Developing Sweden's Civil Defence: Lessons from Ukraine

Summary of report to the Swedish Government (Fö2023/01325)

Preface

With Russia's full-scale invasion of Ukraine in 2022, war has returned to Europe and there is a very real risk that the security situation will deteriorate further.

This report concludes the Swedish Civil Contingencies Agency's (MSB) government assignment aimed at describing how the experiences and lessons from Russia's aggression against Ukraine, which began in 2014 with the illegal annexation of Crimea, can be used to further develop Sweden's approach to civil defence.[1] Even if the Swedish context is in focus, many of the lessons drawn here are equally applicable to other stakeholders working in different national, multilateral, and international contexts, including NATO and the European Union.

While the number of in-depth analyses focused on extracting lessons from Ukraine's experiences continues to grow, there remain gaps in our understanding of both what has happened thus far and continues to happen. Agencies, municipalities, regions, businesses, NGOs, and researchers must all continue to acquire the necessary insights in order to draw robust, actionable conclusions that can be put to use in developing their own operations and structures that contribute to civil defence.

---

[1] The analysis of the deteriorated security climate and risk of escalation is a conclusion reached by the Swedish Defence Commission in its April 2024 report, *Stärkt försvarsförmåga: Sverige som allierad,* on the development of Sweden's military defence. In December 2023, the Swedish Defence Commission presented its interim report, *Kraftsamling,* on the future direction and composition of Sweden's total defence arrangements. In April 2024, MSB submitted to the government an overall assessment of the feasibility and consequences of the proposals contained in *Kraftsamling*, taking into account MSB's own proposals for civil defence from its October 2023 report, *Framåtanda*. These reports should be read together in order to understand MSB's assessment of Sweden's shortcomings in reaching civil defence objectives as of 2024. All of these reports reflect the intensive ongoing efforts to build up Sweden's civil defence.

Table of contents

Summary

This report documents the multitude of experiences and lessons that can be drawn from Russia's ongoing war of aggression against Ukraine. The report is structured along the lines of current Swedish civil defence objectives, which include the following capabilities, namely to:

- Protect the civilian population

- Safeguard the most important societal functions

- Maintain necessary supplies

- Contribute to Sweden's military defence in the event of an armed attack or war

- Maintain societal resilience to external pressure and contribute to the enhancement of the population's willingness to defend the country

The report also contains experiences from the Swedish Civil Contingencies Agency's (MSB) own operational activities in Ukraine in response to the war, all of which are in pursuit of a sixth stated civil defence objective, namely to "use available resources to contribute to international peace-promoting and humanitarian operations."

The report is wide-ranging, covering aspects that include: the conduct of spontaneous evacuations at the start of Russia's full-scale invasion; challenges in carrying out strategic communication; reinforcing stockpiles and protecting critical infrastructure; and the successful integration of innovative solutions, including commercial technology and existing services, in new ways that have contributed to Ukraine's civil defence. The report also examines how Ukraine has worked to ensure resilient maintenance and repair capacities, including by stockpiling discarded components and modernizing older equipment. For instance, the decision to retain older types of diesel, electric, and steam locomotives as part of Ukraine's strategic reserve is an example of this.

In an interim report related to this government assignment, MSB concluded that Ukraine's civil defence has been characterized by speed, flexibility, and cooperation. This conclusion remains, although the picture has become more nuanced. Not everything has been done quickly and flexibly, and there are

instances where further cooperation in different areas might have helped to improve the effectiveness of the war response.

This report identifies three overarching lessons for Sweden's civil defence, namely that:

1) There is a need to anticipate that the civilian population and civilian infrastructure can be directly targeted by antagonists in the event of war.

2) Early preparations and planning contribute to wartime resilience.

3) Civil defence requires society to both be adaptable and have endurance.

In addition to these overarching lessons, this report highlights several recommendations that are of relevance for the ongoing development of Sweden's civil defence.

This report should be seen as part of an ongoing effort in Sweden aimed at capturing and considering the lessons that can be observed from Russia's war against Ukraine. The learning process does not end with this report, nor with the end of the war. For this reason, certain areas have not been exhaustively addressed in the report.

With Sweden's NATO membership, the conditions in which Sweden continues to develop its total defence concept are changing. In this respect, Sweden's relations with its immediate neighbors is likely to evolve further. Here, knowledge related to how Ukraine's neighbors have helped to channel international assistance, including through EU-level arrangements, are particularly important for Sweden. While this report describes several important lessons in facilitating international aid, there is reason to look even more closely at this issue going forward.

There are also a number of cross-cutting issue areas that could benefit from further study. These include: individual preparedness; constitutional readiness; governance and leadership; public-private cooperation; civil society involvement; the role of spontaneous volunteers; the investigation of war crimes; cooperation between national, regional, and local government; and the willingness of the population to stand firm in the face of outside aggression.

As in all cases when applying lessons from a specific experience to another context, it is important to remember that there are significant differences between Sweden and Ukraine. As such, not every Ukrainian experience can be directly translated into relevant lessons for Swedish civil defence.

Finally, Swedish civilian and humanitarian assistance to Ukraine plays an important role in helping to refine Sweden's own civil defence planning and response capacity. In this respect, Swedish efforts to support Ukraine also serve as an exercise of Sweden's own arrangements. Non-military assistance not only helps Ukraine but provides an opportunity for learning that can be directly incorporated into the development of Swedish civil defence.

1. Protecting the Civilian Population

Protecting the civilian population involves a wide range of activities. This chapter focuses on: protecting civilians; crisis and risk communication;[2] migration; mental health issues; vulnerable population groups; mortuary services; emergency water, food supply, and sanitation; and receiving international civilian and humanitarian assistance. Emergency services, though involved in several of these areas, were extensively covered in MSB's November 2023 interim report, and are therefore not the focus of this report.

This approach allows for a focused discussion concerning specific aspects of civilian protection that require attention beyond the immediate emergency response, such as, for instance: long-term mental health support and integration strategies for displaced populations; addressing the needs of vulnerable groups; ensuring adequate emergency facilities for water, food, and sanitation; and managing and effectively integrating international assistance into domestic efforts. All of these are crucial elements necessary in order to maintain and strengthen society's resilience during and after crises.

Protection of the Civilian Population

Summary

- Extensive spontaneous evacuations took place during the initial stages of the full-scale invasion.

- "Points of invincibility," civilian shelters set up by authorities that provide basic services, have served an important function in Ukraine, both for people who have evacuated an area and for those who have remained in war-torn areas.

- Ukraine uses mobile applications and social media channels to quickly warn of air strikes, complementing traditional air raid warning systems.

- Bomb shelters in Ukraine that had been used for other activities in peacetime were often in better condition than those that had not been used.

- The use of conventional weapons in Ukraine increases the risk for the release of and exposure to dangerous substances, resulting in effects on

---

[2] Risk and crisis communication refers to conveying necessary information to the public.

> people, property, and the environment similar to those associated with chemical weapons.
>
> - Service dogs have been used in protecting the civilian population and have proven valuable in searching for people in debris.
>
> - A key success factor in Ukraine has been the ability to redistribute emergency service resources based on national priorities.

Experiences in Ukraine

An estimated 15 million people fled their homes at the onset of Russia's full-scale invasion. Spontaneous evacuations of frontline cities occurred multiple times, with masses of people trying to flee in the same direction, resulting in traffic jams and difficulties in finding accommodation along evacuation routes.[3] Generally speaking, the situation initially had to be managed at a local level. Large-scale civilian evacuations near the front lines have since been conducted with the support of the Ukrainian Armed Forces Civil-Military Cooperation Officers (CIMIC). Established in 2014, this framework is tasked with coordinating with the public.[4]

Interviews in Ukraine suggest that local societal service hubs, or safety points (referred to as "points of invincibility" in Ukrainian)[5] play an important role for many Ukrainians. These safety points typically provide hygiene facilities, heating, chairs and tables, opportunities to charge mobile phones, Wi-Fi, basic medicine, medically trained personnel, fuel (gasoline and diesel), hot water, and blankets. Their placement along major roads was described as being useful in the context of evacuations, but also in the event of power and water outages, when people often head to gas stations and fire stations. Safety points also serve as a valuable place to receive news and information.

However, the consensus among those interviewed is that one should not stay at safety points for too long. Instead, these should be used to rest and get help with fuel or other needs, before moving on.[6] However, those who have remained in war-torn areas have also received assistance at safety points in the form of shelter, clothing, warmth, and mobile phone charging.[7] In areas

---

[3] Interviews, Ukraine, February 2024, MSB.
[4] The role of civil-military cooperation in the protection of civilians: The Ukraine Experience
[5] President of Ukraine, "Address by the President of Ukraine," 22 November 2022, https://www.president.gov.ua/en/news/po-vsij-krayini-rozgortayemo-novij-proekt-pidtrimki-lyudej-p-79361 [2024-08-20].
[6] Interviews, Ukraine, February 2024, MSB
[7] Ibid.

no longer affected by combat, safety points have been transitioned into shelters for the homeless.[8]

A fundamental requirement for the population to successfully find shelter or evacuate is access to a reliable and trusted warning system. Air raid warning systems have been developed in Ukraine during the course of the war. In addition to traditional warning systems, mobile phone applications and semi-official social media channels provide warnings and information.

During air raids, the public can receive detailed information about the type of attack via Telegram. "Kyiv Digital," for example, was originally used to pay for parking and public transport but has been modified to include air raid alerts and show the location of shelters. Other apps that warn of air raids include "Air Raid Alert Map of Ukraine" and "Real-time Interactive Map of Air-Raid Alerts in Ukraine."[9]

Attacks do not always follow air raid warnings. Ukrainian authorities are thus faced with the challenge of balancing the frequency of warnings with the need to maintain their credibility and reduce the stress the warnings cause the population.[10] Over time, it has become evident that people increasingly do not seek shelter on the basis of air raid warnings, something which has led to many injuries and deaths.[11]

In addition to warning systems, the public needs access to shelters and other protected spaces. Experiences in Ukraine show that Russia uses all types of weapons against civilian infrastructure and residential buildings. Even with a modern air defence system, debris from downed missiles, drones, and Ukraine's own air defence pose a danger to people.[12]

There is an interactive online map in Ukraine with the addresses of shelters and information on who is responsible for them.[13] Property owners and businesses operating in a building are legally responsible for maintaining shelters.[14] At an organizational level, local municipalities are responsible for the protection of civilians, including through the use of shelters. Shelter

---

[8] Ibid.

[9] Swedish Defence University (2024). *Analsyis of interviews in Ukraine, 10/12 2023 – 21/12 2023, including interviews in Sweden and Moldova. Unpublished.*

[10] Assessment based on the authors' visit to Ukraine in June 2023 and a video interview with a stakeholder in Ukraine in January 2024.

[11] Interviews, Ukraine, February 2024, MSB.

[12] Video interview with stakeholder in Ukraine, January 2024, MSB.

[13] Visit Ukraine, "Bomb shelters, shelters and defense structures in the regions of Ukraine," https://visitukraine.today/blog/101/bomb-shelters-shelters-and-defence-structures-in-the-regions-of-ukrain [2024-08-20].

[14] Video interview with stakeholder in Ukraine, January 2024, MSB.

experts in Ukraine emphasize that those responsible need to consider the current threat when designing protection measures, taking into account the differences between Cold War-era and modern weapons technology.[15]

Increasing access to shelters has been a political priority in Ukraine. Following the full-scale invasion, many shelters were found to be either locked or in poor condition. Shelters with peacetime uses were often in better condition than those that had been disused. In many cases, the public has sought shelter in basements and similar spaces. This provides some protection, but there have been instances where people have been injured or killed when basements failed to withstand attacks or the buildings above them collapsed.[16]

In Ukraine, there is a clear need for shelters that can also be used as schools and kindergartens,[17] something which is to some extent lacking.[18]

Efforts are underway to reinforce basements and build provisional shelters. In Kharkiv, for example, protective concrete structures have been built near bus stops and other areas where people tend to congregate. Furthermore, additional protective measures have been taken around critical infrastructure, for instance by shielding them with stone-filled cages (gabions) for ballistic protection and steel nets against drones.[19]

Increasing protection against chemical, biological, radiological, and nuclear (CBRN) threats has also become a pertinent issue in Russia's war against Ukraine. There are worries about the type of weapons Russia is willing to use; the risk of nuclear attack, for instance, is considered historically high. Furthermore, the United States assesses that Russia has an active biological weapons program. At the same time, Russia is conducting disinformation campaigns to convince the international community that the United States and Ukraine are engaged in illicit biological weapons production.[20] The extent of disinformation concerning CBRN is so significant that the United Nations Interregional Crime and Justice Research Institute (UNICRI) has developed

---

[15] Ibid.
[16] Ibid.
[17] Ukrinform, "В Україні лише 5,6 тисяч укриттів із понад 60 тисяч перебувають у належному стані," 2023-12-18, https://www.ukrinform.ua/rubric-society/3801783-v-ukraini-lise-kozne-desate-ukritta-v-naleznomu-stani-ekspert.html [2024-08-20]; video interview with stakeholder in Kyiv, January 2024, MSB.
[18] Lauren, Anna-Lena. Dagens Nyheter, "Stora luftanfall mot Ukraina," 2024-01-08, https://www.dn.se/varlden/stora-luftanfall-mot-ukraina-man-kan-inte-sluta-jobba-bara-for-att-de-skjuter-pa-oss/, [2024-01-09].
[19] Interview DG ECHO, December 2023.
[20] Swedish Defence Research Agency, FOI (2023). *Årsredovisning CBRN 2022 avseende Nedrustning och icke-spridning*. FOI-R—5482—SE.

and translated a manual on disinformation campaigns related to CBRN.[21] Disinformation about CBRN is particularly relevant in Ukraine and risks causing uncertainty and reduced trust among the public, which can jeopardize the ability of Ukrainian authorities to manage the situation.[22]

At the time of publication of this report in Swedish, there are no confirmed reports that Russia has used chemical weapons, although some sources claim Russia has used a form of tear gas.[23] Regardless, there remains a risk that chemical weapons will be used against Ukraine.[24] Ukrainian rescue services personnel describe the threat of attacks involving chemical and nuclear weapons as tangible and highlight the need for protective equipment, detection instruments, and decontamination equipment.[25]

Besides CBRN materials,[26] military actions have the potential to lead to the release of other hazardous substances. Such substances can cause harm to people, property, and the environment in ways similar to chemical weapons, even if they are not technically classified as such. Examples include fuel and oils leaking from damaged military vehicles and tankers.[27] The risk of hazardous substance release also increases as a result of intentional or accidental shelling of chemical plants and hazardous materials transports.[28] Taken together, the consequences of such incidents can lead to contaminated bodies of water, agricultural land, and drinking water.[29] Fighting around nuclear facilities like Zaporizhzhia and in industrial areas where hazardous materials are stored have already resulted civilians, military personnel, and rescue workers being exposed.[30]

Service dogs have proven to be important in searching for people in rubble and, to a limited extent, in locating unexploded ordnance and mines. The service dog Patron has become an important national symbol, even receiving

---

[21] UNICRI (2023), *Handbook to combat CBRN disinformation in Ukrainian,* https://unicri.it/Publication/Handbook-combat-CBRN-disinformation-Ukrainian [2024-08-20].

[22] UNICRI, "Stop the virus of disinformation training successfully conducted in Kyiv," 19 July 2023, https://unicri.it/index.php/News/Countering-preventing-disinformation-training-Kyiv-Ukraine [2024-08-20].

[23] Institute for the Study of War, "Russian Offensive Campaign Assessment," 23 December 2023, https://www.understandingwar.org/backgrounder/russian-offensive-campaign-assessment-december-23-2023 [2024-08-20].

[24] United States Department of State, "Imposing new measures on Russia for its full-scale war and use of chemical weapons against Ukraine," 1 May 2024, https://www.state.gov/imposing-new-measures-on-russia-for-its-full-scale-war-and-use-of-chemical-weapons-against-ukraine-2/ [2024-08-20].

[25] Interviews in Ukraine, June 2023, MSB.

[26] Additional lessons learned in this area can come within the framework of the EU's Union Civil Protection Mechanism advisory mission, which is focusing on CBRN throughout 2024.

[27] Eco Action, "Ukrainian NGOs raise alarm over shocking environmental crimes caused by Russian aggression," 29 March 2022, https://en.ecoaction.org.ua/alarm-environmental-crimes-by-russians.html [2024-08-20].

[28] Swedish Total Defence Research Agency, *Dimensionering av förmåga avseende farliga ämnen CBRN,* FOI-R—5572—SE

[29] Eco Action, 2022

[30] Interviews in Ukraine, June 2023, MSB.

a presidential medal.[31] Besides these traditional uses for service dogs, the war has prompted other creative missions, such as equipping dogs with detection equipment to identify radiation. This innovation is likely linked the concerns over antagonistic chemical and nuclear events mentioned above.

Ukraine shows that a well-functioning, locally-based rescue service is a crucial component for the protection of the civilian population. There have been cases of insufficient coordination due to organizational distance and inadequate communication between different actors.

Experiences from the Ukrainian rescue[32] and emergency medical[33] services show that there is sometimes a need for disaster response resources to be redeployed to other parts of the country where they are needed most. As noted in MSB's interim report, some parts of the country that the State Emergency Service of Ukraine (SESU) is responsible for have been extremely strained for extended periods of time, while other parts have had a fairly regular workload with occasional peaks during remote combat operations. National-level management has therefore been used to deploy resources across the country, giving Ukraine the ability to scale resources up or down based upon the war's dynamics.[34]

Lessons

As Russia's war against Ukraine has shown, movements of forcibly displaced persons are dynamic and can change based upon how people perceive the security situation at any given moment.

Migration planning needs to be based on anticipated threats. This means that evacuation planning is necessary for some regions, while shelter is required in others. In still other areas, both will be required. Furthermore, when communication between different entities fail, local representatives must be able to act independently to manage large population movements.

However, it is not enough to plan solely for large-scale evacuation and shelter. Planning for returns, as well as new evacuations, is necessary. As occupied territory is liberated, portions of the population will move back home.[35] However, for people to return, the security situation must be sufficiently

---

[31] Swedish Total Defence Research Agency, (FOI). Räddningstjänst i krig – Erfarenheter från Ukraina och lärdomar för Sverige. FOI-R--5404—SE

[32] Interview DG ECHO, December 2023.

[33] Interviews in Ukraine, Februari 2024, MSB.

[34] MSB (2023). *Erfarenheter från Ukraina - Initiala lärdomar för det civila försvaret.* Interim report for government directive Fö2023/01325.

[35] Authors' work within the EU Civil Protection Mechanism in Moldova, Spring 2020.

stable, unexploded ordinances must be removed, public services must function reasonably well, and there need to be employment opportunities.[36]

Another lesson is that safety points must be strategically located if they are be useful. In Ukraine, safety points have served various functions. In some cases, they provide basic assistance for civilians that remain in war-torn areas. In other cases, meanwhile, safety points need to be located along evacuation routes to support populations on the move, for instance with basic care and potentially even limited amounts of fuel.[37]

When it comes to air raid warning systems, it is important to consider the role of new weapons systems such as drones and cruise missiles. Text or internet-based warning systems have proven useful in Ukraine. However, they have certain limitations. Unlike a cell broadcast system, which messages the mobile network over a specific geographic area, text and internet systems are slower and can be disrupted or hacked. Implementing cell broadcast systems can improve traditional forms of air raid alarms. Apps and social media can still play an important role in warning and informing the public.

In the Swedish context, there is a potential need to build additional shelters in areas where many people gather. Possible measures based on the Ukrainian experience includes reinforcing ordinary basements and building temporary shelters.

Basements that are not built as proper shelters cannot withstand the weight of a collapsed high-rise building. Depending on the construction of a residential building, direct missile and other explosive strikes have varying impacts. Meanwhile, adjacent buildings in Ukraine are also regularly damaged by blast waves, which means that in many cases, people who have not reached shelter are injured or killed.[38] Shelters that are not regularly inspected or are not used for other purposes are typically in poor condition due to missing doors, exposure to moisture, etc.

The use of rescue dogs should not be underestimated – dogs are effective and resilient during rescue operations.

If a similar war were to affect Sweden, both the public and the environment risk being exposed to hazardous substances, both from weapons and other sources. The consequences during war could be of an entirely different

---

[36] Interviews in Ukraine, February 2024, MSB.
[37] Ibid.
[38] Interviews in Ukraine, February 2024, MSB.

magnitude than in the context of peacetime incidents. There may be a need to conduct large-scale evacuations and provide information to the public in a way that has no peacetime equivalent.

Risk and Crisis Communications

Summary

- Social media has become the dominant source of information for the Ukrainian public.

- Ukraine has successfully re-tooled existing apps for use in risk and crisis communications.

Experiences in Ukraine

Social media is the single most common source of information in Ukraine, used by 75 percent of the population.[39] Some of the most popular platforms are Telegram, Viber, Facebook, Signal, WhatsApp, and Instagram.[40] Television, which was previously the dominant source of news, now only reaches 65 percent of the population, and radio about 25 percent.[41] Traditional print media has the lowest levels of consumption, with only 15 percent reporting that they read newspapers. Readership is down because many people cannot afford subscriptions or the price of single issues. Printed and digital newspapers have the lowest levels of trust amongst Ukrainians.

In the lead-up to Russia's full-scale invasion, Ukrainian media urged the public to have so-called "go-bags" packed with personal documents and supplies, and many people made sure to have their cars fully tanked. Despite communication about "go-bags," people report they were mentally unprepared for a Russian invasion.[42]

In the initial phase of the full-scale invasion, the national government faced challenges in communicating to oblasts and municipal authorities concerning the course of action to take. The public actively sought information about the war from all available channels. People primarily wanted information about

---

[39] Internews, "Ukrainians increasingly rely on Telgram channels for news and information during wartime" https://internews.in.ua/news/ukrainians-increasingly-rely-on-telegram-channels-for-news-and-information-during-wartime/ [2024-05-24].

[40] OPORA Survey (2022). *Media Consumption of Ukrainians in a Full-Scale War.*

[41] Ibid.

[42] Interviews in Ukraine, February 2024, MSB.

Russian troop movements to assess whether it was safe to move and, if so, which roads to use.[43]

In some cities and towns, people were evacuated before hostilities began. In others, evacuation routes and humanitarian corridors were established later. Information about routes and shelter locations was often shared on social media.[44]

In many places, spontaneous evacuations occurred in the early stages of the full-scale invasion.[45] Coordination and communication between authorities and with public varied during this period. Information from the Ukrainian armed forces and other authorities was initially insufficient. Regional and local authorities had difficulty conveying information and instructions to populations on the move. Local authorities also struggled to make decisions due to an insufficient situational picture.[46]

Information communicated to the public initially came from the national government, civil society, and individual volunteers.[47] One reason the latter two played such a crucial role was that an informational vacuum was left by the national government's insufficiently prepared public communications functions. This vacuum was filled by information provided by volunteers and civil society organizations.

