislation should be adhered to.

In addition, UN (or NATO/EU in a NATO/EU-led operation) policies and guidelines govern environmental considerations within the framework of the military's mission.

Clearly, this is a challenge in a dangerous conflict zone, with limited infrastructure, difficult logistics and an ex-

vironmental and health protection issues in Mali.

– An EHO is firstly a soldier and staff officer, but my task is, through preventive work, to protect our personnel's health and to minimize the unit's impact on the environment.

"WHEN EVERYTHING WORKS, NOBODY NOTICES"

As well as meeting legal and environmental policy requirements, well-managed, effective measures to protect health and the environment also have purely military-strategic benefits.

– We must constantly provide training, develop and follow up our routines for hygiene, food handling and

"Much of our work requires improvisation and a highly developed skills in solving problems quickly."

treme climate. In the North-West African country of Mali, on the edge of the Sahara, there are currently around 300 men and women from the Swedish Armed Forces taking part in the UN military operation MINUSMA.

An EHO (Environment and Health Officer), who chose to be anonymous, explains what it is like to work with en-

vironmental and health protection issues in Mali. If we have a major outbreak of disease in the camp, our soldiers cannot do their jobs. But when everything works as it should, nobody notices.

The extreme heat in Mali is always a health hazard. So an EHO never misses the daily lunchtime weather report, which is the basis for any measures soldiers may need to

take the next day.

Environmental work must also function in a military operation. For example, high water consumption or improper handling of fuel, waste and sewage can mean environmental and health risks for those living close to the camp or in other areas used by Swedish soldiers.

– Basically, it's about not creating problems for the people and communities we are supposed to help.

Mostly, EHOs are trained veterinarians or environmental and health protection inspectors. On military operations, it is advantageous if they are employed by, or have a background in the Armed Forces. Much of the work requires improvisation and highly developed skills to solve problems quickly, and with minimal resources. At the same time, planning is required in order to be able to assess the environmental and health consequences of military activities in the longer term.

– No two days are ever the same, new challenges and minor problems crop up all the time.

A “NORMAL” DAY FOR AN EHO

0600 Get up

- Jogging session before the heat comes

07.00 Breakfast

- Prepare for the day's sample testing
- Morning meeting with logistics staff
- Coordinating meeting about handling of contaminated soil
- Record and post weather information in the dining room (basis for personnel to avoid heat stress)

12.00 Lunch

- Planning for transport home of hazardous waste

- Environmental and health protection orientation for newly arrived personnel
- Review snake problem with camp's employed pest control technician
- Check cleaning of equipment before transport to Sweden

16.30 Dinner

- Sampling and analysis of drinking water in camp's small laboratory
- Update of environmental risk analyses and self-inspection documentation
- Answer e-mail

22.00 Bedtime

THE MALI OPERATION

Area: Mali

(Bamako and Timbuktu)

Mission name:

MINUSMA

Started: spring 2013

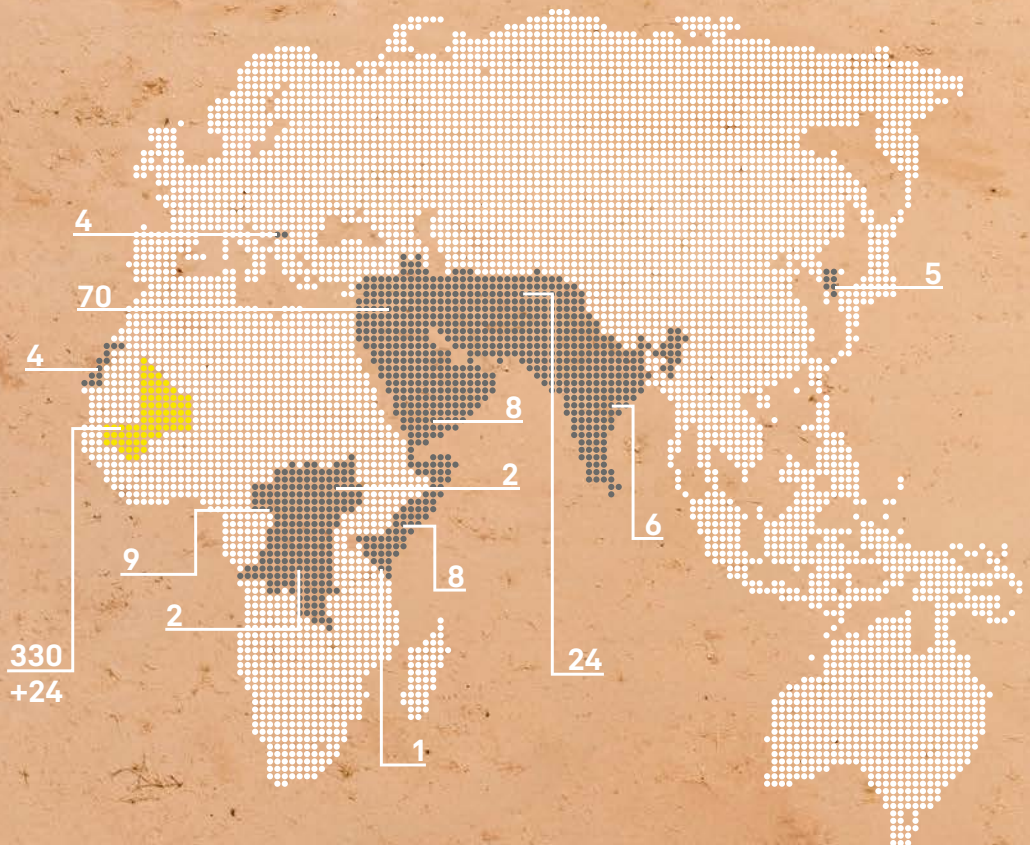
Personnel: 330

Organisation: UN

Contributing nations:

Around 53 countries contribute military and police personnel.

Task: Sweden's contribution is an Intelligence, Surveillance and Reconnaissance (ISR) Task Force. The Swedish Armed Forces also contribute air transport, in the form of a C-130 Hercules transport aircraft, and staff officers.



Swedish Armed Forces personnel in international missions (number of positions)



TIME FOR WASTE IS NOT WASTED TIME

Photo Joel Thungren/Swedish Armed Forces

“MUMSE”, the name of the Armed Forces system for handling waste in the field possibly raises a few smiles (Sw. “mums” = “yummy”!), but few take waste disposal as seriously as the Armed Forces. My Holgersson is an Environmental Officer at the Swedish Armed Forces Logistics (FMLOG), the unit with national responsibility for organising the disposal of waste from Armed Forces’ activities.

MUMSE WAS DEVELOPED for use on operations abroad and includes both sorting and incineration. It consists of modules in the form of specially equipped containers, which can be combined in various ways.

– But most of the waste we produce on operations abroad is brought to Sweden for handling in accordance with Swedish environmental legislation, says My Holgersson, Environmental Officer at FMLOG.

Swedish environmental legislation is, of course, one of

the yardsticks that govern the direction and scope of all waste management within the Armed Forces. Another is that waste should, as far as possible, be managed in the same way on exercises as it is in our daily activities.

– For longer exercises we set up special environmental containers for the sorting of waste. In the containers there are fixed, marked bins and barrels, and equipment required for the temporary storage of hazardous waste.

– Containers also house firefighting equipment and equip-



ment to deal with spillages. They are designed so that they can be transported overseas for use in operational areas.

IMPORTANT SUPPORT TO GARRISONS

My Holgersson is one of four environmental officers at the central level, who generally work full time on waste management. In addition, each National Support Element (national and international support units whose role includes providing supplies to other units) has an environmental coordinator. At the end of the chain, there are environmental supervisors at garrison service centres, where soldiers collect equipment and deposit waste.

The garrison environmental stations are manned to ensure that the right type of waste is put in the right place. The supervisors also keep

records of all waste deposited, explains My Holgersson.

Each garrison has its own waste plan, compiled with support from those who work with waste management. This explains to all employees where waste should be left, the environmental station's opening hours, and who to contact if they have questions.

– This is important information, especially for new personnel, so they know what to do right from the start.

Apart from the routine planning and management of handling waste, FMLOG has another important task, which is to increase the amount of material being recycled by five percentage points annually, up to the year 2020. To achieve this, My Holgersson and her colleagues are working closely with producers of waste in various ways.



My Holgersson,
environmental officer



Photo: Joel Thungren/Swedish Armed Forces

Certain units, which produce particularly large volumes of waste, are also tasked with keeping records of their waste in order to get as accurate a picture as possible of where it comes from and if it is dealt with properly.

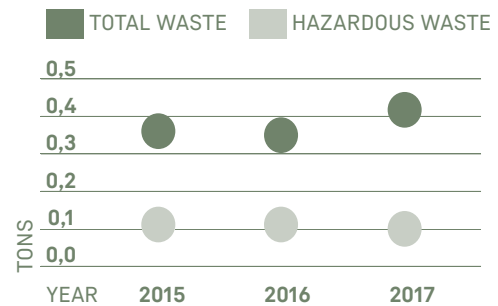
Are extra bins needed for more effective sorting? Or should existing bins be labelled better so that personnel know where different types of waste belong?