When the full-scale invasion against Ukraine began, warning sirens did not work everywhere, partly due to power outages. At this early stage, various apps were quickly developed to warn the civilian population of threats. People sought out information from local and regional authorities' social media accounts, as well as risk and crisis communications provided at the municipal and regional levels, which are considered highly credible in Ukraine. Alternative channels like Telegram and Viber would eventually come to play a larger role in providing risk and crisis communication. Today, Signal and WhatsApp are also important channels for authorities to communicate with the public.[48]

Warnings about bombings or missile attacks have undergone significant changes since the start of the full-scale invasion. Under public pressure, the Ukrainian Air Force became more transparent in its crisis communication

---

[43] Ibid.
[44] Ibid.
[45] Ibid.
[46] Ibid.
[47] Ibid.
[48] Ibid.

directed at the public, resulting in information becoming clearer and more credible.[49]

Ukraine has also developed a handbook for crisis communication in cooperation with the Swedish Association of Local Authorities and Regions (SKR) and the Swedish Civil Contingencies Agency (MSB). The handbook, created primarily as a guide for Ukraine's municipalities and regions but also for other actors, describes how to plan and implement crisis communication during accidents, crises, and war. The handbook has already been used by oblasts, but the results have not yet been evaluated. The handbook emphasizes the importance of coordination, leading to some positive results in, for example, how the oblasts conduct their crisis communication in cooperation with the military.

Lessons

When civilian agencies and the armed forces do not share information with one another for the purposes of increasing situational awareness, people in areas subject to fighting risk being exposed to dangerous situations. A crucial lesson is the importance of civil-military cooperation in planning public communication.

Local politicians in Ukraine have taken on a significant role in communicating with the public. They have often been forced to make local-level decisions without guidance from regional and/or national authorities. This has included relaying information to the public. A key takeaway is that local and regional authorities should be prepared in the event of war to operate independently in situations where parts of the country become isolated.

Finally, experiences from Ukraine demonstrate that officials' public communication must be conveyed quickly and accurately to avoid creating confusion. Communication needs to be pre-planned in terms of messaging and channels. This planning also needs to account for how communication strategies might need to change over time. There must be a clear chain of responsibility and methodology in communicating with the public and specific population groups. In this regard, a national plan for long-term public communication during heightened alert can both facilitate adaptation and cultivate resilience.

---

[49] Ukrainian Air Force TG channel, https://t.me/kpszsu [22-02-24].

Migration

Summary

- The forcible displacement of persons results in a number of challenges for civil defence. Essential services in Ukraine have become understaffed, which in turn affects the availability of humanitarian aid, public services, staffing, and income.

- The challenge of delivering various types of public services for internally displaced persons has been partially addressed by Ukraine through various digital services.

- The Ukrainian labor market's gender imbalance has resulted in the health and medical sector being negatively affected by the large number of female employees who have been forcibly displaced by the war.

Experiences in Ukraine

According to statistics from the UN Refugee Agency (UNHCR), as of June 2024, Russia's war against Ukraine had forcibly displaced over 6.5 million people.[50] This represents roughly 15 percent of Ukraine's population.[51] Of these, around 5.5 million were registered in the European Union under provisions provided by the EU's Temporary Protection Directive.[52]

However, the number of forcibly displaced persons has not been consistent over time, as many who left Ukraine have returned – often fleeing and returning multiple times.[53] In addition to those who have left Ukraine, a large number of people – internally displaced persons (IDPs) – have fled to other regions within the country. The UN's International Organization for Migration (IOM) estimates that the total number of IDPs in Ukraine numbers around 3.7 million people (approximately 60/40 female-to-male ratio).[54] At least 70 percent of those who have fled Ukraine to OECD countries are women. The high percentage of women in particular is likely due to Ukraine's

---

[50] UNHCR, "Ukraine Refugee Situation," https://data.unhcr.org/en/situations/ukraine, [24-03-27].
[51] The calculation is based upon statistics that include the Crimean population. Swedish institute of International Affairs (UI) (2024) *Landguiden, Ukraine – Befolkning och Språk.* https://www.ui.se/landguiden/lander-och-omraden/europa/ukraina/befolkning-och-sprak/ [10-04-24].
[52] CReAM research team (2023) *Current migration flows from Ukraine.* https://cream-migration.org/ukraine-detail.htm?article=3573 [22-02-24].
[53] Ibid.
[54] IMO (2023) Ukraine Internal Displacement Report.
https://dtm.iom.int/sites/g/files/tmzbdl1461/files/reports/IOM_Gen%20Pop_R15_IDP.pdf

wartime laws, which generally restrict men between the ages of 18 and 60 from leaving the country.

Compared to other refugee flows, the gender distribution from Ukraine differs significantly. During the 2015-2017 refugee crisis in Europe, the figures were reversed, with women making up 30 percent of asylum seekers.[55] The Ukrainian government has attempted to incentivize Ukrainian men of fighting age to return home by ceasing to offer them consular services abroad.[56]

Besides entailing significant levels of individual suffering, forced large-scale population movements also pose several challenges for civil defence. These challenges include humanitarian and economic support, access to public services, and staffing.[57]

One challenge for Ukraine's many IDPs is economic support.[58] While Ukraine has introduced economic aid, it is below both the average salary and minimum wage in the country.[59] According to the IOM, IDPs themselves highlight economic support as a greater need than their next biggest needs, which are medicine/healthcare and generators/power banks.[60] A related challenge for Ukraine is delivering various types of public services to IDPs.[61] Through the country's DIIA app, it is possible to apply for economic support and sign public documents, such as tax declarations, without having to visit the regularly assigned local office.[62] (For more information about the DIAA app, see the "Preparedness and Planning" section in Chapter 2.) This facilitates assistance for people who have been forced to leave their homes.

---

[55] OECD (2023). "What are the integration challenges of Ukrainian refugee women?" https://www.oecd-ilibrary.org/social-issues-migration-health/what-are-the-integration-challenges-of-ukrainian-refugee-women_bb17dc64-en;jsessionid=pVoJAbsEFBAwES-4EL4Q_03a6PwGRwzvHFQjimH_.ip-10-240-5-114 [22-02-24].

[56] Sveriges Radio, "Ukraina vill få män att återvänd hem – stoppar konsulära tjänster" https://sverigesradio.se/artikel/ukraina-vill-fa-man-att-atervanda-hem-stoppar-konsulara-tjanster [2024-08-20].

[57] Eight of Ukraine's neighboring countries have taken in the majority of people fleeing the country. While there are several challenges for the receiving countries, this section focuses on the challenges within Ukraine's borders.

[58] IOM (2023). Ukraine Internal Displacement Report, General Population Survey Round 15. https://dtm.iom.int/sites/g/files/tmzbdl1461/files/reports/IOM_Gen%20Pop_R15_IDP_.pdf

[59] Support is paid out on a monthly bases and is around 3000 UAH (approx..80 Euros) for children and people with disabilities and around 2000 UAH (approx. 50 Euros) for all internally displaced persons. personer med funktionsnedsättning och på 2000 UAH (ca 535 SEK) för alla andra internflyktingar. UNHCR, "Ukraine Thematic Legislative Update," https://www.unhcr.org/ua/wp-content/uploads/sites/38/2023/09/TLU_IDPs-subsistence-allowance_ENG.pdf,; Visit Ukraine, "How much did Ukrainians' salaries increase in 2023?," 12 November 2023, https://visitukraine.today/blog/2878/how-much-did-ukrainians-salaries-increase-in-2023 [23-02-2024]; Visit Ukraine, "Minimum salary in European countries: how much Ukrainians can earn for work," 17 February 2023, https://visitukraine.today/blog/1507/minimum-salary-in-european-countries-how-much-ukrainians-can-earn-for-work [2023-02-24].

[60] 56 percent report that economic support is the largest need while 7 percent say generators/power banks and 6 percent medicine and healthcare. IOM (2023). *Ukraine Internal Displacement Report, General Population Survey Round 15*. https://dtm.iom.int/sites/g/files/tmzbdl1461/files/reports/IOM_Gen%20Pop_R15_IDP_.pdf

[61] Swedish Defence Research Agency, FOI (2024*). Ukrainas civila försvar efter den ryska fullskaliga invasionen.* Unpublished.

[62] Ibid.

Another challenge for staffing within civil defence arises as people leave the country. A gender-segregated labor market, where, for example, 83 percent of employees in the healthcare sector in Ukraine are women, means that the availability of health care services has been negatively impacted by the large proportion of women who have been forcibly displaced.[63]

Lessons

Not all geographical areas of a country are equally impacted by war. People who are forcibly displaced and/or relocated through organized evacuations have limited access to public services as they no longer can visit public offices in their original places of residence. In the event of war, authorities need to ensure that IDPs can receive payments in the form of social insurance, unemployment insurance, pensions, and possibly other means of financial support for those who may left employment opportunities and financial assets behind. Furthermore, EU citizens and third-country nationals, including undocumented individuals, also require access to financial entitlements. The Ukrainian example demonstrates an alternative – user-friendly electronic services. However, regardless of which alternative solution is being considered, it is important to pay special attention to vulnerable groups among IDPs, as they may require tailored solutions.

The war in Ukraine has shown large population movements pose several challenges, for instance in ensuring access to humanitarian aid and public services and impacting civil defence. In Sweden, for example, there are also clear gender patterns in critical professional groups, while formal total defence duty applies to everyone regardless of gender. This means that everyone living in Sweden, including non-citizens, between the ages of 16 and 70 can be called upon to help in various ways in the event of crisis and war. Sweden's civilian conscription arrangements may partially mitigate the negative effects on civil defence witnessed in Ukraine, caused in part by the fact that substantial portions of the female workforce in critical sectors left the country due to war.

To retain civil defence personnel, it is necessary for sectors such as education, childcare, and elderly care to function, even though this will be challenging in the event of large-scale internal population movements (see the "Personnel" section in Chapter 2).

---

[63] EU4GENDEREQUALITY (2021). "Reform helpdesk – Country gender profile Ukraine".
https://euneighbourseast.eu/wp-content/uploads/2022/07/eu4genderhelpdesk_ukrainegenderprofile_v3_rev.pdf

Vulnerable Population Groups

Summary

- The majority of forcibly displaced persons are women and children.

- There are widespread reports of Russian soldiers committing sexual assaults in Ukraine.

- The war has increased the frequency of gender-based violence and domestic abuse in Ukraine.

- Children and persons with disabilities in Ukraine are particularly vulnerable.

Experiences from Ukraine

Russia's full-scale invasion of Ukraine has had severe consequences for the civilian population. Women and children make up the majority of those forced to flee.[64] Women and particularly girls that find themselves in this position are at particular risk of trafficking, gender-based violence, assault, and sexual exploitation. Furthermore, women, including ones not forced to flee, risk being injured or killed when attacked in their homes or as a result of health problems related to sexual violence, pregnancies, childbirth, lack of healthcare and/or basic hygiene.[65]

Testimonies describing incidents of sexual violence committed by Russian soldiers are widespread among Ukrainians.[66] According to a survey conducted in April 2022, 93 percent of Ukrainians are aware of cases of sexual violence committed by Russian soldiers, and 20 percent personally know someone who has been subjected to sexual violence by Russian soldiers.[67]

---

[64] European Parliament (2022). **"**War in Ukraine: protecting women refugees from violence and sexual exploitation" https://www.europarl.europa.eu/news/sv/press-room/20220429IPR28229/war-in-ukraine-protecting-women-refugees-from-violence-and-sexual-exploitation [22-05-05].

[65] Swedish Gender Equality Agency, "Så drabbas flickor och kvinnor i Ukraina," 8 March 2022, https://jamstalldhetsmyndigheten.se/aktuellt/nyheter/sa-drabbas-flickor-och-kvinnor-i-ukraina/ [22-03-09].

[66] The UN is still conducting investigations. UN, "Ukraine: Rape and torture by Russian forces continuing, rights experts report," 25 September 2023, https://news.un.org/en/story/2023/09/1141417 [2024-08-20].

[67] NCGM (2023). *Thematic analysis: The use of gender perspective in the conflict in Ukraine*. https://www.forsvarsmakten.se/siteassets/english/swedint/engelska/swedint/nordic-centre-for-gender-in-military-operations/thematic-analysis_ukraine_ncgm.pdf

Children who have been forced to flee within and outside Ukraine, but especially unaccompanied minors and children separated from their families, are at high risk of exploitation and abuse. These children are at risk of trafficking, illegal adoptions, child labor, sexual exploitation, and other forms of exploitation. There are reports that thousands of children have been forcibly relocated within the occupied territories and/or deported to Russia.[68] Children with disabilities are particularly vulnerable. This is particularly true of children with mental health disorders, who are commonly housed in psychiatric facilities. According to the European Disability Forum (EDF), people with disabilities evacuated from mental healthcare facilities risk being abandoned or forgotten when others are forced to flee. In a wartime environment, it is difficult for disabled persons to receive protection, information, care, food, and other basic necessities. Furthermore, there are shortcomings in terms of access to accessible shelters and modular homes for IDPs with disabilities, and it is difficult to access information for those living in healthcare facilities. Disabled IDPs also have difficulty accessing medical care and rehabilitation.[69]

Elderly people with physical disabilities have shown themselves to be particularly vulnerable during the war, given that many temporary shelters are inaccessible to them. This lack of access has forced them into isolation and led to neglect.[70]

There are examples of Ukrainian and international actors establishing safe spaces for children.[71] Testimonies confirm the significant psychological benefits for children who have access to these spaces.[72] Local and national authorities continue to work with UNICEF and UNHCR to establish aid centers along both the Ukrainian border and evacuation routes, but also in neighboring countries. These centers are known as "Blue Dots" and serve as

---

[68] Government of Sweden (2023*). Declaration on protecting children in Ukraine and in the European Union: EU support for reforming the child protection system in Ukraine.* https://www.regeringen.se/globalassets/regeringen/dokument/socialdepartementet/declaration-on-protecting-children-in-ukraine-and-in-the-european-union---signed-final.pdf. Office of the United Nations High Commissioner for Human Rights (2023*), Report of the Independent International Commission of Inquiry on Ukraine.*

[69] European Disability Forum, "Protection and safety of persons with disabilities in Ukraine," 24 February 2022, https://www.edf-feph.org/protection-and-safety-of-persons-with-disabilities-in-ukraine/ [2024-08-20].

[70] Amnesty International,"They Live in the Dark: Older people's isolation and inadequate access to housing amid Russia's invasion of Ukraine," 1 December 2023, https://www.amnesty.org/en/documents/eur50/7385/2023/en/ [2024-08-20].

[71] https://www.unicef.org/ukraine/en/stories/safe-spaces-give-children-sense-of-hope [2024-08-20].

[72] European Disability Forum (2023). *The impact of the war in Ukraine on the rights of persons with disabilities: Monitoring report*, https://www.edf-feph.org/report-the-impact-of-the-war-in-ukraine-on-the-rights-of-persons-with-disabilities/ [2024-20-08].

places where women, children and vulnerable individuals can receive support, protection, and information.[73]

There are indications that the war has led to an increase in gender-based violence and domestic abuse in Ukraine. The number of police reports of domestic violence increased by 54 percent during the first five months of 2023, compared to the same period in 2021.[74] It is likely that the actual number of cases is much higher, but the documented increase itself should be seen as significant, especially since there is likely a reluctance to report men who have fought at the front. The government crisis hotline for domestic violence, established in response to the increased number of reports, has been under significant pressure.[75] The causes behind the violence are considered to be increased stress, economic difficulties, and unemployment in the male population, coupled with post-traumatic stress disorders affecting soldiers returning from the war. Such disorders remain unaddressed due to the stigma associated with seeking help combined with a general lack of mental healthcare resources.[76]

According to one analysis, the single largest increase in domestic violence occurs when soldiers are repatriated and it is clear that there will be no return to battle. Alcohol abuse among returning soldiers is considered to play a central contributing role in worsening the problem.[77]

Lessons

The situation for vulnerable groups has worsened in Ukraine. In the event of war in Sweden, women and girls are at particular risk of conflict-related sexual violence. If parts of Sweden were to be occupied, children risk being deported and forcibly relocated. A potential war in Sweden could mean that the elderly and people with disabilities would be severely affected due to accessibility issues at, for example, shelters, and the risk of being isolated in their homes. Sweden also risks an increase in domestic violence during wartime. Although Ukraine is a more traditional and conservative country than Sweden insofar as gender norms are concerned, the country has taken

[73] UNICEF, "UNICEFs Blå punkter skapar trygghet och ger skydd," 23 March 2022, https://unicef.se/socialt-skyddsnat/barn-pa-flykt/unicefs-bla-punkter-skapar-trygghet-och-ger-skydd [2024-08-20].

[74] Frizner, Anastasiia & Rzegocki, Sara Jane. Center for European Policy Analysis, "Ukraine's Battle Against Domestic Violence," 15 September 2023, https://cepa.org/article/ukraines-battle-against-domestic-violence/ [2024-08-20].

[75] Williams, Jessie. Time Magazine, "'This War Made Him a Monster': Ukrainian Women Fear the Return of Their Men," 13 March 2023, https://time.com/6261977/ukraine-women-domestic-violence/ [2024-08-20].

[76] UN Women & Care, 'Rapid Gender Analysis of Ukraine', 4 May 2022, https://www.unwomen.org/sites/default/files/2022-05/Rapid-Gender-Analysis-of-Ukraine-en.pdf

[77] Ibid

many steps towards becoming a more equal society.[78] Nevertheless, given the causes behind the increase in domestic violence seen in Ukraine, many of these factors can be expected to be present in Sweden in the event of war. Swedish preparedness planning needs to take this into account in order to mitigate this risk to the extent possible. Generally speaking, an important lesson from the war in Ukraine is to plan for how vulnerable groups will be protected during heightened alert and war.

Mental Health

Summary

- First responders working for emergency services have been significantly affected by post-traumatic stress.

- Many Ukrainians suffer from poor mental health due to constant drone and missile attacks and concern for the safety of friends and family.

Experiences in Ukraine

Interviews in Ukraine reveal significant public mental health challenges. First responders in ambulance services and fire departments are greatly affected by post-traumatic stress. Interviews indicate that rescue personnel were mentally unprepared for the large number of dead and injured they were required to handle during the full-scale invasion in 2022.[79]

In addition to those exposed to post-traumatic stress through their work, many others in Ukraine suffer from poor mental health. According to the Ukrainian Ministry of Health, 14 million Ukrainians are in need of psychological support. This is for many reasons, including the fact that people are exhausted by continuous missile and drone attacks, relatives are worried about family members serving in the armed forces, individuals are distressed by their displacement or that of relatives but also regular funeral processions.[80]

Youth mental health has been particularly impacted by the war. A UNDP study shows that the number of youth (aged 14-34) who worry about their physical and mental health has increased from 35 percent in 2021 to 50

---

[78] Studies also show that young men and women in Ukraine have more liberal and less traditional views on the roles of men and women.

[79] Interviews in Ukraine, February 2024, MSB

[80] Swedish Defence University, FHS (2024) *Analys av intervjuer i Ukraina, 10/12 2023 – 21/12 2023, samt intervjuer i Sverige och Moldavien.*Unpublished.

percent in 2022. Young women expressed greater concern than young men (54 percent compared to 46 percent). A total of 82 percent of youth have experienced deteriorating mental health and sources of income. Meanwhile, 27 percent of youth were worried about their physical safety and 19 percent were concerned about not being able to find job opportunities.[81]

Another cause of mental health issues is uncertainty caused by the inability to plan for the future. Some youth report that they have completely stopped all leisure activities because they see no point in them. There are proposals in Ukraine to start training programs on how to handle uncertainty, both for individuals and organizations.[82]

Even though it is not talked about much either publicly or privately, mental health is a well-known problem in Ukraine. All hospitals in Ukraine are said to offer psychiatric treatment, although resources are scarce. NGOs and foundations also offer help digitally. In interviews, people report taking antidepressants or self-medicating with alcohol.[83]

Lessons

An important lesson from Ukraine is to incorporate mental health into civil defence plans. Professional groups directly involved in responding to the consequences of war are substantially impacted psychologically and are at great risk of developing post-traumatic stress.

The general public is also at great risk of experiencing mental health issues caused by the strain of war. Youth in particular are at risk of developing anxiety about their safety, health, and ability to support themselves. Widespread mental health issues have negative consequences not only at the individual level but also for the population's resilience and collective will to defend their country.

---

[81] UNDP (2023). *Impact of War on Youth in Ukraine.* https://www.undp.org/sites/g/files/zskgke326/files/2023-07/undp-ua-impact-war-youth-eng-findings-recommendations_2023_2.pdf
[82] Swedish Defence University, FHS (2024) *Analys av intervjuer i Ukraina, 10/12 2023 – 21/12 2023, samt intervjuer i Sverige och Moldavien.* Unpublished.
[83] Ibid.

Mortuary Services

Summary

- There is a shortage of resources in Ukraine for expedited burials, including both labour and equipment and supplies, including coffins.

- In Ukraine, ID tags have facilitated the identification of deceased individuals buried in mass graves.

Experiences from Ukraine

Eyewitness accounts describe how Russia's war against Ukraine is impacting mortuary services. There is a shortage of both supplies, such as coffins, and personnel needed to handle the increased number of deceased individuals.[84] Another challenge is identifying the deceased. The intensity and nature of Russia's warfighting, which targets non-military infrastructure and population centers, has necessitated temporary mass graves. Not all of those buried have been located, and many of the deceased who have been found have not yet been identified. As a result, many do not know what has happened to their family members.[85]

In areas previously occupied by Russia, intensive forensic work is ongoing to exhume graves to identify human remains through ID tags, identity documents, and DNA. The conduct of mortuary affairs involving military personnel has also been a challenge, entailing among other things increased pressure on crematoriums.[86]

Lessons

The lessons from Ukraine suggest that responsible authorities need to plan for joint management of mass casualties in the event of war. It is necessary both to allocate land for conducting burials and to ensure an adequate supply of personnel. Additionally, there needs to be preparedness to handle bodies

---

84 Memento (2022). *Ukraina: Bårhusen är fulla med döda.* https://www.begravningar.se/magasinet-memento/artikel/ukraina-barhusen-ar-fulla-med-doda [2024-08-20].
85 Forensic Science International: Synergy 5 (2022). *Environmental Conditions and Bodily Decomposition: Implications for Long Term Management of War Fatalities and the Identification of the Dead during the Ongoing Ukrainian Conflict,* https://www.sciencedirect.com/science/article/pii/S2589871X22000699
86 Försvarsberedningen (2023). *Kraftsamling. Inriktningen av totalförsvaret och utformningen av det civila försvaret. Ds. 2023:34.*

awaiting burial, for instance by securing access to cold storage rooms, ice rinks, or similar facilities.

Another lesson is that, in wartime, there will be a considerable need for items such as coffins, urns, and body bags. In cases where people need to be buried in mass graves, handling and identification of the deceased later on can be facilitated by the wearing of ID tags.

Emergency Water, Food Supply, and Sanitation

Summary

- Transportation and logistics have posed some of the most significant challenges for the food sector in Ukraine. Civil-military cooperation has been required to secure transport routes and to manage transit through checkpoints.

- A lack of secure access to electricity in Ukraine has made food storage difficult.

- Households with their own stockpile of provisions have been somewhat prepared to manage disruptions in food supply.

- Mobile water purification units capable of both analysis and purification have been utilized to some extent.

Experiences in Ukraine

Destroyed or otherwise blocked roads have led to logistical challenges in Ukraine. At the start of the full-scale invasion, civil-military cooperation was required to secure transport routes and manage transits through checkpoints.[87]

The large number of people who have left their homes and fled to other parts of Ukraine has resulted in spikes in demand for food and other goods in receiving regions. An adjustment was required, which led to logistical problems as supply chains were realigned to meet new demand. Observations made by the Swedish Food Agency show that, initially, substantial efforts were put into redistributing resources between the western and eastern parts of Ukraine and finding critical resources outside the country. In areas where

---

[87] Interviews in Ukraine, February 2024, Swedish Defence University, FHS.

fighting has occurred, aid organizations have participated in planning efforts, which have been crucial in ensuring supplies of food and drinking water.[88]

Power outages have led to increased costs of food production and transportation in Ukraine. Among other things, the need for generators and fuel has caused prices of goods in grocery stores to rise. Lack of secure access to electricity also contributes to difficulties in storing food.[89]

The public has been somewhat prepared for war and, in many cases, can survive thanks to their own supplies. However, it is unclear exactly how large these individual stockpiles are and how long they can last.[90]

Household-level supplies have been supplemented through other means, including continued wheat deliveries to Kyiv during the first weeks of the war. Despite an acute shortage of bread, stockpiles of wheat in other parts of the country helped feed the city. At the front, organizing food deliveries is very difficult.[91] Neighborhood self-organization to ensure supplies and security at designated protected locations and in residential areas more generally played a crucial role for people's sense of safety.[92]

Even before the full-scale invasion, many rural households lacked access to municipal water.[93] In May 2022, a survey showed that 1.3 million residents in Ukraine did not have access to municipal water. Some water pipes in Ukraine date back to the Soviet era, and as such there are significant maintenance and upkeep needs. A central task for Ukraine is to repair and rebuild destroyed infrastructure, especially water and sewage systems.[94] The large number of internally displaced people has put heavy pressure on drinking water supply and sewage systems in some regions, as the existing infrastructure is under-dimensioned to handle such a large population.

In some areas near the front, projects with small mobile water purification units have been initiated. These purification units can carry out both water quality analysis and purification, which has been useful given that Russian warfighting tactics involve threatening drinking water supply. Using these

[88] Swedish Food Agency's answer to MSB's question, 2023-12-27.
[89] World Food Programme," Ukraine Annual Country Report 2022," https://www.wfp.org/publications/annual-country-reports-ukraine [12-04-24].
[90] Swedish Defence Research Agency, FOI (2024). *Ukrainas civila försvar efter den ryska fullskaliga invasionen* Unpublished.
[91] Ibid.
[92] CIVIC (2023). https://civiliansinconflict.org/wp-content/uploads/2023/03/CIVIC_Ukraine-SelfProtect_ENG.pdf
[93] UNDP Ukraine, "Human Impact Assessment". https://www.undp.org/ukraine/publications/human-impact-assessment [12-04-24].
[94] Swedish Defence Research Agency, FOI, *Ukrainas civila försvar efter den ryska fullskaliga invasionen.* Unpublished.

mobile water purification units, individuals can check for certain types of contamination and make the water potable again. Even though the capacity of these mobile purification units is limited, they have had an important psychological impact.[95]

Water purification plants have been a recurring target for Russian airstrikes. This has led to the destruction of several plants and increased pressure on those purification plants remaining in service.

Lessons

Lessons from Ukraine indicate that drinking water and food production are susceptible to destruction during war, which can lead to periodic shortages of water and food in portions of the country. Personnel at production facilities therefore need protective equipment and access to shelter to be able to work safely. In Ukraine, small-scale production has provided greater flexibility. In addition, smaller mobile units are harder to disable than large water purification plants. Even though infrastructural arrangements and production processes differ in Sweden, and thus have different conditions and potential consequences in the event of war, the lessons described above can be considered universal and thus of interest for Swedish contingency planning.

One lesson from Ukraine is that people with good household-level preparedness and personal supplies of food and water have fared better in situations when access to basic necessities is limited.[96] This, along with the positive experiences of Ukrainian neighborhoods self-organizing, is seen by MSB as relatively easy to transfer to a Swedish context and reinforces the importance of existing Swedish recommendations and checklists for enhanced home preparedness.[97]

_____

[95] Ibid.
[96] Having individual home preparedness and being able to manage on one's own for seven days is recommended by, among other by MSB. *If Crisis or War Comes,* MSB (2018).
[97] *Hemberedskap*, MSB. https://www.msb.se/sv/rad-till-privatpersoner/forbered-dig-for-kris/hemberedskap---preppa-for-en-vecka/

Receiving International Civilian and Humanitarian Aid

Summary

- A large portion of international aid provided to Ukraine has been coordinated outside the country. In the spring of 2024, distribution shifted from delivery in Poland to direct assistance within Ukraine.

- Centralized EU management and coordination in Poland has been crucial in handling the volume of aid that has been provided to Ukraine.

- The Polish Strategic Reserve Agency's (RARS) own warehousing operations and experience in logistics and distribution have been significant.

- The State Emergency Service of Ukraine (SESU) is a key player in managing resources provided through the EU's Union Civil Protection Mechanism.

- Non-governmental organizations play an important role in receiving and distributing aid.

- Transparency and traceability are required to prevent incoming aid from being lost or falling into the wrong hands. The willingness to provide aid decreases if contributing countries do not receive information on how their resources are used.

- Despite various customs and border facilitation measures, receiving international aid involves extensive administrative processes for both donors and recipients.

- Russian attacks against Ukrainian warehouses that contain donated equipment has led Ukraine to utilize sandbags and stone-filled wire walls (gabions) to safeguard warehouses for incoming aid.

Experiences in Ukraine

MSB's 2023 interim report provides a detailed account concerning how international civilian and humanitarian aid has been channeled to Ukraine.[98] Therefore, this chapter presents only an overview, with new lessons described more thoroughly. Chapter 5 details MSB's operations in providing aid to

---

[98] MSB (2023). *Erfarenheter från Ukraina - Initiala lärdomar för det civila försvaret*. Interim report for the Government Directive Fö2023/01325. https://rib.msb.se/filer/pdf/30493.pdf

Ukraine, much of which has been channeled through the EU's Union Civil Protection Mechanism (UCPM).[99] Some lessons and their application in this section stem from these experiences. Despite a relatively large number of interviews, combined with a significant number of MSB operations in Ukraine, there is limited insight into how the aid that has been provided has been distributed and organized on the ground in Ukraine. As a result, much of the information is related to the organization of aid in neighboring countries.

A large portion of international aid to Ukraine has been coordinated outside the country's territory. NATO has taken a prominent role in facilitating incoming military aid, while the EU has assumed significant responsibility for incoming humanitarian and civilian aid, including assistance within the framework of the UCPM via the Emergency Response Coordination Centre (ERCC) at the Commission's Directorate-General for Civil Protection and Humanitarian Aid Operations (DG ECHO).[100] Since the full-scale invasion, UN operations in Ukraine have also substantially increased. This has led to the expansion of organizational headquarters and the opening of several new field offices.[101] The UN has established its usual humanitarian cluster system for managing large-scale crises and disasters, wherein different UN agencies take the lead in coordinating various clusters or sectors to distribute aid as effectively as possible.[102]

The humanitarian and civilian aid transported through EU member states and other participating UCPM countries goes directly to authorities in Ukraine. After the full-scale invasion, the ERCC established logistics hubs in Poland, Romania, and Slovakia and acted as a coordinating entity to streamline and facilitate EU Member States' and UCPM participating states' assistance to Ukraine.[103] Ukraine has also had a rotating liaison officer at the ERCC to facilitate contacts between requesting authorities and donating countries. RARS has managed both bilateral assistance from Poland, EU member states and UCPM participating states. This aid has been transported and temporarily

---

[99] It is worth emphasizing that the experiences from MSB's own operational activities in Ukraine represent only one piece of the puzzle of the overall incoming international aid, which is far greater in scope than the support provided through both MSB and the EU's Civil Protection Mechanism. Due to time constraints, MSB has not been able to delve deeper into the totality of aid in this report.

[100] In some cases, lists of requested resources have been received through NATO's coordination function for civilian disaster response, the Euro-Atlantic Disaster Response Coordination Centre (EADRCC). However, these lists have always been identical to those received through the ERCC, with the ERCC having a significantly more extensive number of lists. EADRCC is considered more of a distributor of information, compared to ERCC, which has a large number of staff on duty, a 24/7 situational awareness function, as well as funding tied to the work and experience with both frequent and large-scale operations across many parts of the world.

[101] MSB (2024). *Årsrapport för insatsverksamheten*, publ nr MSB2327. https://rib.msb.se/filer/pdf/30586.pdf

[102] UN OCHA ReliefWeb Response, "Ukraine Inter Cluster Coordination," https://response.reliefweb.int/ukraine/inter-cluster-coordination [2024-08-20].

[103] Interviews within MSB's field operations, December 2023.

stored in large warehouses in Poland, which were originally established for national use.

European Commission officials have emphasized during interviews that support from Ukraine's neighboring countries, especially Poland, has been invaluable in quickly establishing humanitarian hubs. Many highlight that it was crucial that RARS already had its own warehousing operations and thus the experience and capacity for logistics, distribution, and IT systems capable of handling both open and classified information. RARS was able to build a decentralized warehousing system even if the procedures were managed centrally.[104] The European Commission highlights the importance of having well-established and effective crisis management systems in countries near Ukraine. Work progressed more slowly in countries where these systems were not in place.[105]

It is challenging to get a clear picture of how aid is coordinated within Ukraine. While interviews carried out by the Swedish Defence University (FHS) focused on issues concerning cooperation between national, regional, and local levels, interviewees found it difficult to provide answers as they primarily had knowledge only about their own level of operations. What is clear, however, is that SESU is a key actor for facilitating incoming UCPM assistance, both in terms of reception and further distribution within Ukraine. Another important actor is JSC Khmelnytskoblenergo, the designated Ukrainian authority in the energy sector responsible for receiving international assistance and ensuring these resources reach end-users.[106] In the healthcare sector, the State Institution Public Health Center of the Ministry of Health of Ukraine is a key actor.[107]

In the first-two years following the full-scale invasion, the majority of MSB's assistance[108] was transported to Ukraine via Poland. Sufficient resource traceability was required to ensure resources ended up with their intended end-user. The willingness to provide aid decreases if contributing countries and individuals do not receive information about how their resources are being used. Therefore, the ERCC has emphasized the need for coordination

---

[104] Interviews at DG ECHO, December 2023.
[105] Ibid.
[106] According to the established and standardized donation agreements between Ukraine and donor countries regarding resources in the energy sector, the following is stated: "According to the Resolution of the Cabinet of Ministers of Ukraine dated 22 July 2022 No. 824, JSC Khmelnytskoblenergo is entitled to be the recipient of humanitarian aid to satisfy the energy sector needs and has to transfer the Equipment/Fuels/Materials donated by Xxx (Name of company) to another beneficiary/beneficiaries as defined under Purpose."
[107] Interviews within MSB's field operations, December 2023.
[108] This includes both MSB in-kind assistance and the donations from external actors that MSB has coordinated and facilitated.

in the Ukrainian public sector, for instance, by extending SESU's tracking system to other authorities and departments.[109] To increase traceability, Ukraine introduced a so-called humanitarian code in April 2024. This code is unique for each shipment of donations to Ukraine and must be provided by the receiving entity before entry into the country.[110]

At the start of 2024, the ERCC updated transport guidance and began urging EU member states and UCPM participating states to transition to an approach involving the direct delivery of assistance to end users in Ukraine. This transition aims to shorten lead times and to relieve the heavily burdened hubs.[111] This guidance, combined with the Ukrainian introduction of a humanitarian code for donated equipment, has resulted in MSB redirecting its planned shipments directly to recipients in Ukraine. This has led to more bilateral contacts with recipients, but also more involvement in administrative customs procedures. Through this change, it has become evident that Poland previously bore a significant responsibility for administrative procedures, such as customs clearance and correct documentation, which relieved Sweden, other contributing states, and Ukraine.[112]

Upon entry into Ukraine, aid is either sent directly to the end recipient or to a Ukrainian hub for further distribution. The receiving entity varies – from coordinating contact points such as SESU or JSC, to other authorities or an oblast. When Ukraine requests assistance through the UCPM, it sends requests for assistance on a sectoral basis. When a member country offers resources that match the specified needs, Ukraine often responds within a few hours, suggesting that work within Ukraine is well-organized.[113]

Experiences in Ukraine highlight the importance of utilizing volunteers. Approximately 1,700 newly established local volunteer groups in Ukraine have played a crucial role in receiving and distributing incoming aid.[114] The Swedish Defence Research Agency (FOI) notes that, at the onset of Russia's full-scale invasion, there was significant engagement from spontaneous volunteers eager to contribute. Initially, these volunteers had a greater capacity to deliver civilian and humanitarian aid than established

---

[109] European Commission Directorate-general for European Civil Protection and Humanitarian Operations (ECHO) 2023. UCPM Lessons Learnt Programme Meeting ECPM Activations Related to Earthquake in Tÿrkie and Syria and Russia's War Against Ukraine 3-4 October.
[110]ERCC Operational Plan for the Delivery of UCPM Assistance to Ukraine. Update: 23 January 2024.
[111] Interviews within MSB's field operations, May 2024.
[112] Interviews within MSB's field operations, April 2024.
[113] Ibid.
[114] United Kingdom Humanitarian Innovation Hub. (2022). *Enabling the local response: Emerging humanitarian priorities in Ukraine March–May 2022*.

institutions.[115] Interviews conducted by FHS also emphasize the importance of non-governmental organizations in this work, particularly the Red Cross, although the organization did not arrive until two to three months after the full-scale invasion began.[116] The Swedish Red Cross points out that spontaneous volunteers and various spontaneous network initiatives rarely have the same structural conditions and resources as established actors, and that it is often a challenge to sustain such spontaneous initiatives over time.[117]

In preparing this report, MSB has not been able to determine in detail how volunteer work within Ukraine has been organized. According to FHS, public authorities have not led organizing efforts, although there are some indications that the National Guard has been involved to some extent.[118] MSB's interview with a regional branch of the Ukrainian Red Cross reveals that they have received assistance from Denmark, Germany, and the United Kingdom. However, it is unclear exactly how the incoming aid has been organized. The Red Cross receives tasks from SESU, local authorities, the country's emergency call center, but also from private individuals directly. This includes distributing food, water, and medicine, both at collection points and through mobile teams that visit people's homes to deliver supplies, especially to children with special needs.[119]

The lack of information about the organization of incoming aid and traceability of donated equipment is largely due to security concerns. Ukraine is careful not to disclose security-sensitive information, which could be used by Russia to carry out attacks on warehouses containing donated equipment.[120] The regional Red Cross confirms in MSB's interviews that Russia does not respect the legally protected symbols of civil defence or Red Cross personnel. For example, Russia struck one of the Red Cross's warehouses, prompting the organization to relocate the housed equipment every evening for a period of time.[121] In addition to relocating warehouses, Ukraine has developed a "passive protective defence system" to protect critical infrastructure and important preparedness warehouses. This system

---

[115] Swedish Defence Research Agency, FOI (2023). *Gråzonslägen i krig och fred.* FOI-R--5447—SE

[116] Swedish Defence University, FHS (2024). *Analys av intervjuer i Ukraina, 10/12 2023 – 21/12 2023, samt intervjuer i Sverige och Moldavien.* Unpublished.

[117] 3 Svenska Röda Korset (2024). *Värn i allvarstider - Ett humanitärt perspektiv på Sveriges totalförsvar.*

[118] FHS (2024*). Analys av intervjuer i Ukraina, 10/12 2023 – 21/12 2023, samt intervjuer i Sverige och Moldavien*. Unpublished.

[119] Interviews in Ukraine, February 2024, MSB.

[120] Interviews within MSB's field operations, September 2023.

[121] Interviews in Ukraine, February 2024, MSB.

consists of multiple layers of protection, including sandbags and stone-filled wire walls (gabions).[122]

Lessons

If not for centralized EU and Polish RARS coordination, international assistance for and distribution in Ukraine would likely not have achieved the same extent and scale.[123] Poland's organization of incoming aid to Ukraine highlights the importance of having a national contact point that focuses on a given society's collective resources and has relevant experience and adequate capacity in extensive warehousing, logistics, and donation procedures.

Through MSB, Sweden already has a point of contact that facilitates incoming and outgoing humanitarian aid via the EU's ERCC and NATO's principal civil emergency response mechanism, the Euro-Atlantic Disaster Response Coordination Center (EADRCC), and has established channels and procedures for operations through the EU and UN. In line with MSB's proposal to have an overarching coordination role within supply chain security, MSB could move in a direction similar to the RARS model, in so doing fulfilling roles similar to both SESU in Ukraine and RARS in Poland during periods of heightened alert in Sweden.

During heightened alert, there is currently the possibility to utilize both nationally stored resources and MSB's own resources for international operations and the EU's rescEU capacities, a pool of resources under the UCPM. It would be possible to build upon MSB's existing infrastructure for warehousing and logistics to quickly scale up storage capacity during periods of heightened alert. However, MSB's role in national coordination and prioritizing incoming civilian aid would likely need to be clarified.

Acknowledging crisis management systems in Sweden's neighbour countries is important in the context of periods of heightened alert, which incoming aid might need to be stored outside Swedish territory before distribution.[124] The Nordic countries could therefore deepen their ongoing cooperation in preparedness planning and joint exercises. Greater cooperation would ensure that Sweden's neighbors can provide humanitarian assistance and, if necessary, coordinate multilateral international humanitarian aid in the event of war. Within this regional cooperation, Sweden must also prepare to take on the role Poland has assumed during Russia's war against Ukraine. This

---

[122] Interviews at DG ECHO, December 2023.
[123] Swedish Red Cross (2024). *Värn i allvarstider - Ett humanitärt perspektiv på Sveriges totalförsvar.*
[124] Interview with DG ECHO, December 2023.

facilitating role is particularly important as a NATO member, since Sweden may become a transit country for incoming military, civilian and humanitarian aid.

Given that an aggressor could target warehouses and logistical hubs, it would be advantageous to plan for the establishment of warehouses and logistical hubs at multiple locations around the country to achieve a dispersion effect, as well as to plan for the surveillance and physical protection of warehouses and hubs used for managing incoming aid. Furthermore, Nordic cooperation could be strengthened through joint storage of certain critical supplies to enhance each country's ability to quickly distribute necessary equipment when needed.[125]

Traceability of incoming aid is crucial to ensure, among other things, that donors continue to contribute. Therefore, traceability is an aspect that needs to be considered when preparing to receive incoming aid. To that end, MSB could use its experiences from coordinating donations and equipment to Ukraine to, for example, create a digital platform that could be used for managing incoming aid.[126]

The increased administrative burden for countries contributing aid to Ukraine in the spring of 2024, with aid increasingly being transported directly to Ukraine rather than through, for example, the Polish hub, suggests that Sweden will likely need to invest significant effort into administrative tasks in order to deliver humanitarian aid going forward. Even if a neighboring country were to assume a similar role as Poland, Sweden can be expected to take on increased amounts of responsibility in receiving and distributing aid in the event of a protracted war. Sweden therefore needs to develop its own structures and routines, including the establishment of various types of prepared exemptions in order to facilitate the rapid import of aid in the future.

MSB's operations in Ukraine have shown that handling donated equipment presents challenges due to unfamiliarity with certain systems and equipment (see chapter 5). Knowledge gaps for both the use and maintenance of equipment can be reduced through training. Training by accompanying experts is therefore essential for fully utilizing incoming aid. In the Swedish

---

[125] Haga Cooperation is the Nordic cooperative format on civil protection and preparedness. Priority areas for this can be found in MSB (2022). *Nordic Civil Protection and Host Nation Support – Solidarity put into Practice. MSB1950-2022*.

[126] A similar solution exists through RARS in Poland, https://form.rars.gov.pl/en/donation_form. Such a platform was also used in Sweden during the COVID-19 pandemic as part of MSB's national coordination of donations of equipment for other essential services beyond healthcare. However, for incoming assistance during heightened alert, a higher level of security protection would be required, as well as further development in other aspects.

context, authorities will need to ensure that contributing countries' personnel can operate on-site in Sweden as much as possible. Sweden should therefore continue to actively participate in operations and joint exercises within the framework of the UCPM. Joint exercises with various types of equipment, but also the increased standardization of different procedures offer opportunities for increased interoperability and enhanced cooperation capacity in the event of heightened alert. To this end, established procedures for receiving incoming experts and equipment should be exercised.

MSB does not have enough information to assess whether Ukraine's rotating liaison officers at the ERCC have had an impact on the effectiveness of receiving incoming aid. However, one lesson from MSB's operations in Ukraine is that the presence of Sweden's nationally deployed experts and liaison officers under the UCPM has improved MSB's insights and influence. Having Swedish personnel within EU structures has supported identifying Ukraine's most critical needs (see chapter 5). Therefore, it is reasonable to assume that Swedish experts or liaison officers embedded in EU structures could provide significant support in managing EU operations and donated resources. Given the stresses of war, greater coordination of resources across locations and between different actors is needed when compared to peacetime operations.

In Ukraine, MSB has gained substantial insights through handling aid in a highly developed but war-torn country that maintains essential services despite the enormous strains of war (see chapter 5).[127] One lesson is that laws and regulations are often the same as in peacetime. This can pose obstacles for receiving aid, such as obtaining building permits.[128] Efforts to plan and prepare for receiving aid in such situations must be identified and resolved in advance.[129]

The Swedish Red Cross believes that Sweden needs to prepare for the presence of international humanitarian actors during states of heightened alert; advanced plans are required in order to manage how these actors will

---

[127] MSB has, as a result of peacetime events, conducted a large number of operations to other EU countries within the framework of the EU's Civil Protection Mechanism during peacetime crises. These countries have also functioned relatively unhindered, but the strains are not comparable to those of a war, which is why the operations in Ukraine have contributed with new experiences.

[128] Interviews from MSB's field operations, January 2024.