– In parallel, we also develop environmental training, which contains a waste element. This is something all personnel must undergo.

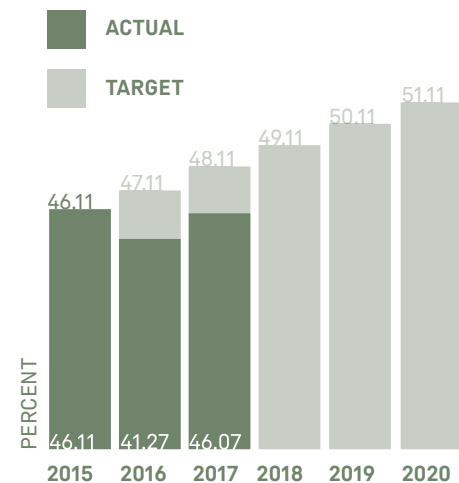
Whether Armed Forces personnel are serving abroad or in Sweden they should have the same conditions to be able to contribute to increasingly more efficient and sustainable waste management across the organisation.

– It's about both environmental consideration and reinforcing confidence in what we do, concludes My Holgersson.

TONS WASTE / ANNUAL MANPOWER



PERCENTAGE RECYCLING



WASTE GOAL

Increase recycling percentage by 5 percentage points annually up to 2020 (base year 2015).

Armed Forces' activities generate a large amount of waste. Increased sorting and recycling of waste will reduce the Armed Forces' ecological footprint, whilst bringing financial benefits. The Armed Forces have a great opportunity to make an impact on the amount of waste through purchasing, changes in attitude, waste plans, information and education.

The goal does not take into account the total amount of waste generated; the focus in our goal is to increase the level of waste sorting. The production of waste is fairly static at just under 8,000 tons. The annual amount of waste per annual manpower has decreased slightly compared to the previous year. The Armed Forces are slightly below target in terms of the goal of increasing the proportion of recycled material.



ENVIRONMENTAL GOALS

Agenda 2030 and national environmental quality goals are the basis of our environmental and sustainability efforts. Agenda 2030 is an action plan for people, the planet and prosperity, which also aims to strengthen universal peace under increased freedom.

THE ARMED FORCES have three goals linked to the biggest impacts we have on the environment: energy, waste and exercises. The goals describe future conditions or outcomes, and will be achieved through action plans, and followed up quarterly.

According to the instruction, the Armed Forces and 25 other government agencies have special responsibilities within their fields of activity, to work towards achieving the generation goal and environmental quality goals. The Armed Forces are also working on "rich plant and wildlife", which is one of the national environmental quality goals, where we have great opportunities to make an impact,

because of the natural diversity on Armed Forces ranges and training areas.

In addition to the national environmental quality goals, the Armed Forces also play a role in Sweden's contribution to global sustainability goals (Agenda 2030).

ENVIRONMENTAL FOCUS IN THE DEFENCE SECTOR

In the defence sector, six defence agencies have adopted a guidance document, which governs the Armed Forces' joint environmental work and the constant efforts to reduce our ecological footprint. The focus areas are primarily energy, the climate and chemicals.

ENVIRONMENTAL MANAGEMENT SYSTEM 2017

DURING 2017 THE environmental management system was refined to meet the international standard ISO 14001:2015, and to integrate environmental considerations into Armed Forces' processes. In the spring an analysis was conducted to identify which requirements the Armed Forces meet in this standard, in order to prioritize our environmental management work.

Based on the analysis' results, an action plan was made; outcomes included:

1. Update of the Armed Forces' Environmental Review; new environmental aspects were

identified.

2. Evaluation of the environmental management system's function and effect (management review, with Armed Forces leadership).

3. New directives published.

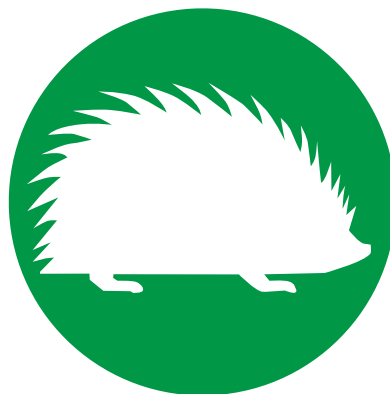
A major effort has also been made in environmental training and internal communication within the Armed Forces.

During the year internal environmental audits were completed, with the help of our own environmental auditors (24), and nine locations were reorganised.