[129] The IFRC has previously developed guidelines to support the reception of international aid, which are part of MSB's work in this area. Some of the areas covered include how bureaucratic obstacles, such as in customs clearance of aid goods and equipment, can be removed. Such obstacles often lead to restrictions and delays in visas and permits for humanitarian personnel, including the recognition of foreign professional qualifications for specialized personnel, particularly in medical fields. Some information on potential obstacles can also be found in Ds 2023:22, *Sveriges tillträde till vissa Natoavtal* and the associated consultation responses. While Ds 2023:22 has a military focus, a number of areas listed may also be relevant for incoming civilian assistance.

operate on Swedish territory. The Red Cross also sees a need for detailed planning for the distribution of supplies during crises and war, including clear guidelines on how this will be carried out, how information on available resources will be shared, and how the actual distribution of assistance will be organized.[130]

In conclusion, further study on the handling of international humanitarian aid to Ukraine is needed for Sweden to draw additional lessons on how to organize its own processes. Further studies could take a broader approach that includes the diversity of all incoming humanitarian aid as well as the intersection between incoming humanitarian and military aid.[131]

---

[130] Swedish Red Cross (2024). *Värn i allvarstider - Ett humanitärt perspektiv på Sveriges totalförsvar.*
[131] Such a deepening and broadening might be more appropriate at a later stage when it may be less sensitive to detail how the work has been organized. By then, there will also be more experience of the operations within Ukraine as the assistance increasingly shifts from distribution via Poland to direct delivery to Ukraine.

2. Safeguarding the Most Important Societal Functions and Maintaining Necessary Supplies

This chapter presents experiences and lessons relevant to safeguarding the most important societal functions and maintaining necessary supplies. Even during heightened alert and war, vital societal functions must continue to meet the population's basic needs and ensure that other activities, including military defence, operate effectively. Ensuring continuity is also crucial in sustaining the population's resilience and will to defend the country. This chapter discusses how preparation, planning, and/or adaptation can achieve these goals. The chapter first provides examples from several sectors in Ukraine where preparations and planning were in place or where successful adaptation of activities occurred. The chapter then provides examples of preparedness, planning, and adaptation in several cross-cutting civil defence sectors, namely: supply chains; maintenance and repairs; cooperation and leadership; personnel management; and cyber and information security.

Preparedness and Planning

Summary

- Emergency legislation in Ukraine focuses on maintaining financial payment systems, stabilizing the currency and managing inflation, securing foreign financial support, sustaining the banking system, and preventing economic collapse for the many small and medium-sized enterprises that form the backbone of the Ukrainian economy.

- Shortly before the full-scale invasion, Ukraine enacted a law that enabled the transfer of state-critical data to cloud services with servers physically located abroad.

- Ukraine had long planned to reduce its dependency on Russian energy through both technical and legislative changes in the electricity and gas sectors. However, dependency on Russian fuels has remained.

> - The Ukrainian government's launch of a digital platform and an application to ensure the continuation of public services has played a crucial role in Ukraine's resilience. Physical service centers and mobile offices where citizens can handle various administrative matters have also been utilized.

Experiences in Ukraine

Maintaining the economy during the war has presented challenges. Since the fall of the Soviet Union, Ukraine has struggled with the legacy of a planned economy, leading to an unstable financial sector with a weak banking system marked by corruption.[132] Therefore, between 2014 and 2021, Ukraine implemented several measures to strengthen its economic resilience. During this period, a series of reforms to the central bank increased its independence, enhanced professionalism, and introduced inflation targets. Additionally, a large number of struggling private insurance companies and banks, such as PrivatBank, were liquidated or nationalized. Reforms against widespread corruption were initiated, and loans were taken from the International Monetary Fund (IMF), which required capital reserves and stricter supervision of banks. The IMF also demanded that Ukraine enact legislation to prevent oligarchs from reverting to nationalization and/or liquidation of banks. These reforms appear to have increased the resilience of the financial sector.[133]

Combined with relatively comprehensive preparedness planning in the area of financial services, the reforms also enabled the Ukrainian government and central bank to act swiftly when the full-scale invasion became a reality. Through prepared emergency legislation, entering into force immediately after the invasion, the Ukrainian economy focused on maintaining financial payment systems, stabilizing the currency and inflation, securing foreign financial support, sustaining the banking system, and preventing economic collapse for the many small and medium-sized enterprises that form the backbone of the Ukrainian economy.[134]

Shortly before the full-scale invasion began in 2022, Ukraine adopted a law that enabled the Ukrainian state to move critical data to cloud services, even if servers maintaining the services were physically located in another country.

---

[132] Swedish Defence Research Agency, FOI (2024). *Ukrainas civila försvar efter den ryska fullskaliga invasionen.* Unpublished.
[133] Ibid.
[134] Ibid.

With the help of the private sector, large parts of the Ukrainian state's critical data were stored on servers outside Ukraine.[135]

Preparatory planning had also taken place in the energy sector. The main challenges for Ukraine's electricity system began in the fall of 2022 when massive Russian missile and drone attacks began targeting the power grid. This resulted in power outages for large portions of the Ukrainian population. Ukraine had primarily planned for scenarios where the power system would be protected against terrorism, sabotage, and cyberattacks. Cyberattacks directed at the power system since February 2022 have been largely thwarted, but there have been challenges with physical protection. Even though Ukraine has managed to successfully defend against a significant proportion of missiles and drones aimed at its energy infrastructure, substantial damage still occurs when targets are hit.[136]

Perhaps one of the most important preparations in the energy sector has been Ukraine's long-term plan to reduce dependency on Russian energy. This has been achieved through both technical and legislative changes for electricity and gas. However, dependency on Russian fuels has persisted. These changes have taken a long time to be implemented. Although Ukraine's goal has been to integrate with Europe's power system since the 1990s, the process only began in 2006. After several years of planning, disconnection from the Russian energy system occurred on February 24, 2022. Disconnection was supposed to be tested in January 2022, but Russia postponed the disconnection. The purpose of the test was to run the Ukrainian system in isolation for a few days to ensure its functionality, but the system was never reconnected with Russia and is now part of the European power system.

Another example of preparations in the energy sector was that the largest energy companies had developed alternative control centers with plans for how operations could be transferred during both crises and wars. These plans were executed a few hours before the full-scale invasion began.[137]

Digital public services are another area where Ukraine was relatively well-prepared. In 2020, the Ukrainian state launched a platform and application called DIIA, which is also a state-owned company. Today, the app plays a

[135] MSB (2023). *Erfarenheter från Ukraina: Initiala lärdomar för det civila försvaret*. Interim government report Fö2023/01325 (2023).
[136] Swedish Defence Research Agency, FOI (2024). *Ukrainas civila försvar efter den ryska fullskaliga invasionen*. Unpublished.
[137] *Svenska kraftnät* describes island operation as an electricity preparedness measure, which means that the electricity supply should be able to be ensured in smaller or larger sub-areas even without connection to the transmission network.

crucial role in Ukraine's resilience by offering a way for public services to continue during war. DIIA functions as a portal for a wide range of public services. Users can apply for social support, grants, and other benefits directly in the DIIA app. Fundamental to the application is the handling of identity documents and state permits. It is possible to register newborn children and access several family benefits, apply for compensation for property damaged by the war, and for individuals in Ukraine's civil defence or military to apply for favorable low-interest housing loans. Business owners can also apply for various forms of support. After applying in DIIA, integration with digital banking makes it possible to receive financial support directly into the user's bank account.[138]

Without delving into the underlying technical conditions, through DIIA's access to data from various public sector registers and databases, users can identify themselves through digital authentication. Since 2020, it has been possible to use the Ukrainian central bank's digital identification in DIIA. The day before the full-scale invasion war, the Ukrainian government allowed for several other authentication services. This has facilitated access to otherwise unreachable public services during the war, particularly for internally displaced persons.[139]

DIIA is not just a digital platform but also includes physical administrative service centers where citizens can handle many different types of matters. Digital use of DIIA is generally higher among younger users, high-income earners, and the well-educated, while it is lower among older people and those with low income or education. The highest use of DIIA is among internally displaced persons, veterans, and parents of children with disabilities. The existence of physical service centers helps those who do not want or cannot use digital services. Additionally, there are about 30 mobile service offices. These mobile offices existed before 2022 and, despite their relatively low number, seem to have gained significant importance since many fixed-address service centers have been destroyed in Russian attacks. The fixed service centers are often located in or near regional or municipal government buildings, which have been targets of Russian warfare.[140]

---

[138] Swedish Defence Research Agency, FOI (2024). *Ukrainas civila försvar efter den ryska fullskaliga invasionen.* Unpublished.
[139] Ibid.
[140] Ibid.

Lessons

Throughout Russia's war against Ukraine, civilian infrastructure has been subject to military attacks and other violations of international law. Preparedness planning and exercises need to include such scenarios to reduce the risk of interruptions to vital societal functions.

To ensure that goods and services continue during a war, planning for how vulnerable dependencies should be managed must be done in peacetime. Over time and through extensive planning, Ukraine has reduced its dependency on Russian electricity.

Lessons learned from Ukraine demonstrate how important it is for civil defence planning to take place well before an armed attack occurs. An important lesson is that electrical systems and similar infrastructure need both active and passive protection. Passive protection means that the physical protection of facilities should be considered when a facility is first built, as it can be costly or even impossible to retrofit. It is possible to strengthen protective barriers retroactively, but doing so is time-consuming and primarily offers protection against shrapnel, not direct strikes. Active protection, in this case air defence, needs to be planned with armed forces in order to effectively utilize resources for both the protection of civilian infrastructure and military operations. The earlier the planning, the easier it will be to ensure effective physical protection during war.

Finally, several essential public services require access to critical information from core databases. In Ukraine, core data was secured by moving to cloud services. This is not necessarily the right path for Sweden. However, to prevent important information and data from being lost or leaked, it is crucial to plan for how critical societal data will be secured in the event of heightened alert or war.

Wartime Adaptation

Summary

- Ukraine's Central Bank has moved from Kyiv to Lviv.

- Mobile water purification units for drinking water are available.

- National roaming has been introduced, allowing mobile phone users to connect to any available mobile operator in the country.

- Scheduled electricity usage restrictions have been implemented to balance the power grid and avoid emergency blackouts.

- Authorities have urged households to reduce their electricity usage during peak load times. Many businesses and individuals have used backup generators to compensate for power outages.

- People have used stoves to reduce electricity consumption, and the government has simplified the import of both generators and fuel to operate them.

- The EU and Ukraine have agreed on simplified customs procedures as road and border crossing congestion has increased.

- Railways have played a crucial role in national transport.

- The use of diesel generators has eased the challenges associated with recurring power shortages.

- Many schools conduct classes in shelters, protected spaces, or online.

- There are several examples of companies shifting their production to support the military or civil defence.

- There is an entrepreneurial spirit in Ukraine combined with a high level of education and a large number of institutions, particularly in tech.

Experiences in Ukraine

Most interviewees state that Ukraine's societal apparatus is functioning. Given wartime conditions and historically weak institutions, this may seem surprising. However, relative success is likely due the Ukrainian society's wartime transition.

The transition has included increased use of mobile solutions. In some areas near the front lines, Ukraine has initiated projects with small mobile water purification units that purify and analyze drinking water. Although the number of mobile purification units does not meet demand, they have enabled water quality monitoring after Russian attacks. Mobile solutions are also present in the healthcare sector, where companies are building and delivering portable healthcare units. These units can be land- or sea-based.

Additional examples of Ukraine's wartime adaptation can be seen in the field of electronic communications. Less than a month after the full-scale invasion, Ukraine introduced national roaming, allowing users to connect to all available mobile operators in the country. This measure, along with the decision ensuring that users who do not pay their bills will no longer be disconnected from the networks, helps maintain communication for the population. This allows the public to receive information from Ukrainian authorities, access public services through the DIIA app, and stay in touch with family and friends.[141]

Ukraine has also adapted to the power outages caused by the war. Several measures have been taken to limit electricity usage in order to stabilize the energy grid. For example, authorities have shut down portions of the power grid on an emergency or a scheduled rotating basis to enable repairs. The rotating schedule has involved restrictions on electricity usage to ensure the power grid's stability and avoid emergency blackouts. To compensate for power outages, many businesses and individuals have used backup generators. The Ukrainian government has facilitated the import of generators and reduced taxes on both generators and operating fuel. Authorities have also urged households to reduce their electricity usage during peak hours. It is estimated that this guidance has led to a 10-20 percent reduction in electricity usage, which has contributed to the stability of the electrical grid and prevented blackouts. Increased electricity production has also been important. In addition to these measures, there have been smaller-scale initiatives in the electricity sector.[142] In response to Russia's attacks on Ukraine's heating supply, particularly during the winter, heating has been scaled down through the increased use of stoves and small-scale heating plants.[143] Ahead of the 2023/24 winter, Ukraine implemented both active air defence and passive protection of the energy grid.

---

[141] Swedish Defence Research Agency, FOI (2024), *Hälsa, vård och omsorg.* Unpublished.
[142] Swedish Defence Research Agency, FOI (2024), *Ukrainas civila försvar efter den ryska fullskaliga invasionen.*Unpublished.
[143] Swedish Energy Agency response to MSB question, 2023-12-19.

Transport sector adjustments have also been necessary. Due to damage and port blockades, Ukraine has often had to find new routes to restore logistical supply chains. Ukraine has switched its extensive maritime shipment of agriculture products to land transport. The switch has had ripple effects. Exports now carried out by rail require increased line capacity, while road networks have also come under increasing strain. Border crossing customs stations have also experienced increased pressure, leading the EU and Ukraine to agree on simplified customs procedures. Tensions have arisen between Poland and Ukraine because the increased export of Ukrainian grain that is transported through Poland has driven down price of Polish grain.[144]

With Ukrainian airspace closed, airborne medical evacuations have not been possible. By converting train carriages into intensive care units, the Ukrainian railway company Ukrzaliznytsia (UZ), in cooperation with Doctors Without Borders, has managed to conduct medical evacuations by rail instead.[145] The railway has played a significant role in Ukraine's transport sector. Despite the war, the railway has been both punctual and reliable.[146] However, recurring power outages have affected rail traffic, leading diesel to replace the use of electric locomotives. This has been possible because Ukraine has kept older types of diesel, electric, and even steam engines in strategic reserve. There are also examples of steam engines being used for local service around Kyiv to free up electric and diesel locomotives for longer-haul transports. One creative railway solution, highlighted by the Swedish Transport Administration, involves using former restaurant cars pulled by diesel engines to create mobile kitchens. These trains have been able to provide food for up to 10,000 people a day and travel to both civilian locations and the military frontlines. With its own fuel in tow, the train is capable of traveling independently to locations where it is most needed. [147] Larger railway stations, like in Kyiv, have also served as clinics and shelters for thousands of people.[148]

Adaptation of schools and preschools during the war is significant for both students and their families. The activities provide not only education and meaningful engagement for the children but also enable their families to work. Schools in Ukraine were significantly affected when war broke out in Donbas in 2014. Hundreds of schools became unusable. The situation

[144] Swedish Defence Research Agency, FOI (2024), *Ukrainas civila försvar efter den ryska fullskaliga invasionen*. Unpublished.
[145] Ibid.
[146] Swedish Transport Administration answer to MSB question. 2023-12-21.
[147] Ibid.
[148] Swedish Defence Research Agency, FOI (2024), *Ukrainas civila försvar efter den ryska fullskaliga invasionen*. Unpublished.

worsened after Russia's full-scale invasion in 2022. UNICEF reported that 1,300 schools were completely destroyed by the start of the fall semester in 2023. A large number of school buildings were also damaged. Due to the vulnerability of schools, teaching now often takes place in shelters and protected spaces. Schools without shelters have adapted by offering online classes, which requires functioning internet that is not always available. In August 2023, UNICEF estimated that approximately one-third of students have full-time classroom instruction, one-third have full-time online learning, and one-third have a mix of both.[149]

Another challenge for the adaptation of Ukraine's schools is the displacement of many Ukrainians to other parts of the country or abroad. Both students and teachers may be far from their homes, affecting the schools they leave or newly attend.[150] Unsurprisingly, the war has negatively impacted Ukrainian students' learning, particularly in language skills, mathematics, and foreign languages.[151]

The economy is another area that has required adaptation. Despite the reforms described earlier in the chapter, the Ukrainian central bank is not as independent from the state as the Swedish central bank. While institutions like the IMF advocate for an independent Ukrainian central bank, the closer relationship between the central bank and the state has enabled cooperation with government authorities during the initial phases of the full-scale invasion. The day after the invasion, the central bank implemented numerous measures that likely helped protect the economy from collapse. One example is the strict regulation of currency and dollar trading.[152] Adaptation has also involved relocating some operations, including the Ukrainian central bank, which was moved from Kyiv to Lviv over the course of February 24-27, 2022, resuming normal operations on 28 February.[153]

Central to the Ukrainian financial and economic sector is a functioning payment system. Therefore, in December 2022, the central bank introduced "power banking" to guarantee the ability to perform basic banking services

[149] UNICEF (2023). *Widespread learning loss among Ukraine's children, as students enter fourth year of disruption to education*. https://www.unicef.org/press-releases/widespread-learning-loss-among-ukraines-children-students-enter-fourth-year [16-04-24].

[150] Swedish Institute for International Affairs, UI (2024). *Ukraina – Utbildning*. https://www.ui.se/landguiden/lander-och-omraden/europa/ukraina/utbildning/ [16-04-24].

[151] UNICEF, "Widespread learning loss among Ukraine's children, as students enter fourth year of disruption to education," 29 August 2023, https://www.unicef.org/press-releases/widespread-learning-loss-among-ukraines-children-students-enter-fourth-year [16-04-24].

[152] Swedish Defence Research Agency, FOI (2024), *Ukrainas civila försvar efter den ryska fullskaliga invasionen*. Unpublished

[153] Swedish Defence University, FHS (2024). *Analys av intervjuer i Ukraina, 10/12 2023 – 21/12 2023, samt intervjuer i Sverige och Moldavien*. Unpublished.

even when the power supply temporarily fails.[154] Power banking primarily involves around 10 system-critical banks and covers approximately 2,300 bank branches across the country. All residents are able to use these banks regardless of whether they are customers or not. The bank branches connected to the system are equipped with their own generators and prioritized connectivity to continue operating under difficult conditions. These branches provide cash withdrawals (cash or ATMs with free withdrawals regardless of bank affiliation), payments and transfers, currency exchange, and financial advice.[155]

Since the Ukrainian economy is dominated by small and medium-sized enterprises (SMEs), many measures have focused on supporting these businesses to ensure their operations can continue. This support has included favorable loans, which were also important during the coronavirus pandemic, as well as enabling trade and export of goods.[156] Many entrepreneurs have been forced to relocate their businesses. A year and a half after the invasion began, approximately 7,800 businesses (mostly from the eastern regions) had moved their regional headquarters to Kyiv, Kharkiv, and Odessa. There have been numerous challenges with these relocations, including reluctance to move from one region to another, lack of networks and access to local markets, and the lack of knowledge about support available for entrepreneurs. To facilitate business operations, the government has introduced a support program that provides basic funding for new establishments and relocations without extensive administration. The support includes assistance in choosing locations for business facilities, transportation of business assets via postal and/or rail services, help with relocating or finding new employees, and finding new markets.[157]

There are several examples of companies that have shifted their production to support the military or civil defence. The Swedish Defence University (FHS) highlights one furniture factory that finances drone manufacturing through profits from furniture sales, donations, and the sale of shot glasses made from shell casings brought back from the front lines. FHS highlights that there is an entrepreneurial spirit in Ukraine, combined with a high level of education and many different educational institutions, particularly in technology, as well as significant business expertise in areas such as aviation and nuclear power. Ukraine's Ministry of Digital Transformation is a driving force for

---

[154] Swedish Defence Research Agency, FOI (2024), *Ukrainas civila försvar efter den ryska fullskaliga invasionen.* Unpublished
[155] Ibid.
[156] Ibid.
[157] Ibid.

innovation and is behind both the Air Alarm Ukraine mentioned in chapter 1 and the DIIA app discussed in this chapter. Since the full-scale invasion, the ministry has focused on technology that can be used for both civil and military defence, known as DefenceTech, in cooperation with both Ukrainian and international tech companies.[158] Another example of civil-military innovation is Brave1, which aims to stimulate and support startup companies in areas such as drones, mine management, logistics solutions, and healthcare. This initiative is backed by the Ukrainian Armed Forces, several government departments, and Ukraine's National Security and Defence Council, along with international investors.[159]

Testing new equipment directly in military or civil operations is a smooth process because bureaucracy is flexible in this area, and no permits are required. Challenges arise when a company wants its products approved for sale to government agencies, even though the process has recently been reformed. As a result, many companies finance their products through donations from individuals, businesses, and/or international entities. The company then donates the developed product to public actors in need. FHS states that this is an enormous sector, with widespread equipment donation campaigns.

Lessons

Ukraine has managed to maintain essential services in several areas through various creative solutions, particularly in the transport sector. The Swedish Transportation Administration believes that success is partly due to Ukraine's unified railway system, which avoids fragmentation of resources and responsibilities.[160] In contrast, the Swedish railway system is both publicly and privately owned and operated. To ensure swift action during heightened alert and war, where all involved parties know their roles and are willing and able to take responsibility, it will be necessary to establish a clear division of resources and responsibilities in advance during peacetime.

Ukraine demonstrates that today's highly digitalized society must be taken into account when adapting to wartime conditions. One particular lesson of interest is national roaming as an effective way to ensure access to digital communications.

---

[158] Swedish Defence University, FHS (2024). *Analys av intervjuer i Ukraina, 10/12 2023 – 21/12 2023, samt intervjuer i Sverige och Moldavien*. Unpublished.
[159] Ibid.
[160] Swedish Transport Administration answer to MSB question, 2023-12-21.

Ukraine has successfully implemented several important economic adaptation measures, such as relocating support for businesses and "power banking" to enable banking services. Sweden has a clear advantage over Ukraine with a stronger banking sector that has a high degree of public trust. However, the potential for an economic crisis is high if adaptive measures are not taken during heightened alert or war.

Although there are significant differences between the Ukrainian and Swedish economies, lessons can be learned in providing business support, public-private cooperation that drives innovation, and facilitating public access to banking services operating in the face of intermittent power outages. Ukraine's years of investment in innovation likely contributed to facilitating adaptation after the full-scale invasion.

Mobile solutions also contribute to adaptation. Examples include mobile water purification systems and healthcare, as well as converted train carriages to transport food. For a country like Sweden, with long distances, planning and preparations for mobile solutions can help reach remote populations and/or the frontlines.

Schools require special adaptation in order to continue functioning, such as the installation of shelters and protected spaces designed for teaching. As in Ukraine, online learning is an alternative for Sweden when physical classes cannot be held. This requires technical equipment and functioning digital communications, making access to electricity and the internet essential.[161] Mass migrations of people due to war must be taken into consideration when calculating student and teacher numbers. Schools must also be prepared to scale up (but also down) their operations.