HEALTHY 25-YEAR OLD

AT THE BEGINNING of 1992, the government tasked the then Supreme Commander, Bengt Gustafsson, with the Fortifications Agency, the Defence Materiel Administration and other related agencies, to come up with an overall environmental policy and to report current and future environmental work in the Armed Forces. This was the starting shot for systematic environmental work in the organisation.

Later that year, the hedgehog was adopted as a symbol for the Armed Forces' environmental work in internal and external communication, firstly in a brochure "Defence for the Environment", which summarised the Armed Forces' proposed environmental policy for a wider audience. The hedgehog is an old friend – which many will remember as a general symbol for Swedish defence. Now this shy animal, resident in the Swedish countryside for thousands of years, became the symbol for the expanded environmental work in the Armed Forces.



ALL ROUND DEFENCE

Over the years, the hedgehog has symbolized Swedish defence in a variety of ways. In Swedish, the order "hedgehog defence" means take up a temporary all round defensive position.

SUSTAINABILITY DIRECTOR'S VISION

Meeting global challenges requires greater focus on environmental and sustainability issues. The Armed Forces' first Sustainability Director, Naznoush Habashian, sees the area as a natural part of the organisation's main tasks and a prerequisite for reinforcing the Armed Forces' operational capabilities.

THE ARMED FORCES are entering a new phase and establishing a Sustainability Section, with a Sustainability Director, in order to be able to contribute to systematic sustainable development.

"Sustainability" is a term widely used today in a variety of contexts, with a variety of meanings. However, for the Armed Forces, sustainability is a matter of course. The main task of the Armed Forces is to defend democracy, and democracy and sustainability are directly dependent upon each other. Therefore, the Armed Forces' core activities contribute to sustainable development.

Sustainability Director, Naznoush Habashian, explains.

– Firstly, we support Agenda 2030 and the global sustainable development goals. We are aware of our own sustainability issues and have, therefore, chosen to place more focus on 10 of the 17 goals, where we know we can be even better. The idea is that sustainability should be integrated into all Armed Forces' processes, as a natural part of our daily work, she says.

Integrating our work into a large, traditional organisation requires a robust, systematic app-

roach in order to include all our activities. I see this as a major challenge. Another challenge is to communicate sustainability issues in a way that shows that they are more than just a trend.

– Basically, it is about creating the right conditions to perform our primary task – defending Sweden's freedom and protecting our democratic society.

BROAD SUSTAINABILITY – GREAT OPPORTUNITIES

Naznoush Habashian has a background as an engineer and for the last 12 years has worked with environmental issues in the Armed Forces. With the establishment of the Sustainability Section, her tasks have broadened from exclusively environmental issues, to include social and economic sustainability.

– The Armed Forces carry out comprehensive and systematic environmental work to reduce our impact on the environment. This will still make up a large part of our overall sustainability efforts, she says.

– Even issues related to social sustainability, such as the work environment, equal opportunities and gender equality are areas



Naznoush Habashian,
Sustainability
Director

that the Armed Forces have worked actively with. Economic aspects of sustainability have been a natural part of the organisation's work, and we have been gradually introducing ideas inspired by circular economics.

STRENGTHENS OUR MAIN TASK

All three elements must be seen as a whole, she says. For example, environmental issues cannot be isolated from

Another example of this, she continues, is the Armed Forces performance on military operations.

– Crises and conflicts often arise in areas with limited resources. Therefore, high drinking water consumption, and incorrect handling of waste and sewage can have a negative impact on the people and communities we are there to protect. Basically, this is about respect for the local population.

”For me, sustainability issues are about the values that the Armed Forces are tasked with defending.”

social and economic sustainability. The realisation that the different parts influence each other is something that she sees growing throughout our society.

– It is becoming increasingly important to work on the three sustainability perspectives together, otherwise sustainability cannot succeed!

To increase understanding of the Sustainability Section's work, our internal communication work is going up a gear, not least, in order to link and describe sustainability issues as something that can help to strengthen military activities.

Sustainability work helps improve the Armed Forces' operational capability. For example, resource-efficient use of equipment and energy is important to effective defence logistics, says Naznoush Habashian.

Training and exercises in realistic environments are essential for maintaining and developing the Armed Forces' military capabilities. Therefore, the long-term sustainable use of ranges and training areas is crucial. This presupposes that the organisation takes into account both the nature and residents in these areas.

Naznoush Habashian says that many important steps have been taken in this area, while challenges still remain.

– As the Armed Forces' Sustainability Director, I am proud of how far we have come. However, we cannot stand still, and we constantly need to develop our capability to complete our tasks in a way that is sustainable economically and environmentally – and sustainable for mankind.





SWEDISH ARMED FORCES

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