The whole of society is involved in adapting to wartime conditions. From the public and private sectors to the individual level. Individual preparedness and expectations management of what the public sector can deliver have played an important role, particularly regarding electricity consumption in Ukraine. Private use of stoves and reduced electricity usage have helped lower electricity consumption and mitigate the impact of power outages. A final lesson is that the public sector can help businesses and individuals adapt by facilitating the private acquisition of generators and fuel.

---

[161] Swedish School Agency (2022). *Skolan i världen under covid-19 pandemin. En internationell litteraturstudie.* https://www.skolverket.se/publikationsserier/rapporter/2022/skolan-i-varlden-under-covid-19-pandemin [16-04-24].

Maintaining Necessary Supplies

Summary

- A general attitude that you have to take care of yourself and should not have too high expectations on what the state or other people can provide has likely contributed to the resilience of the Ukrainian population.

- Ukraine has had a shortage of advanced medical healthcare equipment, but access to simpler equipment and training has been important for providing healthcare.

- Ukraine has ensured access to fuel by diversifying its storage and only making smaller deliveries directly to gas stations.

Experiences in Ukraine

Based on Swedish Defence University (FHS) interviews, beyond the initial weeks of the full-scale invasion, the availability of goods, with certain exceptions, does not seem to be a particular challenge for Ukrainians. The exact reason for this is not clear. One reason could be that Ukraine's supply preparedness is high. Another factor could be that interviewees were located in parts of Ukraine not directly affected by the war. The population's diet preferences, regarding the consumption of fresh and canned food, could also be different. However, the population's attitude seems to be that it is important to take care of yourself and not place too high expectations in terms of what the state or other people can provide, but also living standards. Many years of crisis and war has also led to a highly adaptable society.

It can be noted that Ukraine has faced a shortage of advanced medical healthcare equipment since the full-scale invasion. According to both the Swedish Defence Research Agency's (FOI) data and MSB's interviews in Ukraine, there are indications that access and distribution of simpler equipment and training, such as Tactical Combat Casualty Care (TCCC),[162] first aid kits, and tourniquets, have been most important for the healthcare sector.[163] A lack of functioning tourniquets and medical resources near

---

[162] Tactical Combat Casualty Care are guidelines for how to care for combat casualties before they arrive at a higher medical facility and can be attended to by doctors.

[163] Interviews in Ukraine, February 2024. MSB; Swedish Defence Research Agency, FOI (2024), *Hälsa, vård och omsorg*. Unpublished.

frontlines are particular challenges.[164] Even though these challenges go beyond stockpiles of equipment and reserve personnel, they exemplify resource shortages that can be expected in the event of war.

Domestic production of water purification chemicals has also been a challenge due to the vulnerability of relying on a small number of production facilities.

Regarding securing transportation, there are examples of Ukraine protecting its access to fuel from Russian attacks by diversifying storage in smaller oil depots and only making smaller deliveries directly to gas stations. This has helped address the fuel crisis in the early phases of the war.[165] One of the biggest challenges in the transport sector is that roads, bridges, and highways are destroyed, blocked, or mined. This is particularly a problem for large trucks transporting food. Collaborative efforts are required to establish safe routes and manage passage through checkpoints.[166]

The availability of food affects both prices and food security. In Ukraine, electricity shortages have increased the need for generators and fuel for the production and transportation of food. This has increased costs for producers and driven up the final price of goods for consumers. However, there are isolated examples of the price of certain goods falling. This is especially true for grain. Ukraine normally exports grain by sea, but Russian naval blockades led to a grain surplus in the Ukrainian market. Prices for almost all other food items, however, have risen. In addition, intermittent power outages also cause storage difficulties.[167]

The Swedish Food Agency believes that it would have been advantageous if legislation, regulations, and directives that could be adapted for wartime conditions had been in place before the full-scale invasion. This is confirmed by stakeholders in Ukraine who believe that one of the most important aspects in planning concerns legislation, calculations, and analyses adapted for the outbreak of war.[168] Despite the aforementioned challenges, there were food

---

[164] Katastrofmedicinskt centrum 2024, *Börja nu - Erfarenheter och lärdomar från MSB:s utbildningsinsats i Ukraina.* (KMC-FO-2024-01). https://usercontent.one/wp/www.katastrofmedicin.se/wp-content/uploads/2024/02/240229-Borja-nu-erfarenheter-och-lardomar-fran-MSBs-utbildningsinsats-i-Ukraina-KMC-FO-2024-01.pdf?media=1643658378.
[165] Ibid.
[166] Ibid.
[167] Ibid.
[168] Ibid.

stockpiles before the outbreak of the full-scale invasion, including household stockpiles of provisions near the frontline.[169]

Polish warehouse hubs have been of great importance to Ukraine (see chapters 1 and 5).

Lessons

Sufficient supply preparedness means ensuring access to critical provisions. There are various methods and approaches, one example being well-thought-out stockpiling.[170] Just as Ukraine has diversified its fuel storage into several smaller depots, it is preferable to have distributed storage in Sweden and to have resources locally accessible. This reduces the risk of several large warehouses being destroyed simultaneously and allows cut-off regions to use locally stored goods and equipment. The Swedish Food Agency emphasizes that emergency stockpiles should be local and not just national, as it is difficult to predict which areas will be hit hardest by crisis or war.[171] Furthermore, emergency storage can be conducted in cooperation with other Nordic countries as a way to further protect access to critical goods and services. Polish warehouses have been of great importance to Ukraine and are a possible source of inspiration for Sweden when planning its emergency stockpiles and supply preparedness.

Supply analyses need to be conducted at all levels of government to varying degrees of detail.[172] In Ukraine, calculating when and where supplies are needed is complicated by mass migration of people displaced by war. Supply analysis calculations need to account for probabilities of different population movements between different regions.

Ukraine has been able to redirect water routes overland. However, the geography of Ukraine and Sweden differ. A similar blockade of critical Swedish ports would likely pose even greater challenges for supply chains, as the Scandinavian peninsula has no land border to continental Europe like Ukraine does. This also affects how supply preparedness should be built. However, there may be goods and products that are readily available from Norway and Finland, with whom Sweden shares a long land border.

---

[169] Ibid

[170] This is emphasized by several different preparedness sectors. See, for example: The Swedish Police Authority's response to MSB's request, 2023-12-22; The National Food Agency's response to MSB's request, 2023-12-27.

[171] Swedish Food Agency answer to MSB question, 2023-12-27.

[172] Örebro County Administrative Board's answer to MSB question, 2023-12-14.

The Swedish National Board of Health and Welfare notes that resource shortages in Ukraine show the importance of national stockpiling of medical products.[173] Prioritizations will also need to be made when resources or stocks are limited, for both civilians and the military. In some situations, it may be necessary to prioritize simpler equipment and associated training to save a larger number of lives.

Swedish instructors who have been on-site in Ukraine have acquired crucial knowledge. Sweden thus has the opportunity to apply lessons from these missions to strengthen preparedness in its health, care and nursing sector.[174]

Regardless of society's preparedness, there will likely be situations where supplies do not reach the entire population. In Ukraine, many households seem to have had some private stockpiles, which may have helped their situation, particularly in frontline areas. This, along with the general attitude that it is important to take care of yourself and not place too high expectations on the state and other people, has likely contributed to the public's resilience. Since such expectations likely have deep cultural roots, they cannot easily be transferred to the Swedish context. A related lesson, however, is that civil defence would be strengthened if Swedish households' preparedness increased; fewer people would need urgent support and more could contribute to total defence efforts.

---

[173] The National Board of Health and Welfare has had several assignments within supply preparedness, for example, *Uppdrag att ta fram underlag för vilka sjukvårdsprodukter som bör omfattas av hälso- och sjukvårdens försörjningsberedskap* (S2022/04550).

[174] In 2022 and 2023, MSB has also participated in and/or organized seminars to share experiences drawn regarding injury patterns, healthcare organization, and challenges from Ukraine with participants involved in the development of total defence and who have a specific role concerning healthcare or training of healthcare providers. A summary was produced after a seminar at the end of 2022 and shared with all participating actors. The experiences concerned risks, injuries/training needs, logistics/material, and recommendations from the Ukrainian instructors.

Repair and Maintenance Preparedness

Summary

- Massive damage to physical infrastructure in Ukraine has affected society's basic functions and required repairs to restore service.

- A high degree of resilience in Ukraine's electronic communications infrastructure may be due to having saved discarded parts after repairs and/or modernization. There is also a relatively large domestic production of spare parts.

- Ukraine's national road authority and railway administration continuously inventory damaged assets and carry out urgent repairs.

- Maintenance preparedness is clearly linked to the availability of personnel and expertise within Ukraine's civil defence. Access to skilled labor has varied.

- Ukraine initially had too few resources and has had to scale up repair and maintenance capacity.

- Mines and attacks delay repair work. Ukraine has introduced a system where energy companies, the military, police, and local authorities can cooperate to increase safety during repair work.

- Volunteers have been able to assist with some repair work in Ukraine.

Experiences in Ukraine

Russia's full-scale invasion has caused massive damage to buildings and physical infrastructure in Ukraine. It has been necessary to repair damaged infrastructure to restore several of society's basic functions.

Two sectors where the damage has been particularly extensive are transportation and electricity supply, as detailed in MSB's interim report.[175] However, there are also several examples from other sectors. Ukraine's electronic communications infrastructure, for example, has been a target of Russian attacks since the full-scale invasion began. According to Ukrainian reports, Russia has damaged or occupied several thousand mobile

---

[175] MSB (2023). *Erfarenheter från Ukraina: Initiala lärdomar för det civila försvaret. Delredovisning av regeringsuppdrag* Fö2023/01325.

telecommunications sites,[176] Not only has electronic communication infrastructure been damaged, but the postal service, still widely used in Ukraine, has been subject to extensive Russian attacks. Of the approximately 8,000 post offices (both fixed buildings and mobile offices) operated by the state-owned Ukrposhta, 20 to 25 percent had been damaged in Russian attacks by November 2023. Sorting terminals have also been damaged or destroyed.[177]

To repair or build new infrastructure, access to spare parts, equipment, and skilled labor is required. The International Telecommunication Union (ITU) considers that Ukraine's electronic communications infrastructure has shown a high degree of resilience despite Russia's repeated attacks. One reason for this may be that Ukraine has saved a large reserve of electrical components after being replaced during repairs and modernization.[178] There also seems to be a relatively large domestic production of spare parts for these systems. Other spare parts, however, have proven more difficult to obtain. Despite the fact that Ukraine's electrical system is connected to the European network, it was built according to Soviet standards. Spare parts are therefore primarily found in states formerly under the Soviet Union. Larger transformers are an example of this difficulty, with only a few having been delivered to Ukraine.[179] The same challenge exists in obtaining railway components, which were also built according to Soviet standards. The national railway administration UZ and national road authority Ukravtodor appear to have nonetheless continuously inventoried damaged assets and carried out urgent repairs relatively quickly.[180] In many cases, spare parts have been supplied from abroad. International assistance for Ukraine has included sending spare parts and equipment for repairs, but especially in the transport sector.[181]

Within Ukraine's civil defence, there is a clear link between maintenance and repair preparedness and the supply of personnel and expertise. The availability of skilled labor has varied. In the energy sector, repair teams had been established before the full-scale invasion, but not to the extent required to handle Russia's massive attacks on the electrical grid. Ukraine has therefore established over time additional repair teams on standby for rapid deployment to damaged sites. According to the state-owned Ukrenergo, one reason that its own repair teams can quickly respond is that the company has

---

[176] Swedish Defence Research Agency, FOI (2024). *Ukrainas civila försvar efter den ryska fullskaliga invasionen*. Unpublished.
[177] Ibid.
[178] Ibid.
[179] Ibid.
[180] Ibid.
[181] Swedish Transport Administration answer to MSB question, 2023-12-21.

hired its own technicians and does not need to contract personnel. It has also been important to ensure that personnel could be retained and not mobilized for the military. Major upgrades to the electrical system conducted in the years prior to the full-scale invasion have also contributed to preparedness by producing both extra equipment and high competence among technicians.

How long it takes for a repair to be completed depends on what has been damaged. A power line, for example, is repaired within about a month, while a large transformer station takes longer and requires additional spare parts. It also depends on the intensity of hostile actions in the area where the repairs are to be carried out. To ensure sustainability, it is necessary that technicians can carry out their work without being injured or killed. Carrying out repairs in areas where hostilities are ongoing can be life-threatening, and UZ, among others, reports that employees have been killed on the job.[182] Technicians, just like rescue personnel, are also exposed to so-called "double-tap" strikes.[183] In these attacks, a location or facility is struck twice with the objective of injuring or killing first responders who have arrived at the scene. Mines and unexploded ordnances also pose a risk to technicians. Implementing repairs requires SESU to first deploy deminers to the location and remove explosive objects. This delays repairs but is necessary for the safety of the technicians. Ukraine has also introduced systems where energy companies, the military, police, and local authorities can cooperate to increase safety when repairs are carried out.[184]

Competence to restore damaged infrastructure is not only found among professionals. Volunteers have been an important resource in contributing to repair efforts. In the case of electronic communications, volunteers register their availability via a hub set up by Ukraine's information and cybersecurity authority (SSCSIP). Specially adapted facilities, such as police stations and prisons, need rapid repairs when damaged and volunteer organizations have quickly stepped in to meet this need.[185]

Even though Ukraine's repair preparedness has been successful in many ways, not all parts of society function at pre-war levels. Critical infrastructure needs to continually adapt to changing wartime conditions, which has included

---

[182] Swedish Defence Research Agency, FOI (2024). *Ukrainas civila försvar efter den ryska fullskaliga invasionen.* Unpublished.
[183] Ibid.
[184] Ibid.
[185] Ibid.

consumers reducing their electricity consumption. See the "Adjustment to Wartime Conditions" section in this chapter for details.

Lessons

As mentioned in MSB's interim report, access to spare parts and components, as well as the competence to quickly restore destroyed hardware, is central to robust resilience. Additionally, Ukraine has benefited from saving older components that were replaced during modernization. One lesson is that inventory should not only include spare parts for equipment in use today, but, where applicable, from older systems as well. How well this works naturally varies between different types of infrastructure and their compatibility with older components. There remains a national vulnerability if access to reserve components risks being cut off by war, as has happened to Ukrainian imports from Russia. However, Ukraine has received substantial international assistance and has some domestic production of spare parts, which has significantly facilitated repair capabilities. Therefore, the supply of spare parts should rely on an analysis of both import opportunities and domestic production capabilities and respective inventory planning.

Ukraine also highlights the benefits of establishing mobile repair teams built to respond to wartime scenarios. It is not enough to be able to address damage from peacetime sabotage or crises. Dispatching technicians needs to be as quick and smooth as possible in a wartime environment. In one example from Ukraine, a contributing factor for rapid maintenance was technicians already being employed by the company that needed repair work done. Swedish critical infrastructure is owned by both public and private companies. Operations are often managed from abroad, especially when it comes to electronic communications. Therefore, responsibilities need to be clear for the assessment of and access to a workforce, as well as ensuring repairs can be carried out during war. Another lesson from Ukraine is that volunteers can also contribute to repair and maintenance work, but they need a channel to express their interest and organized in a structured manner.

To quickly utilize technicians where they are needed most, it helps to determine in advance what infrastructure should be prioritized for restoration if multiple objects are destroyed simultaneously. Finally, technicians need to be given appropriate protection, which requires cooperation among several involved actors from both the military and civil defence.

Cooperation and Leadership

Summary

- The military in Ukraine largely leads and coordinates total defence efforts. Many decisions, including those in the civilian sector, are therefore made by Ukraine's military leadership or Ministry of Defence.

- The oblasts, responsible for healthcare, transportation and other vital society functions, are one of the Ukrainian Armed Forces' main partners and have in their organizations one or more people with civil-military responsibilities.

- Personal contacts have become important for cooperation. Messaging apps (e.g., WhatsApp, Messenger, and Telegram) have been very important for communication. Confidential and secure communications seem to have been somewhat deprioritized.

Experiences in Ukraine

A comprehensive picture of how national, regional, and local entities have cooperated in Ukraine has not been easy to obtain. Likewise, there is a significant lack of information on public-private cooperation. Individuals interviewed often have experience only from their own level or area of operation or expertise. Nonetheless, there are a number of notable observations.

Ukraine's wartime laws entail that the military has primary responsibility for the country's defence and that civilian operations support the country's armed defence. The military largely leads and coordinates total defence efforts. Many decisions, including those in the civilian sector, are therefore made by Ukraine's military leadership or the Ministry of Defence.[186]

Ukraine's equivalent of civil defence is conducted at national, regional, and local levels. Oblasts, responsible for healthcare and transportation at the regional level, play an important role in the war. They are one of the Ukrainian Armed Forces' main partners and have designated points of contact with civil-military responsibilities.[187] At the regional level, there is a structure for civil-military cooperation. The oblast's highest official is responsible for both military and civil administration within the region. There is also a

---

[186] Swedish Defence University, FHS (2024). *Analys av intervjuer i Ukraina, 10/12 2023 – 21/12 2023, samt intervjuer i Sverige och Moldavien.* Unpublished.
[187] Ibid.

department responsible for civil defence, which includes civil-military cooperation. In addition to the important role of the oblasts, larger cities in Ukraine have assumed a central role in civil defence, partly because many internally displaced persons have taken refuge in cities. Some cities also seem to have better self-sufficiency than more rural areas of the country.[188]

Although there are examples where cooperation has failed, frequent civil-military cooperation during the war has often been a positive factor for Ukrainian resilience. Civilian expertise has, for example, successfully assisted Ukraine's military to destroy critical infrastructure in order to prevent Russian offensives. The Ukrainian state has also developed technical solutions to enable civilians to share intelligence information with the military via the digital platform DIIA.[189]

Before the full-scale invasion, a number of areas had no established cooperative fora. Personal contacts became important for cooperation and for quickly contacting the relevant individual for information These personal initiatives seem in many respects to have compensated where there was a lack of established structures.[190]

Commercial messaging apps have been highly important for communication. Channels used for information gathering, dissemination, and regular communication have primarily been Signal and WhatsApp, but Telegram and Facebook Messenger have also been used. These have been utilized by a multitude of public entities. Crucial have been the apps' speed and clarity. Confidential and secure communication appears to have been deprioritized. The apps, deemed secure enough, are a quick and easy way to reach multiple people. Internet access is required to use these apps and Starlink satellites have generally facilitated good connectivity.[191]

As noted in MSB's interim report, private actors in Ukraine have been deeply involved in issues related to information and communication, as well as in receiving and distributing international assistance. There are also signs that volunteer organizations and private individuals have played a role in maintaining vital societal functions and supplies. For example, journalists and bloggers have contributed by spreading information about the importance of reducing private electricity consumption, which has reduced pressure on the

---

[188] Ibid.
[189] Ibid.
[190] Swedish Defence Research Agency, FOI (*2024*). *Ukrainas civila försvar efter den ryska fullskaliga invasionen.* Unpublished.
[191] Swedish Defence Univesrity, FHS (2024*). Analys av intervjuer i Ukraina, 10/12 2023 – 21/12 2023, samt intervjuer i Sverige och Moldavien.* Unpublished.

energy grid.[192] Volunteers have also helped staff Ukraine's "points of invincibility" (see chapter 1).

Swedish and Ukrainian state ownership structures of vital societal functions differ; models of cooperation and management therefore also need to be structured differently. For example, the state-owned company Ukrenergo is responsible for the power grid, and various energy sources are primarily owned by state-owned companies, such as Energoatom, which operates all of Ukraine's nuclear power plants.[193] The railway is operated by the state-owned UZ, which is responsible for planning, construction, and maintenance of both infrastructure and train traffic within a vertically integrated operational structure. There are few elements of private competition.[194] At the same time, there are private companies engaged in both the production and distribution of gas and electricity, and, just like in Sweden, the majority of Ukraine's physical infrastructure for electronic communications is privately owned.[195] The extent of private ownership affects the extent to which public-private cooperation is necessary to address problems caused by war. There are many examples of both state-owned and privately-owned companies being able to contribute to maintaining vital societal functions and supplies.[196] However, further research is required on how cooperation and management have been structured between the public and private sector.

Lessons

Whether military or civil, it is relatively clear that the Ukrainian Armed Forces, Ministry of Defence, and the Office of the President bear the overall responsibility for total defence. However, exactly how cooperation works is not as clear and seems to vary among the many actors involved in Ukraine's total defence. In Sweden, responsibility and leadership are divided between public and private sectors, between civilian and military entities, and between different administrative levels. In addition to a clear formal division of responsibilities in Sweden, the involved entities are required to plan and exercise crisis and wartime scenarios.[197] Based on the division of responsibilities, planning accounts for the possibility that regional and local

---

[192] Swedish Defence Research Agency, FOI (2024). *Ukrainas civila försvar efter den ryska fullskaliga invasionen.* Unpublished.
[193] Ibid.
[194] Ibid.
[195] Ibid.
[196] Ibid.
[197] See, for example, the response from the County Administrative Board of Värmland to the MSB's inquiry, 2023-12-01

levels may need to make their own decisions if they are cut off.[198] Through good planning and exercises, the time between a serious incident occurring and initiating an appropriate response can be minimized.

Military and civilian actors need to be able to cooperate in a wartime environment. Ukraine has addressed this by appointing individuals specifically responsible for civil-military cooperation within the country's oblasts. Regardless of how civil-military cooperation is conducted, clear structures established as early as possible help facilitate cooperation.

Functioning communication is also necessary for effective cooperation. It is worth noting that Ukraine has chosen widely used messaging apps as communication channels instead of more secure channels. This decision seems to have facilitated cooperation and interaction with many different entities, even internationally. Robustness in this regard appears to lie in the fact that many people have access to the different apps, rather than being secure or functioning even if the internet goes down (which they do not). For Ukraine, this can be seen as a trade-off between security and efficiency, but ideally communication tools that ensure both aspects should be used as much as possible. This would require solutions that are both user-friendly and widespread among relevant actors. Otherwise, there is a risk that they will not be used.

Although there is insufficient data for a more in-depth analysis of cooperation between private and public actors, both civil society and the private sector are confirmed to have contributed to the defence of Ukraine. Therefore, in Sweden, functional cooperation needs to be prepared in advance. Several Swedish county administrative boards have emphasized the importance of civil defence utilizing civil society.[199] Similarly, several county administrative boards point out the need to clarify in which cases public agencies can and should enter into agreements with private companies, as well as how conditions with private actors should be formulated.[200] The division of responsibilities and mandates must be clear while allowing for flexibility.

---

[198] County Administrative Board of Örebro response to MSB inquiry, 2023-12-14; County Administratie Board Västra Götaland response to MSB inquiry, 2024-03-01.
[199] Örebro County Administrative Board response to MSB:s inquirty, 2023-12-14; Country Administrative Board Västra Götalands response to MSB:s inquirty, 2024-03-08; Civil Defence Region North response to MSB:s förfrågan, 2024-03-05
[200] Värmlands Country Administrative Board response to MSB inquire, 2023-12-01; Västmanland County Administrative Board response to MSB inquiry, 2024-03-01.

Personnel

Summary

- Protective equipment has been required in order for civil defence personnel to work safely.

- Several authorities allowed other agencies' staff to use their premises so work could continue.

- Forced relocations and layoffs of staff have created staff shortages in Ukraine's healthcare system.

- Healthcare workers who moved to the west of Ukraine or abroad have in some cases continued to provide care through digital health clinics.

- Paraprofessional healthcare workers have also been able to contribute by providing drinks, coffee, and the opportunity to meet basic hygiene needs. This seems to have had a positive impact on patient well-being.

- Ukraine has enabled spontaneous volunteers to contribute to civil defence by allowing them to sign up to work at volunteer hubs.

- Ukraine has introduced a new law making it a criminal offense to collaborate with the Russian occupation forces.

- In an attempt to make it more difficult for Russian occupation forces to access and use personal information of employees, the Ukrainian prosecution and judiciary have removed personal data from their databases.

Experiences in Ukraine

Civil defence relies on personnel and expertise in a variety of fields in order to function effectively. For personnel to continue working with vital societal functions during war, they need to know how to act and be offered protection as needed. In Ukraine, protective equipment had to be acquired to ensure that personnel in various civil defence sectors could work safely.[201]

Service centers are another example of how Ukraine adapted operations to enable personnel to perform their duties. Since not all residents can or want to use DIIA's digital platform, physical service centers need to be staffed so that the public can access services. (For more about DIIA, see the "Preparedness and Planning" section in this chapter.) In Ukraine, service

---

[201] Swedish Defence Research Agency, FOI (2024). *Ukrainas civila försvar efter den ryska fullskaliga invasionen.* Unpublished.

centers were initially closed in February 2022 but reopened in mid-March with a significantly reduced number of employees. Many employees had fled the war, and others were affected by the uncertain situation, such as suspended public transportation. Many government agencies and companies were similarly affected. According to Ukraine's service center, one solution to the problem was for several agencies to open their premises to one another's employees. This allowed employees to go to work at other agencies' offices. This integration required individual employees to have access to multiple registers and systems. With increased authorizations, the agencies became more flexible, and personnel could be deployed to where they were most needed.[202] Thus, there may be benefits to agencies working more openly in a state of heightened alert and war, even if it means departing from previous routines.

Healthcare personnel are under heavy pressure in Ukraine. The number of employed healthcare personnel within the national health care system decreased by nearly 15 percent in 2022 compared to 2021, partly due to many female healthcare providers fleeing the war.[203] Forced displacement and furloughs have also created a shortage of personnel. Specialized clinics have experienced a tripling of staff overtime compared to primary care centers. Many healthcare facilities have therefore begun training new staff to meet the increased burden. As a result of wartime laws, Ukraine has also allowed medical and pharmaceutical students to begin working in the healthcare field.

Healthcare needs at the front are significant and their time-sensitive nature can be challenging to manage. In Ukraine, it is estimated that it takes between 12 and 24 hours for patients to reach a final healthcare provider, partly due to extended lead times for field care and medical transport.[204] One interviewee highlighted that about one-third of the population in affected regions needed basic healthcare training, such as how to stop bleeding, in order to meet healthcare needs and relieve the healthcare system.[205] In cases where a patient does not require physical care, there is the possibility of switching to digital care. Healthcare personnel who have fled to western Ukraine or abroad sometimes have the opportunity to continue providing care through digital consultations and virtual clinics. However, access to highly trained healthcare professionals is not always needed to meet the demands of war. Some experiences indicate that even small things can make a difference. This can

---

[202] Ibid.
[203] Swedish Defence Research Agency, FOI (2024). *Hälsa, vård och omsorg.* Unpublished.
[204] Ibid.
[205] Interviews in Ukraine, February 2024. MSB.

involve offering both civilian and military patients some drinks, snacks, and the opportunity to meet basic hygiene needs. Even minor interventions of this kind seem to have positively impacted patients' mental well-being.[206]

Many of the risks and threats faced by civil defence personnel can be predicted with a relatively high degree of certainty. Various forms of armed attacks are to be expected. Other risks and threats are more unexpected and may require personnel to have a different kind of protective equipment or competence to perform their work. In Ukraine, the increased availability of weapons in society has, for example, posed an increased security threat in courtrooms. During the first six months of the full-scale invasion, the responsible authority for courtroom security had a 1,700 percent increase (2,400 cases) in firearm confiscations. Additionally, other types of crimes arise during wartime, such as war crimes, disobedience, and desertion. Such crimes require special expertise within law enforcement agencies.[207]

A particular vulnerability arises if parts of the country become occupied. There are many examples of Ukrainian officials being taken away by the Russian occupation forces for interrogation, where they were subjected to threats and abuse. Personnel may also be uncertain about how to act if the country, or parts of it, falls under occupation. In occupied Ukrainian territory, Russia has installed an occupation police force, which consists not only of Russians but also Ukrainians. Therefore, Ukraine introduced the "Law on Collaboration Activities" on March 3, 2022, making collaboration with the occupation forces subject to criminal prosecution and punishment. The Ukrainian judicial system has also removed employee information from their databases in an attempt to prevent occupation forces from accessing and exploiting personal information. However, this measure has faced criticism as it reduces transparency and increases the risk of corruption within the judicial system.[208]

Ukraine has notably enabled spontaneous volunteers to contribute to civil defence, utilizing the public's existing expertise. The volunteer hub established by State Special Communications Service of Ukraine (SSSCIP) is an example of this. (See the "Repair and Maintenance Preparedness"

---

[206] Swedish Defence Research Agency, FOI (2024). *Häsla, vård och omsorg.* Unpublished.
[207] Swedish Defence Research Agency, FOI (2024). *Ukrainas civila försvar efter den ryska fullskaliga invasionen.* Unpublished.
[208] Ibid.

section in this chapter.) Volunteers in this hub raise funds and carry out repair efforts.[209]

Lessons

War not only leads to human suffering but also to a loss of resources and expertise as people flee, are injured, or killed. Ukraine demonstrates that functioning personnel management within civil defence is of utmost importance. To improve the ability to plan and reinforce personnel within specific activities, the Swedish government is considering expanding conscripted civil service. Avoiding a shortage of personnel in essential parts of civil defence may also require reviewing how civilian conscription should be applied in practice, including the possibility of employment reassignments.

A prolonged war requires a supply of personnel and continual training, especially for personnel with specialized skills.[210] One way to meet the personnel need, as shown by Ukraine, is to allow students still in training to work in areas with staff shortages.

Civil defence personnel must know that they are reasonably protected when going to their jobs. This may, for instance, require that protective equipment and access to shelters are available near the workplace. In some cases, access to public services can transition to a digital format if physical service is not necessary. Digital medical consultations in the healthcare sector are one example.

The war against Ukraine has shown that not all parts of a country are necessarily affected equally or in the same way by war. Different skills are needed in different parts of the country. At the front, for example, there is a need for expertise in handling a large number of injuries. In Sweden, different parts of the country might be at higher risk of falling under occupation, while other parts may need to handle a large number of internally displaced people. Competence to manage this needs to be planned in advance.

Several civil defence stakeholders in Ukraine report that they already had difficulty recruiting specialists during peacetime. This shortage risks worsening during heightened alert and war. Swedish county administrative boards and actors within the police, transport sector, and healthcare have

---

[209] Ibid.
[210] Swedish Defence Research Agency, FOI (2024). *Ukrainas civila försvar efter den ryska fullskaliga invasionen.* Unpublished.

indicated that they expect similar problems. Investments in personnel with expertise critical to civil defence need to be made in advance.

At the same time, Ukraine has shown that not all personnel need advanced training to play an important role in civil defence. Even small, seemingly insignificant efforts can make a difference for people's mental well-being and sense of human dignity. This does not require much training.

The fact that certain types of crimes, such as war crimes, disobedience, and desertion, become more common during an armed conflict means that increased specialized competence within the judiciary is needed. The increased number of weapons in circulation in society, as well as the large number of confiscated firearms in Ukrainian courtrooms, shows that war can result in the need for different types of protection for personnel and new competencies. This is important to consider in Swedish preparedness planning. Ukraine has introduced laws that prevent the population from collaborating with the occupying power. In the event that parts of Sweden were to fall under occupation, public employees and other civil defence personnel need to know how to interact with the occupying power and to what extent they should continue to perform their work as before.

It is also important to find ways to utilize skills and expertise from spontaneous volunteers. In Ukraine, there are examples of both simple and advanced tasks that can be solved by volunteers. In incorporating spontaneous volunteers into planning, it is important that volunteers are only given civilian tasks so that they do not risk being seen as combatants and becoming legitimate military targets under international law.

A specific way to harness the power of volunteers is through public competency-building efforts. As Ukraine shows, transport times from the frontlines to a final healthcare provider can be substantial. The chances of survival and recovery increase the faster competent help is given. This applies not only to military personnel at the front but also to civilians who can suffer severe blood loss. One measure to ensure that help is available on site and on time (i.e., ensuring continuity in the "chain of survival") is to provide the public with first aid training.

Cyber and Information Security

Summary

- Ukraine has established partnerships before and during the war to support the defence of its IT infrastructure.

- Ukraine has strengthened its resilience through digital cooperation with supporters from around the world, increasing the ability to recover from incidents.

- Strong coordination has strengthened Ukraine's cybersecurity.

- Ukraine has worked to establish new organizations to improve cybersecurity since 2014.

- Ukraine has continually adapted or introduced new legislation to improve cybersecurity since 2014.

- A large number of civilians have contributed to the war effort, either in an official capacity as employees of cyber security companies or as volunteers in Ukraine's so-called cyber army.

Experiences in Ukraine

Even though both Ukraine's public and private sectors have been subjected to cyberattacks before and during the full-scale war, these do not appear to have had a decisive impact on developments during the first year of the war. Since the full-scale invasion began, Ukrainian companies have cooperated with each other and government agencies to defend Ukraine, which, by all accounts, has led to good results. Ukraine realized early on that the country needed support from the private sector, multilateral organizations, and other countries to enhance its cyber defence capabilities. Therefore, Ukraine formed partnerships with a large number of companies and states, which has placed significant demands on coordination. Ukraine also adapted legislation to enable this extensive cooperation.[211]

Ukraine consistently shows an attitude and approach where defence capabilities are prioritized over other values in society. A clear example of this is how Ukraine has conducted information-sharing within the framework

---

[211] Swedish Defence Research Agency, FOI (2023). *Arbete med lärdomar från Ukraina till nytta för det civila försvare*t. FOI Memo 8195.

of its partnerships. The country has prioritized sharing information with other entities to solve necessary tasks, even when it has meant that sensitive information has been disclosed to private companies and other states.[212]

Since 2014, Ukraine has worked to establish new organizations, create partnerships, and adapt or develop new legislation to improve cybersecurity. The fact that Russian cyber warfare has not had more serious consequences during the full-scale invasion can be explained by Ukraine being well-prepared after eight years of intensive work on these issues.[213]

During the war, Ukrainian resilience has been strengthened through cooperation with international supporters to increase the ability to recover from an incident. For example, several large companies have provided space in their cloud services so that the Ukrainian state and private organizations can back up their information. [214]

Entering into partnerships with a company can, however, entail restrictions when it comes to sharing information with the company's competitors, especially if the company values protecting its commercial secrets. In turn, this might risk Ukraine becoming dependent on a single partner organization. An additional complicating factor are the complex digital supply chains on which a digital society is built. [215]

A central component of Ukraine's cyber defence strategy is to focus on protecting critical assets. To identify these assets, an extensive inventory of the country's information and cybersecurity is required, including digital supply chains, as well as how and where critical information for vital societal functions is protected. To ensure robustness and resilience in practical terms, personnel and stockpiling of essential components are required. Since a large part of essential societal functions today depends on services or products that are either provided by or operated by private suppliers, procurement methods also need to be improved to enhance IT security.[216]

Ukrainian authorities have urged civilians to use positioning apps to share information about Russian troop movements or other relevant information for defence. A large number of civilians have also contributed to the war effort either through their employment at a company that actively participates in Ukraine's defence or as volunteers in Ukraine's so-called cyber army. Thus,

---

[212] MSB (2023). *När kriget kom nära - Årsrapport it-incidentrapportering 2022*. ISBN: 978-91-7927-371-2.
[213] Ibid.
[214] Ibid.
[215] Ibid.
[216] Ibid.

the war has blurred and created a gray zone between civilian hacking and military cyber operations. Ukraine's cyber army is an example of how volunteer forces are coordinated in both defensive and offensive cyber activities. For instance, anyone who wishes to can participate in activities organized through Telegram or X (formerly Twitter), allowing civilians new avenues to participate in digital battles. By doing so, they more or less unwittingly relinquish the rights they have as civilians under international humanitarian law, thereby become legitimate targets for counterattacks.[217]

Lessons

To be able to draw lessons from comparisons between Ukraine's and Sweden's preparedness and resilience in the face of cyber or hybrid warfare, more in-depth information is required than what has been obtained within the framework of this study. However, it is likely that Sweden is better equipped than Ukraine was in 2014. Sweden has many IT companies and other actors that contribute to a variety of vital societal sectors, thereby having relatively good redundancy. Sweden also has several robust systems for secure electronic communications.

While Sweden is considered to have some robustness, redundancy, and resilience in information and cybersecurity, it faces challenges in sharing information. MSB and other central authorities for total defence are involved in a variety of networks and continuously share information with actors running essential societal functions. In the event of heightened alert, however, under current legislation, these actors would be severely restricted in sharing information. At the same time, experiences in Ukraine show that effective wartime defence imposes different demands on information sharing than during peacetime. Therefore, one lesson is that restrictions around the sharing of sensitive information between Swedish authorities needs to be eased during heightened alert and war. Since large parts of Sweden's essential societal functions are currently operated by private companies, information sharing also needs to be reviewed from a private sector perspective. A review of current legislation might be necessary to identify what needs to be adjusted and modernized regarding during heightened alert.

Another relevant lesson for Sweden is that partners must be given insight into relevant parts of the IT environment and ample time to contribute as effectively as possible. The earlier insights are given the better. Partners can

---

[217] Ibid.

work preventively with risk management and enhance information and cybersecurity. Over the course of ongoing incidents, external experts can contribute with knowledge and experience, but actions must be carried out by those who understand the consequences in an IT environment, which is why equivalents to task forces do not have the same effect in the cybersecurity field.

A concluding lesson from Ukraine is that Sweden must be able to quickly ensure an actor's loyalty. This could enable the effective sharing of sensitive information with necessary actors during heightened alert and war.

3. Contributing to the Capability of Military Defence in the Event of an Armed Attack or War

In this chapter, the experiences in Ukraine and lessons relevant to the civil defence objective of contributing to the capability of military defence (i.e., military enablement) are presented. Civil defence is a prerequisite for the military to be able to fulfil its primary task – to defend Sweden against an armed attack. Depending on the sector, the Swedish Armed Forces have both a direct and indirect need of support from the civil defence sector. Vital societal functions and activities must therefore continue to work. This chapter addresses direct support to the military, while indirect support is largely covered in other chapters.

Summary

- Ukraine's civilian healthcare system has received a large number of wounded individuals from the Armed Forces over a very short period of time. Military defence requires substantial support from civilian healthcare.

- Civilian actors assist the military with a large number of transportation vehicles. Military and civilian transports are strictly separated. Highest priority is given to military needs.

Experiences in Ukraine

Since the outbreak of the full-scale invasion, healthcare in Ukraine has been characterized by a high degree of integration between civilian and military healthcare. Military personnel and civilians are treated in hospitals where both military and civilian healthcare personnel work side by side, and civilian hospitals are extensively used to care for military personnel. Ukraine has avoided using military field hospitals as they quickly became targets for

Russian airstrikes. Symbols for hospitals such as red crosses or civil defence symbols are not used either because they quickly made facilities targets for Russian attacks.[218] The rescue service, ambulances, and the Red Cross in Ukraine all have experiences of Russian forces specifically targeting them in active combat zones. Injured military personnel are often evacuated from the front by civilian vehicles, as these are less likely to be attacked by Russian air forces and drones than military vehicles. Longer domestic medical transports have been conducted by train, which applies to both civilian patients and injured soldiers. Ukraine concluded early on that longer ambulance transports were not feasible from a resource perspective.[219]

Civil defence has facilitated the military's defence efforts by evacuating civilians from areas where military operations are ongoing. There has been a significant need for civil-military cooperation at the local level to successfully carry out evacuations. Initially, the UZ railway administration prioritized quickly evacuating civilians and injured soldiers from combat zones and transporting humanitarian aid and military supplies to different parts of Ukraine. Military and civilian transports are strictly separated, and military needs are given the highest priority.[220]

Lessons

As Ukraine's military is highly dependent on civilian healthcare providers, the Swedish healthcare system needs to have the readiness and capacity to receive a large number of wounded civilians and military personnel in a short period of time.

In the event of an armed attack against Sweden, civilians will need to assist the Armed Forces with a large number of transports. In Sweden, railways may also be used to supply military units with supplies and to move injured and the deceased to other parts of the country. Similarly, civilian vehicles may need to be used for military activities when the Armed Forces' own resources are insufficient. Communication and cooperation between civilian and military personnel at the national level has been challenging (see "Protection of the Civilian Population in Chapter 1). This highlights the need for good civil-military cooperation in Sweden as well.[221]

---

[218] MSB Interviews in Ukraine, February 2024.
[219] Ibid.
[220] Swedish Defence Research Agency, FOI (2024). *Ukrainas civila försvar efter den ryska fullskaliga invasionen.* Unpublished.
[221] MSB Interviews in Ukraine, February 2024.

4. Maintaining Society's Resilience to External Pressures and Contribute to Strengthening the Willingness to Defend

In this chapter, the experiences in Ukraine and lessons relevant to the objective of maintaining society's resilience to external pressures and contributing to strengthening the willingness to defend[222] are examined. The following sections highlight: government authorities' strategic communication with the domestic public, the media, and international audiences; identification, analysis, and countering of malign information operations; the will to defend; and protection of cultural heritage.

Although these areas are the focus of this chapter, the primary way to strengthen resilience likely lies in fulfilling other civil defence objectives. If the civilian population is protected, vital societal functions ensured, critical infrastructure and supplies are maintained, and civil defence enables necessary operations on the part of the armed forces, it follows that society's resilience and collective will to defend the country should be maintained.

---

[222] "Willingess to defend" conveys the Swedish concept of *försvarsvilja*. The Swedish Defence Commission describes *försvarsvilja* as follows: "The population's sense of belonging to and its participation in society is of great importance for the will to defend the country and the will to participate and invest in total defence…A strong will to defend has its foundation in the understanding of what is to be defended, the value of one's own contribution, and the courage and ability to carry out this effort even when it is based on personal risks and the aggressor is perceived as overpowering. If the population feels that fundamental values are being threatened, that their own contribution is of significance and that there is a broader societal resilience to the effects of war, there are conditions for a strong will to defend the country."

Secretariat of the Defence Committee, "The Swedish Defence Commission's Report on the future direction of the total defence and composition of the civil defence," December 19, 2023. https://www.government.se/globalassets/government/dokument/forsvarsdepartementet/forsvarsberedningen/excerpts-of-the-swedish-defence-commissions-report-on-the-future-direction-of-the-total-defence-and-the-composition-of-the-civil-defence-dec-2023.pdf

Strategic Communications

Summary

- Ukraine has been investing in strategic communication since 2015.

- Non-public sector entities and individuals play an important role in Ukraine's strategic communication.

- The "one voice policy" was initially a success. The public has now broadened its information-gathering and increasingly searches for information on social media.

- Strategic communication emphasizing a strong Ukrainian defence that is fighting for the international rules-based order has led to broad support outside Ukraine.

Experiences in Ukraine

When the full-scale invasion began in 2022, Russia's war had already been ongoing since 2014, and Ukraine had actively worked on information security and development of communications capabilities for several years. Although a comprehensive initiative with a focus on strengthening state communication was launched in 2015, Ukrainian strategic communication was still under development in February 2022.[223] For example, there was no established coordination of communications between authorities similar to the arrangement Sweden has built up over many years in response to peacetime events.

Outside public institutions, Ukrainian society has played a very important role in strategic communication since 2014. A close relationship between the Ukrainian state and individuals, businesses, and non-profit organizations has developed over the years. This has been central in mobilizing people for the war effort. External donations have been crucial, and the global diaspora has driven Ukrainian communications efforts in a more modern direction.[224]

When the full-scale invasion began, all national messages were coordinated, and only the president and a few other representatives spoke publicly within

---

[223] Swedish Defence Research Agency, FOI (2024). *Ukrainas civila försvar efter den ryska fullskaliga invasionen.* Unpublished.
[224] Swedish Defence University, FHS (2024). *Analys av intervjuer I Ukraina, 10/12 2023 – 21/12 2023, samt intervjuer i Sverige och Moldavien.* Unpublished

the country's "one voice policy" framework.[225] Messages from Ukrainian authorities were broadcast on all TV channels simultaneously and were repeated continuously. Initially, this was considered the obvious way to convey information. News about the progress of the war and calls to the population to defend the country were the main forms of messages conveyed. After the initial phases of the full-scale invasion, the public began seeking more and other sources of news about the war and turned to social media, which has higher levels of trust than established media in Ukraine.[226]

This "one voice policy" was highlighted in MSB's interim report as a success factor. Both MSB's and the Swedish Defence University's interviews in Ukraine indicate that the "one voice policy" was considered the right tactic at the start of the war, but that a slightly different strategy is now needed.[227] Interviewees in Ukraine further point out that Ukraine initially lacked a plan for what would happen after victory, and that this would have been advantageous to start planning early in the full-scale war.[228]

The Swedish Defence Research Agency highlights that the image of a strong Ukrainian defence has been successfully communicated to Western audiences, leading to broad international support for Ukraine.[229] A winning message has been that Ukraine is not only fighting for its own freedom but for the future of the international rules-based order and the defence of democracy. This appears to have led to widespread public support in large parts of the United States and Europe, although levels of support have fluctuated over time.[230] In Ukraine, however, trust in the president, parliament, and authorities has once again declined after rising sharply at the start of the war. Trust is now almost back to pre-full-scale invasion levels.[231]

Lessons

The public will have access to alternative sources of information. A public communication strategy that relies a single information source is therefore

---

[225] In short, this meant, among other measures, that all messages were coordinated, only the President and a few others were allowed to speak publicly, few or no journalists worked at the front, and the military could stop publication of certain information.

[226] Nygren, G., Widholm, A. (2024). *Ukraina och informationskrigets nya vägar: sociala medier, krigsrapportering och desinformation.* Stockholm. Published by MSB and the Program for Jouurnalism Studies at Södertörns högskola. https://rib.msb.se/filer/pdf/30623.pdf

[227] Swedish Defence University, FHS (2024). *Analys av intervjuer i Ukraina, 10/12 2023 – 21/12 2023, samt intervjuer i Sverige och Moldavien.* Unpublished.

[228] Ibid.

[229] Swedish Defence Research Agency, FOI (2024). *Ukrainas civila försvar efter den ryska fullskaliga invasionen.* Unpublished.

[230] Ibid.

[231] Swedish Defence University, FHS (2024). *Analys av intervjuer i Ukraina, 10/12 2023 – 21/12 2023, samt intervjuer i Sverige och Moldavien.* Unpublished.

difficult to maintain. The idea that communication strategies and tools must be flexible and adapt to changing circumstances, something that was highlighted in MSB's interim report, is further reinforced by this report. Conveying an overly positive message creates expectations that cannot be met and risks fostering mistrust, which could reduce the population's willingness to defend the country.

A lesson for Sweden, in the event of an armed attack, is that planning the transition from a wartime environment back to peace is needed. Such planning has a broader purpose than maintaining resilience and strengthening the population's willingness to defend the country, but it becomes easier to communicate in a way that strengthens these aspects and signals faith and hope for a future after the war without being perceived as unrealistic.

The fact that there were no fully established coordination structures for communication in Ukraine when the full-scale invasion began shows how long it takes to build such broad and complex coordination. Swedish authorities have long had an established cross-sectoral structure for communications coordination in managing serious events.[232] This is a strength. However, during heightened alert, it will be necessary to more clearly link communications between the Government Office and the administrative level. It will also be important to secure communications solutions and to ensure that the business sector and civil society become part of communications coordination.[233]

Swedish communications coordination would likely need to establish a long-term strategy with messages and goals for communicating during heightened alert, including strategically important issues over time. This can include identifying the communications strategies and tools best suited for Sweden in transitional phases, over extended periods of time, and determining how these can be flexibly adapted to changing situations. This planning should also include ensuring that as many parts of society as possible can access and

---

[232] This includes communication directors from sector-responsible authorities for areas such as migration, cyber, psychological defence, and education, as well as the Armed Forces and representatives from the county administrative boards. Within the cooperation structure, ongoing and short-notice meetings take place under protected conditions, reviewing both the military and civilian situation, and directing total defence communication, including national and joint messages from various actors.
[233] In heightened alert, the Swedish Defence Commission anticipates that the work with strategic communication, both to the domestic population and to the outside world, needs to be directly subordinated to the government. Defence Commission (2023), *Kraftsamling. Inriktningen av totalförsvaret och utformningen av det civila försvaret. Ds. 2023:34.*

benefit from the communication, taking into account the conditions and needs of different population groups.

Identifying, Analyzing, and Combating Malign Information Campaigns

Summary

- To combat disinformation, Ukrainian authorities describe the narratives Russia tries to portray and spread.

- The Ukrainian Armed Forces provide to the public a situation report every morning, which is then disseminated via social media.

- A success factor in Ukraine's fight against disinformation is close cooperation between the military, civilian authorities, and the private sector.

- Ukraine has blocked Russian and Russia-affiliated media.

- Further training and resources are needed for Ukrainian journalists to counter the volume of disinformation spread by Russia.

- The functionality of Ukrainian mobile networks presents a way to reduce the population's vulnerability to Russian disinformation.

Experiences in Ukraine

Even before the full-scale invasion, Ukraine was heavily targeted by malign Russian information campaigns. In response, Ukraine, working together with partners in primarily the UK, USA, and Norway, has developed advanced software to monitor and quickly detect and respond to Russian disinformation on social media.[234] The Center for Countering Disinformation (CCD), which is linked to Ukraine's National Security and Defence Council, compiles weekly reports on how Russia tries to influence Ukraine through disinformation. An important part of the centre's work is to describe Russian narratives and how they are spread. In other words, the distribution of the CCD's reports is part of Ukraine's strategy for countering malign information influence. CCD also arranges weekly coordination meetings with all domestic

---

[234] Swedish Defence University, FHS (2024). *Analys av intervjuer i Ukraina, 10/12 2023 – 21/12 2023, samt intervjuer i Sverige och Moldavien.* Unpublished.

authorities working with strategic communications.[235] Instead of merely focusing on countering Russia's information campaigns, Ukraine has chosen to start its own campaigns to shape the image of Ukraine and what the country wants. In this way, Russian information campaigns are combated through Ukraine's own messaging.[236]

Every morning, the Ukrainian Armed Forces provide the public with a situation report, which is used by most people interviewed by the Swedish Defence University (FHS). The situation report has a military focus and covers areas targeted by Russia, the impact on civilians in these areas, and the operations Ukraine is conducting. The report is mainly spread via social media, such as Telegram and Facebook. Another important source of information are statements from the President and regional authorities, which often come with updates broadcast on both traditional and social media.[237]

There is currently broad acceptance of censorship in Ukraine, which has been a powerful tool against Russia in the information environment. Another success factor has been the cooperation that exists between the military, civilian authorities, and the private sector, as well as the military's recruitment of people with backgrounds in PR.[238] Information has been presented in different ways to different target groups but generally features ambivalent or humorous communications to Russian and international audiences while simultaneously being informative and glorifying Ukraine.[239]

Ukraine has also taken other measures to limit Russia's ability to spread its narrative in the Ukrainian information environment. The creation of the centralized United News TV service is one such example. This platform, along with the prohibition of Russian and Russia-affiliated media, has made a significant impact as to how the war and its effects are presented in Ukraine.[240]

FHS highlights that there is extensive journalistic coverage in Ukraine and notes that criticism of the President and other representatives occurs, especially in print and social media. However, interviewees believe that Ukrainian journalists, even though they do a good job, need additional

---

[235] Ibid.
[236] Swedish Defence Research Agency, FOI (2024). *Ukrainas civila försvar efter den ryska fullskaliga invasionen.* Unpublished.
[237] Swedish Defence University, FHS (2024). *Analys av intervjuer i Ukraina, 10/12 2023 – 21/12 2023, samt intervjuer i Sverige och Moldavien.* Unpublished.
[238] Swedish Defence Research Agency, FOI (2024). *Ukrainas civila försvar efter den ryska fullskaliga invasionen.* Unpublished.
[239] Ibid.
[240] Ibid.

training and resources as they struggle to counter the volume of disinformation spread by Russia.[241]

Another measure to reduce the population's vulnerability towards Russian disinformation and Russian attempts to take control of the information environment is ensuring that Ukrainian mobile networks function.[242] Through the measures described in chapter 2, the Ukrainian population can continue to receive information from Ukrainian authorities.[243] Despite this, Russian disinformation still spreads, not least via the app Telegram. For example, interviewees working with evacuations state that Russian disinformation makes people less inclined to evacuate, generally complicating evacuation work.[244]

Interviews also highlight the potential role of schools in strengthening the public's ability to resist disinformation by teaching media literacy from a young age.[245] One respondent believes that both Ukrainian academia and think tanks could play a central role in countering information campaigns by producing and distributing analyses, but this has not yet happened to any significant extent.[246]

Lessons

The case of Ukraine demonstrates the importance of being well-prepared for extensive information influence and that truth, transparency, and clear sources may not necessarily prevail in times of heightened alert and war. Based on its work in Ukraine, the Swedish Psychological Defence Agency (MPF) believes that a key lesson for Sweden is that public actors' efforts need to be characterized by transparency and efficiency, even in the face of war or the threat of war. A fundamental condition for Sweden to withstand hostile propaganda, disinformation, and other malign information operations is a well-informed population with confidence in societal institutions, as well as a sense of belonging and participation in society.[247] MSB assesses that this can be achieved, at least in part, through broad, continuous, and long-term

---

[241] Swedish Defence University, FHS (2024). *Analys av intervjuer i Ukraina, 10/12 2023 – 21/12 2023, samt intervjuer i Sverige och Moldavien.* Unpublished.
[242] Swedish Defence Research Agency, FOI (2024). *Ukrainas civila försvar efter den ryska fullskaliga invasionen.* Unpublished.
[243] Ibid.
[244] Swedish Defence University, FHS (2024). *Analys av intervjuer i Ukraina, 10/12 2023 – 21/12 2023, samt intervjuer i Sverige och Moldavien.* Unpublished.
[245] Ibid.
[246] Ibid.
[247] Swedish Psychological Defence Agency, MPF (2024). *Stöd till Ukraina. Slutredovisning av regeringens uppdrag till Myndigheten för psykologiskt försvar (MPF/2023:254).*

efforts that reach various target groups to increase the Swedish public's knowledge of total defence and individual preparedness.

MPF also notes that the use of platforms with user-generated content has increased significantly and now serve as important channels both for communicating with the population and for malign information campaigns by foreign powers. Media habits have changed both in Sweden and globally. Planning for heightened alert and war needs to consider these changes. MPF therefore highlights the need for quality media productions, especially ones available through social media. The ability to anticipate and counter foreign information influence campaigns needs to be readily available at short notice in times of heightened alert or war, as procuring services from the private sector may be difficult to carry out.[248]

The possible role of Swedish schools in building resilience against disinformation could involve including media literacy in the proposed total defence and NATO high school curriculum.[249] As MSB has previously suggested,[250] media literacy could also be included in elementary school curriculum and in municipal adult education in order to build long-term resilience.[251]

The roles of academia and think tanks in countering malign information operations in the Swedish context could be further studied.

Willingness to Defend

Summary

- The population's willingness to defend the country is considered strong throughout Ukraine, despite the trust in the government and established media having declined from the high levels measured during the first year of the full-scale invasion.

- By international standards, Ukrainians' collective will to defend is high. However, challenges in mobilization remain as people flee the country.

---

[248] Ibid.
[249] Regeringskansliet, "Elever ska lära sig om Nato och totalförsvaret," 4 April 2024, https://www.regeringen.se/pressmeddelanden/2024/04/elever-ska-lara-sig-om-nato-och-totalforsvaret/ [16-04-24].
[250] See MSB (2022). *Civilt försvar mot 2030 – ett totalförsvar i balans Slutredovisning av regeringsuppdrag (Ju2022/01209/SSK).* ISBN: 978-91-7927-316-3.
[251] Swedish Defence Research Agency, FOI (2024). *Ukrainas civila försvar efter den ryska fullskaliga invasionen.* Unpublished.

- The absence of an end date or rotation date for mobilization also poses challenges.

- Despite the war, Ukrainian society functions well, which likely contributes to the population's willingness to defend the country.

Experiences in Ukraine

In the years prior to the full-scale invasion, studies like the World Values Survey had measured comparatively low levels of Ukrainian willingness to defend the country,[252] something that proved to be incorrect. Since the outbreak of the full-scale invasion, the Swedish Defence Research Agency (FOI) believes that Ukrainians' collective willingness to defend their country remains strong and that Ukrainian society is resilient. The expressed willingness to defend Ukraine and resist the invasion is generally strong throughout the country despite the fact that confidence in government bodies and the media has declined since the initially high numbers recorded during the first year of the full-scale invasion, and that international military support (financial and materiel) had decreased by 90 percent in August-October 2023 compared to the same time period in 2022.[253]

Despite the population's high will to defend the country compared to international standards, Ukraine faces challenges with mobilization. The lack of a stated end date or rotation date during mobilization is a contributing factor.[254] Another challenge for resilience and society's willingness to defend the country is widespread mental health issues in Ukraine (see chapter 1).[255]

Willingness to defend can be negatively impacted if the public administration is not perceived as functioning. Several interviews made evident that Ukraine has traditionally faced challenges with an extensive and hierarchical bureaucracy. The fact that the sluggish administration was "gone" during the first months after the full-scale Russian invasion is described as the country's salvation. One interviewee described it as a shift from simply fulfilling an administrative function to problem solving.[256]

---

[252]

[253] Swedish Defence Research Agency, FOI (2024). *Ukrainas civila försvar efter den ryska fullskaliga invasionen.* Unpublished.

[254] Swedish Defence University, FHS (2024). *Analys av intervjuer i Ukraina, 10/12 2023 – 21/12 2023, samt intervjuer i Sverige och Moldavien.* Unpublished.

[255] Ibid.

[256] Ibid.

One interviewee stated that before the invasion, Russia viewed Ukraine through an institutional lens, which did not account for the resilient population and strong societal capacity for self-organization. Russia therefore made the erroneous assumption that Ukraine was a weak country[257] while individual citizens and volunteer organizations took great responsibility in blocking roads, assisting the military, and rebuilding and cleaning up after Russian airstrikes.[258]

All Swedish Defense University interviewees stated that, despite challenges, the public administration works surprisingly well. For example, the tax agency operates as usual, as do the payments of salaries and benefits. Several authorities have also demonstrated flexibility, such as easing truck driver license requirements and laws on data storage. The central bank also acted quickly, demonstrating both flexibility and accessibility, something which allowed other banks to continue their operations. According to FHS observations in Ukraine, other functions in everyday life also work well: snow is removed, public toilets are cleaned and documented, and both speeding and parking fines are issued.[259]

Lessons

In MSB's interim report, the importance of not relying too heavily on uncertain opinion polls in assessing the population's willingness to defend was highlighted. This lesson remains valid. Both better-designed surveys and new methods are likely required to assess the national will to defend more accurately. For Sweden, current methods for measuring willingness to defend in the country might benefit from supplemental methods. These could include scenario-based approaches, comparative studies on how collective will to defend is studied and worked with in other countries, case studies, or research on cognitive behavior during crisis or war. If the assessment of a society's will to defend becomes more accurate, total defence planning in this area can be improved.

Another lesson is that the national willingness to defend risks being depleted if the population feels that society is not functioning or perceives the war as hopeless. Resilience also erodes if a large number of individuals are so affected by mental health issues that they cannot contribute to defence efforts.

---

[257] Ibid.
[258] Swedish Defence Research Agency, FOI (2024*). Ukrainas civila försvar efter den ryska fullskaliga invasionen.* Unpublished.
[259] Swedish Defence University, FHS (2024). *Analys av intervjuer i Ukraina, 10/12 2023 – 21/12 2023, samt intervjuer i Sverige och Moldavien*. Unpublished.

Protecting Cultural Heritage

Summary

- Ukraine uses culture to actively strengthen resilience. Cultural heritage institutions are kept open to the greatest extent possible.

- Russia has deliberately attacked Ukraine's cultural heritage and caused collateral damage through larger strikes on other targets.

- Staffing within the cultural sector has been a challenge in Ukraine as employees perform military service or have been unable to reach their workplaces.

- Evacuation planning was partially in place at the national level prior to the onset of the invasion. Some museums had emergency stockpiles of transport crates and packing materials.

- Portions of Ukraine's cultural heritage have been moved abroad for protection.

- Protecting historical buildings is a challenge. Measures have included covering church windows with plywood and aluminum sheets.

- Several international initiatives have assisted Ukraine with the digitization of cultural heritage, the preservation of digital data, and the provision of necessary equipment.

- The war against Ukraine is the first time that a request for assistance to the cultural heritage sector has been channeled through the Union Civil Protection Mechanism.

- Many actors have assisted Ukraine in protecting cultural heritage. Substantial coordination of international operations is needed.

Experiences in Ukraine

Culture and cultural heritage are considered an important part of instilling hope and contributing to optimism about the future, thereby strengthening Ukrainian resilience. Ukraine demonstrates the importance of keeping cultural heritage institutions open to the greatest extent possible. Institutions have adapted their activities to meet societal needs, such as expanding children's activities and providing jobs for internally displaced persons. The Swedish National Heritage Board quotes the director of the National Museum

of the History of Ukraine in Kyiv: "The state continues to pay the salaries of those who work at the country's cultural institutions, and the museums remain open. Our need for culture is great; people do not just want to hear about the war, they want to see visions of the future – and culture creates such opportunities – while also helping us process what has happened."[260] Swedish Defence University (FHS) interviews also show that the content of leadership training has been adapted to meet new needs, including new subjects in the form of cultural activities such as art and opera as a way to manage stress and exhaustion.[261]

Other cultural activities are more directly linked to the war, such as the art exhibition "Steel Canvas," where the artworks are made from scrap metal from downed Russian helicopters. Damaged Russian combat vehicles have also been transported to Kyiv, where they are displayed on streets and squares to show the public that they can defeat a powerful opponent. The communication around this often includes humorous elements, such as painting the gun barrels in Ukrainian colors or accompanying the combat vehicles with a sign reading "parking for destroyed Russian combat vehicles only." At the same time, the story of the Battle of Kyiv is told using artwork, videos, and photographs.[262] Documenting what happens and collecting both objects and testimonies for the future is also important, not least for rebuilding society after the war.[263]

Since the illegal annexation of Crimea in 2014, there have been reports of museum collections being transferred from Crimea to museums in Russia. Reports of similar events in the occupied territories of Ukraine have multiplied since the full-scale invasion. The UN Education, Scientific and Cultural Organization (UNESCO) has verified damage to cultural heritage since the full-scale invasion started in 2022.[264] Buildings have been damaged in attacks where cultural heritage has sometimes been the direct target and other times damaged in attacks on nearby sites. In December 2022, Human Rights Watch reported large-scale looting in Kherson: Thousands of objects from two museums, a cathedral, and a regional archive were taken to Russian-controlled areas. In the territories occupied by Russia, a large number of illegal archaeological excavations have been conducted, where both documentation and findings have not come to the attention of Ukrainian

---

[260] Swedish National Heritage Board (2024). *Lärdomar från Ukraina – skydd av kulturarv. (RAÄ-2024-328)*
[261] Swedish Defence University, FHS (2024). *Analys av intervjuer i Ukraina, 10/12 2023 – 21/12 2023, samt intervjuer i Sverige och Moldavien.* Unpublished.
[262] Ibid.
[263] Swedish National Heritage Board (2024). *Lärdomar från Ukraina – skydd av kulturarv. (RAÄ-2024-328)*
[264] Between February 24, 2022, and December 20, 2023, UNESCO has verified damage to 125 religious sites, 147 buildings of historical and/or artistic interest, 29 museums, 19 monuments, 13 libraries, and 1 archive.

authorities. It is reportedly difficult to access these areas, and it is therefore unclear how much of the archaeological source material has been lost.[265]

Testimony from Ukraine shows that while there is great commitment from museum staff, staffing has been a challenge as personnel have been obligated to perform military service or have periodically been unable to get to work. Institutions have been affected by repeated disruptions in electricity, heating, and internet access. In addition to difficulties in maintaining operations, disruptions in heating can lead to moisture and mold damaging collections.[266]

Ukraine has evacuated significant items and collections to protect its cultural heritage. Some planning was already in place at the national level, as well as instructions to establish priority lists of the most significant cultural objects that might be subject to evacuation. One museum reported that 1 percent of collections could be placed on the high value list. Evacuation of the most valuable items began shortly after the full-scale invasion. Some national museums had emergency stockpiles of transport boxes and packing materials, but many museums soon faced a shortage of packing materials.[267]

Another challenge was protecting cultural heritage that did not belong to the most valuable category. In cases where it is difficult to protect valuable cultural heritage within a country, one option can be to protect it abroad. Since 2022, some European museums have assisted Ukraine by transporting and storing cultural objects under temporary custody.[268]

Evacuation will only be applicable to a small, prioritized part of collections. This means that large parts of cultural heritage will need to be protected by strengthening security on site. Protecting historical buildings is a challenge. In Ukraine, responsible parties have attempted to protect church windows, for example, by covering them with plywood and aluminum sheets.[269]

A large part of cultural heritage is in digital format. Several international organizations and initiatives have assisted Ukraine with digitizing cultural heritage by preserving digital data and providing equipment for digitization and data management. Volunteers around the world are helping to digitize and preserve cultural institutions' websites.[270]

---

[265] Swedish National Heritage Board (2024). *Lärdomar från Ukraina – skydd av kulturarv. (RAÄ-2024-328).*
[266] Ibid.
[267] Ibid.
[268] Ibid.
[269] Ibid.
[270] Ibid.

The war in Ukraine is the first time that a request for assistance to the cultural heritage sector has been channeled through the Union Civil Protection Mechanism. MSB has assisted the Swedish National Heritage Board, which coordinated the response to the request with transport assistance and management.[271] A substantial amount of coordination was needed to organize the many stakeholders and initiatives that have helped Ukraine protect its cultural heritage. This has involved coordination between international organizations and Ukrainian civilian authorities and personnel, as well as between cultural heritage stakeholders, aid workers, and the military. The international efforts have mainly focused on monitoring damage to cultural heritage, emergency rescue efforts, training and support for cultural heritage professionals, digitizing cultural heritage, and providing equipment for protecting cultural heritage.[272]

Lessons

By using culture to actively strengthen resilience, Ukraine places culture at the heart of its defence strategy. This approach is likely to be an important aspect of Swedish civil defence in the event of war. Another lesson is that Sweden's contingency planning should assume that our cultural heritage will be targeted in case of conflict. Interviews with international cultural heritage personnel involved in efforts to protect Ukrainian heritage highlighted the need for planning before a conflict arises.[273] To save the most important parts of Swedish cultural heritage from destruction, evacuation plans must be in place. Given the unpredictability of how a war might unfold, the system needs to rely on geographical distribution. Such a system must be well-planned and prepared, with access to various types of properties, transport resources, priority lists, packing materials, personnel, and clear responsibilities. The majority of other important cultural objects, as well as immovable items and buildings, need to be prepared for on-site protection. Documentation is crucial for reconstruction or to prove ownership if heritage is stolen, looted, or removed.

The Swedish National Heritage Board also emphasized that the responsible cultural heritage entities need to be knowledgeable about total defence planning and how other parts of society act during wartime to coordinate both early interventions and urgent measures. Likewise, total defence planning and

---

[271] Interviews from MSB operations, April 2024.

[272] Swedish National Heritage Board (2024). *Lärdomar från Ukraina – skydd av kulturarv. (RAÄ-2024-328).*

[273] The Swedish National Heritage Board note the study Research for CULT Committee – Protecting cultural heritage from armed conflicts in Ukraine and beyond, which describes how protecting cultural heritage in and outside of Ukraine can be strengthened.

emergency personnel need a better understanding of the importance of reacting quickly to protect cultural heritage. The responsible cultural heritage stakeholders should be given the opportunity to swiftly implement emergency measures. Furthermore, the Swedish National Heritage Board suggests that the lessons from Ukraine indicate that Swedish cultural heritage operations need to strengthen continuity management and war time organization to be prepared for potential loss of personnel and disruptions in electricity, heating, and internet supply.[274]

One conclusion for Sweden is that cultural heritage contingency planning could be facilitated if responsibilities for the Swedish National Heritage Board, the National Archives, and the Royal Library were clarified and integrated into the ongoing contingency planning within and between sectors and at various administrative levels.[275]

A lesson related to international efforts is that overlapping and unclear mandates often lead to duplicated efforts or gaps. Experts in the field therefore highlight the need for better integration of cultural heritage into global disaster relief coordination and emphasize that preventive and preparatory measures are important in contributing to early recovery, trauma processing, and strengthening societal resilience.

Given the importance of early action, Sweden could potentially advocate for cultural heritage's continued inclusion not only in the Union Civil Protection Mechanism's crisis response efforts but in its disaster risk reduction as well. A joint risk reduction effort within the UCPM could facilitate conditions to protect cultural heritage early on in a war, thereby reducing the risk of cultural loss.

---

[274] Swedish National Heritage Board (2024). *Lärdomar från Ukraina – skydd av kulturarv.* (RAÄ-2024-328).
[275] The Swedish Civil Contingencies Agency (MSB) does not take a position on which measures should be implemented or the costs involved in this task. In the report " *Samlad bedömning av genomförbarheten av Försvarsberedningens delrapport "Kraftsamling" – MSB:s redovisning av regeringsuppdrag (Fö2023/01997)*, MSB states that the Defence Commission's proposal "related to clarifying the responsibility as a contingency authority within the cultural heritage sector is not included within the funding levels proposed in 'Framåtanda.' However, MSB considers it feasible to allocate responsibilities and designate contingency authorities. The Swedish National Heritage Board, in response to the government assignment to propose which authorities should act as contingency authorities, has recommended that the Swedish National Heritage Board, the National Archives, and the Royal Library should serve as contingency authorities."

5. MSB's Operations in Ukraine

This chapter addresses the experiences and lessons learned by MSB from its own assistance to Ukraine. This assistance includes material resources in the areas of energy, rescue services, water and sanitation, school buses, mine clearance, CBRN (chemical, biological, radiological, and nuclear), road and railway infrastructure, medical equipment, and medicine. MSB has sent experts to the OSCE, EU, and several UN agencies and has established a training program for medical instructors in Ukraine. In addition, through the UCPM's rescEU arrangement, MSB has provided emergency housing solutions for approximately 15,000 people. Sweden has cared for 195 Ukrainian patients within the framework of the EU's medevac operations, which MSB has coordinated on behalf of Sweden.

Summary

- One challenge identified in mine management is that donated equipment from different countries is not standardized.

- The war has brought to light conflicting laws and regulations in Ukraine, which have brought forward challenges in coordination.

- Short timeframes did not allow for a needs-based analysis, leading to challenges in articulating rescEU's emergency housing measures.

- Recipients did not always have sufficient knowledge about receiving and using emergency housing, while simultaneously needing to provide solutions for protection and water systems.

- MSB was required to take on more medevac responsibility than anticipated since the work spanned multiple preparedness sectors.

- Placing MSB personnel at the ERCC in DG ECHO as short-term medevac liaison officers has supported the entire EU's medevac coordination.

- Sweden's regionalized healthcare system has led to an uneven distribution of responsibility and receipt of patients.

- Swedish healthcare providers have learned how to treat war-related injuries.

- Beyond the direct humanitarian value, conducting operations in a war zone has increased Sweden's own competence in civil defence.

Experiences in Ukraine

This chapter focuses on MSB operations and contributions as part of international assistance to Ukraine.

MSB provided assistance to Ukraine even before the full-scale invasion, including a long-term capacity-building mission aimed at developing civil protection, disaster risk reduction, and regional cooperation with Ukrainian authorities. MSB has also deployed experts to Ukraine since 2014.[276] Following Russia's full-scale invasion, MSB increased its assistance to both Ukraine and neighboring countries, primarily within the framework of the UCPM.

Previously, MSB had not coordinated donated goods and equipment from other actors to this great an extent, nor transported such large volumes that it had not directly received as an intermediary. Additionally, MSB usually does not send equipment without accompanying instructors, which initially occurred after the full-scale invasion due to the security situation. Through cooperation with authorities, regions, municipalities, including rescue services in Sweden and the private sector, MSB has been able to distribute large quantities of requested equipment and goods to Ukraine. As of May 2024, MSB had carried out over 315 missions through various UN agencies, EUAM Ukraine,[277] the Organization for Security and Co-operation in Europe (OSCE), and the UCPM.

Ukraine has identified needs in a wide range of areas, and MSB has been able to contribute to many of these, particularly mine management, logistics

---

[276] Interviews from MSB's operations, December 2023.
[277] EUAM Ukraine is an advisory mission focused on security sector reform, conducted within the framework of the EU's Common Security and Defence Policy (CSDP). This operates within a different policy area compared to the activities carried out under the Civil Protection Mechanism.

management (donations and transports), and support to the energy sector and rescue services.

MSB's efforts are described below, organized around four main clusters, namely: 1) logistics and material assistance, 2) deployed experts, 3) temporary emergency housing (rescEU shelter), and 4) medical evacuations.

Logistics and Material Assistance

After the full-scale invasion in February 2022, MSB decided to send assistance through the ERCC[278] to ensure a structured and coordinated response and to make sure the aid reached the right recipients; MSB would have had difficulty identifying the most suitable recipients in Ukraine on its own. There are also other advantages to using the UCPM, through which goods subject to specific legislation, like medical equipment requiring approval from national authorities like the Swedish Medical Products Agency, can be managed.[279] Coordinating assistance through the UCPM serves as quality assurance for the recipient and enhances efficiency.

Since the full-scale invasion, MSB has procured and donated large amounts of goods and equipment to Ukraine. Additionally, MSB coordinates and transports donations from other actors across several preparedness sectors and from the private sector to help Ukraine maintain essential services. The resources MSB has donated, and those forwarded from other actors, cover areas such as energy, rescue services, water and sanitation, school buses, mine management, CBRN, road and rail infrastructure, medical equipment, and medicine.

MSB handles incoming offers of donations from other government authorities and the private sector, responding to a selection of requests that match Ukraine's identified needs. While specific needs are sometimes expressed, it is often possible to find alternative equipment that can meet requirements. Donation offers require extensive hands-on management from MSB, including logistics and coordination between donors and Ukraine, procurement of transport, and handling of documentation. To facilitate donations from external actors, MSB developed a template to standardize information about the items being offered. Since December 2023, these

---

[278] Assistance is requested and offered through the Common Emergency Communication and Information System (CECIS), a system for information exchange and communication between EU institutions and member states during crises and disasters.
[279] Interviews through MSB's operations, December 2023.

templates have been replaced by standardized templates created by ERCC for reporting offers.[280]

After MSB procured transport, both MSB's and donated third-party goods were delivered either to logistics hubs in Poland or directly to recipients in Ukraine. When goods are delivered to Poland, RARS, as the coordinating authority, can distribute it into different categories (medicine, energy, etc.), with the exact distribution at each hub depending on capacity and resource allocation. In Ukraine, the distribution process is less clear (see also the section "Receiving International Civilian Assistance " in chapter 1).

Deployed Experts

MSB has deployed experts throughout several international organizations in Ukraine. For instance, security personnel through the OSCE have supported the Ukrainian police and border guards. MSB has also dispatched personnel through UN agencies including UNHCR, IOM, UNDP, UNOPS.[281] The experts' areas of operation at UNDP include mine and ammunition clearance, healthcare, and logistics issues.[282] The personnel seconded to UNHCR and IOM work in areas such as logistics, information management, and emergency housing.[283]

With the help of medically knowledgeable staff in MSB's roster of experts,[284] MSB has also established training for medical instructors, who in turn train civilian volunteers in emergency care.[285] MSB's training of medical instructors began after the Ukrainian Embassy in Sweden forwarded a medical training request from a mountain rescue non-profit in Ukraine.[286] Since then, MSB has conducted medical instructor trainings in Ukraine, training around 80 instructors who in turn have trained approximately 60,000 people in Ukraine.

---

[280] Ibid.
[281] UNOPS (United Nations Office for Project Services), UNDP (United Nations Development Programme), EU/CSDP (European Union / Common Security and Defence Policy - Field Support Project), IOM (International Organization for Migration), UNHCR (United Nations High Commissioner for Refugees), and ECHO-ERCC (European Civil Protection and Humanitarian Aid Operations - Emergency Response Coordination Centre).
[282] Interviews within MSB's operations, December 2023.
[283] Ibid.
[284] In MSB's resource base, there are individuals with expertise in a wide range of competence areas. These individuals have undergone a selection process and participated in MSB's introductory training. From this resource base, MSB recruits personnel for time-critical missions when the timeframes do not allow for the position to be advertised.
[285] Interviews within MSB's operations, December 2023.
[286] Ibid.

Through MSB,[287] Sweden assists Ukraine on-site with technical expertise in mine and ammunition clearance.[288] Like many other donor countries, Sweden also contributes mine and ammunition clearance equipment. A challenge identified within the framework of mine management is that the equipment donated from different countries is not standardized. This leads to Ukraine having many different models of mine detectors, complicating training and usage. Despite the high demand for training due to the urgent need for personnel with knowledge of mine management and ammunition clearance, it has been difficult to establish standardized training for all equipment.

Responsibility for mine and ammunition clearance in Ukraine is divided among several actors, and sometimes legislation and regulations conflict with each other. This issue was not apparent during peacetime, but during the war the different rules and regulations have sometimes led to varied coordination between responsible authorities.[289]

International personnel are not allowed to carry out practical work on mine clearance or handle unexploded ammunition as Ukrainian legislation does not permit international actors without accreditation.[290] This regulation has complicated the Swedish Police Authority's plans to train Ukrainian bomb-sniffing dogs. Due to the presence of rabies in Ukraine,[291] training could not be conducted in Sweden as planned and had to take place on-site. There was thus an additional administrative burden that came with international personnel receiving permits to operate in Ukraine.[292]

Temporary Emergency Housing

Within the framework of the UCPM, MSB has provided temporary emergency shelters to Ukraine in the form of the rescEU shelter capacity. MSB is responsible for coordinating, transporting, and, to some extent, implementing operations and has procured shelters in cooperation with the European Commission, which financed the project and is responsible for activating the capacity in time of need. Up to 3,000 temporary shelters and related equipment have been sent to local authorities throughout Ukraine.

---

[287] MSB's ammunition and mine clearance operation was initiated by the EU and the UN. SESU (State Emergency Service of Ukraine), the Ukrainian police, and the State Special Transport Service (the Ukrainian equivalent of the Swedish Transport Administration and Transport Agency) are responsible for ammunition and mine clearance for critical infrastructure in Ukraine.
[288] Interviews at DG ECHO, December 2023.
[289] Interviews within MSB's operations, December 2023.
[290] Ibid.
[291] Sweden has been rabies free since 1886, according to the Public Health Agency of Sweden.
[292] Interviews within MSB's operations, December 2023.

These temporary shelters have, to date, provided temporary protection for up to 15,000 people in Ukraine and neighboring countries.

This rescEU shelter capacity was developed under extraordinary circumstances during the spring and summer of 2022. MSB had approximately one week to write the application, a process that normally takes several months. Thanks to close cooperation with the Commission, MSB was able to complete the concept proposal and application in time.[293] MSB was then given six months to establish and ensure the management of the capacity. The actual amount of time needed to set up the management would take longer than this. As it was, MSB was required to apply for more time in order to send the shelters, which took additional time and resources.

The short timeframe also meant that the technical solutions and design of the shelters had to be made without a deeper needs analysis, leading to two major challenges. First, less flexible modular housing was provided, which was not ideal. Smaller units were needed at the time. Second, the housing was not well-suited for cold weather conditions. Winter adaptations were made retroactively, both on-site and on units that had not yet left Sweden, under significant time pressure. This was a suboptimal solution. The shelters are resource intensive, and any small change in the concept leads to significant costs.[294]

The first deployment of temporary shelters was sent to Rivne, where large numbers of internally displaced persons were expected. However, the need was not as great as anticipated. The shelters became a reserve stockpile for further distribution to other parts of Ukraine and also a training center. At the center, local personnel are trained to manage shelters in Rivne and other areas of Ukraine.

In several deployments, recipients lacked sufficient knowledge to be able to receive and use the temporary shelters. Recipients also needed to provide their own personnel to install protection and water systems, complicating MSB's implementation. In many traditional humanitarian operations where there is no functioning infrastructure, unlike in Ukraine, distribution is entirely handled by the UN's cluster coordination. The receiving country does not need to supplement incoming assistance to a significant extent.[295]

---

[293] Ibid.
[294] Ibid.
[295] Ibid.

The shelters capacity resource is intended only for civilian use and should not contribute to military capacity. However, some equipment has ended up in military stockpiles. While it is important to recognize that the line between civilian and military is blurred in war, and that Ukraine must use the resources available to them, operations must be monitored as much as possible. Requirements must be placed upon the recipient to ensure correct use of resources.[296]

Medical Evacuations

Russia's full-scale invasion overloaded both Ukraine's and neighboring countries' healthcare systems. Ukraine therefore requested airborne medical transport assistance through the UCPM. A partially EU-funded medical hub was established in Poland, serving as a center to receive patients from Ukraine for further transport. As of May 2024, 22 countries had received nearly 3,400 patients.[297] In connection with Ukraine's request, MSB, the Swedish National Board of Health and Welfare, and the Swedish Migration Agency[298] were given a government assignment[299] in July 2022 concerning medical evacuations.

As of October 2024, MSB had coordinated evacuations for 195 patients for treatment in Sweden. With experiences from the now decommissioned Swedish National Air Medevac (SNAM), MSB created an interim solution running through April 2027, with a possible extension through 2029. Aviation capabilities can therefore be accessed through the Swedish Armed Forces' existing agreements, whilst medical personnel during transport can be drawn upon through an agreement with the Intensive Care Transportation Center at Karolinska University Hospital in Stockholm. Combined with SNAM-trained personnel from MSB's roster of experts, the airborne medical transport solution can carry both intensive care patients and those with lighter injuries. This solution had not yet been tested when the medevac operations in Ukraine began.[300]

The first step in a medevac is for patients in Ukrainian hospitals to receive a medical assessment and registration.[301] ERCC then receives a request with a

---

[296] Ibid.

[297] EU Commission report on UPCM Medevac Advisory Mission to Ukraine.

[298] The Swedish Migration Agency funds the reception according to the EU's mass displacement directive, while MSB has the coordinating role in the work of the involved authorities and is responsible for carrying out transportation.

[299] *Uppdrag om medicinska evakueringar med anledning av situationen i Ukraina*, Ju2022/02509.

[300] Interviews within MSB's operations, December 2023.

[301] The decision on medevac has taken longer for military patients compared to civilian patients, as their medevac requests must be reviewed and approved by both the Ukrainian military medical leadership and the Ukrainian

list of injured patients from Ukraine and matches these with participating countries. After a participating country offers care and transport, the ERCC presents a proposal to the Ukrainian Ministry of Health, which then informs the patient. When an offer from Sweden is accepted, MSB has direct contact with the Ukrainian point of contact.[302] MSB has occasionally stationed medevac liaison officers at the ERCC on a short-term basis, supporting the coordination of EU-wide medevac operations.[303]

In Sweden, it is the regions' responsibility to transport patients from the airport and facilitate the continued provision of healthcare. MSB's experiences show that several Swedish actors have limited experience with this type of mission, resulting in a greater responsibility for MSB than anticipated. Coordinators and trained experts from the former SNAM are used for operational logistics, including helping patients apply for care under the EU's mass displacement directive.

Another experience from the medevac operations is that Sweden's regionalized healthcare system has led to an uneven distribution of responsibility and receipt of patients.

Sweden has mainly focused on trauma and cancer patients. Cancer patients have been sent out of Ukraine to free up hospital space for other types of care needs. As Sweden performs more outpatient care than in Ukraine, patients have had extensive contact with Swedish society. Therefore, efforts have also involved finding housing during treatment periods.[304]

Care for Ukrainian soldiers has given the Swedish healthcare system the opportunity to learn and develop by treating patients with combat injuries. It is emphasized that Swedish healthcare has learned more in two years from these patients than in the past ten years, gaining knowledge and practical experience from managing trauma cases, resistant bacteria, and complex healing processes.[305] The Swedish National Board of Health and Welfare confirms in its report that experiences in Ukraine clearly show the challenges posed by resistant bacteria during war. In Ukraine, the combination of high levels of antimicrobial resistance before the war, an increased incidence of traumatic injuries, and the war-related strain on healthcare providers has led

---

Ministry of Health's medevac team. This requires additional administrative coordination and approval from both military and civilian authorities.
[302] Interviews within MSB's operations, December 2023.
[303] Interviews with MSB's operations, April 2024.
[304] Interviews within MSB's operations, December 2023.
[305] Bratt, Anna. Dagens Nyheter, "Så gör ukrainska soldater den svenska vården bättre," 1 Februari 2024, https://www.dn.se/sverige/sa-gor-ukrainska-soldater-den-svenska-varden-battre/ [2024-08-20].

to an increase in multi-resistant organisms, which in turn spreads to the rest of Europe.[306]

Finally, an important overarching lesson is that Sweden's international assistance activities have a value beyond the humanitarian. By contributing to operations in conflict and war zones, and coordinating medevac from these areas to Sweden, the strengthening of Swedish civil defence competencies is expedited.

Lessons

As Ukrainian personnel were sometimes unable to receive donations due to their unfamiliarity with the equipment, accompanying expert support is essential to fully utilize incoming support.[307] Such support should be ensured to the extent possible, even though there will be situations where the security environment does not permit this.

As previously noted, though impacted by war, Ukraine is a country with a high level of development that continues to function relatively unimpeded. For potential future missions in developed countries, MSB may need to anticipate that laws and regulations, like building permits, function essentially the same as in peacetime, posing an obstacle to mission operations.[308] MSB's experiences in Ukraine also show that war can reveal conflicting legislation within the recipient country. Cooperation and flexibility between Swedish authorities is required to avoid practical and legal obstacles in implementing future missions.

An experience from working with rescEU under the UCPM is that close cooperation with the European Commission is a positive factor in increasing the pace of designing concepts and applications. However, longer timeframes for establishing and managing the rescEU capacity resource would have reduced administrative burdens and led to greater flexibility in implementing missions.

Medevac operations show that missions that may appear relatively limited on paper often involve many authorities across sectors. MSB's operations have not only involved coordinating the Swedish health, care and nursing sector

---

[306] National Board of Health and Welfare (2024). *Erfarenheter och lärdomar från kriget i Ukraina – hälsa, vård och omsorg.*
[307] See European Commission Directorate-general for European Civil Protection and Humanitarian Operations (ECHO) (2023). UCPM Lessons Learnt Programme Meeting ECPM Activations Related to Earthquake in Tÿrkie and Syria and Russia's War Against Ukraine 3-4 October.
[308] Interviews within MSB's operations, January 2024.

but the Swedish Police Authority and the Migration Agency as well. This cross-sectoral work required taking on greater amounts of responsibility than MSB initially anticipated. Given that unforeseeable tasks can arise, or responsibilities are unclear, MSB may need to prepare to take on greater responsibility than planned during new missions.

The medevac operations show that Sweden's regional healthcare management has led to an uneven distribution of responsibility. The situation where some regions receive patients while others do not illustrates the need for more uniform and coordinated management. The lack of national coordination in major medical evacuations could also lead to problems in a situation where Sweden would need to repatriate its own citizens from abroad and care for these patients after a mass casualty events. This can also have consequences for receiving international civilian assistance if Sweden requests medevac help to transport patients abroad during wartime.

An overarching lesson from all the Swedish missions in Ukraine is that substantial flexibility is required to execute international missions. Established baseline concepts are necessary, but there must be the ability to depart from them as situational requirements often change and are dynamic. The train-the-trainers concept developed on short notice is a good example of this. Having on-site personnel throughout an entire region can be difficult, but concentrated training efforts can still have widespread spillover effects throughout the country.

Another overarching lesson is that the presence of short-term liaison officers from Sweden, combined with regular long-term national experts embedded throughout EU structures, has contributed to MSB gaining insight and influence into processes. Having Swedish personnel on site within EU structures has also been of support in identifying Ukraine's most critical needs.

Sweden's continued participation in international missions will further strengthen Sweden's civil defence capabilities.

6. Conclusions

The conclusions in this chapter constitute a synthesis of the lessons presented in the report. The chapter also includes several recommendations that MSB would like to highlight. Areas for further study are suggested at the end of the chapter.

Overarching Lessons

As the Swedish Defence Commission states in its 2023 report on developing Sweden's total defense, Russia's full-scale invasion illustrates the scope and breadth of challenges Sweden's total defence might face. The Defence Commission emphasizes that lessons must be drawn from Russia's war against Ukraine in how to shape Sweden's total defence.[309] Despite the difficulties in summarizing another country's civil defence after just two years of full-scale war, drawing such lessons is the starting point for this report.

The conclusions in this chapter are not intended to summarize everything in this report. The large number of experiences should be read in their entirety to gain a broad understanding of how Ukraine's civil defence has been tested during Russia's full-scale invasion, how Sweden and MSB have worked to assist Ukraine, and the consequent lessons for Sweden. Since the war is still ongoing, these conclusions cannot be considered to be final ones. Rather, they reflect a snapshot in time. Uncertainties remain. Objective information is not always accessible. Russia's war and Ukraine's civil defence both continue to evolve.

MSB's interim report previously concluded that Ukraine's civil defence is characterized by speed, flexibility, and cooperation. This conclusion remains, although the picture has now gained further nuance. A general observation is that different sectors of civil defense will inevitably have varying degrees of success in responding to the extensive number of threats over time.

---

[309] 7 Swedish Defence Commission (2023), *Kraftsamling. Inriktningen av totalförsvaret och utformningen av det civila försvaret. Ds. 2023:34.*

Lessons from Ukraine Confirm the Measures Already Taken within Sweden's Civil Defence

Lessons drawn from Russia's war against Ukraine confirm many of the assumptions already made in the development of Swedish civil defence. This report does not focus on which measures should be prioritized in the continued development of Swedish civil defence. MSB already addressed this in the 2023 report *Framåtanda*. However, the situation in Ukraine underscores what was presented in both *Framåtanda* and other previous reports.

In the case of Swedish civil defence receiving a small budget increase, *Framåtanda* prioritizes measures aimed at enabling Sweden to withstand the initial consequences of an armed attack. In the case of a larger budget increase, *Framåtanda* emphasizes the importance of taking measures to better ensure Swedish resilience holds out over an extended period of time. Ukraine's experiences have highlighted the importance of measures for both adaptation and endurance.

Three overarching lessons are of particular note when considering how to continue strengthening Sweden's civil defence:

1) There is a need to anticipate that the civilian population and civilian infrastructure can be directly targeted by antagonists in the event of war.

2) Early preparations and planning contribute to wartime resilience.

3) Civil defence requires society to both be adaptable and have endurance.

These three general lessons are presented in more detail below.

Anticipate that the Civilian Population and Civilian Infrastructure can be Directly Targeted in War

One of the most important lessons from Russia's war against Ukraine is how vulnerable both civilian infrastructure and the civilian population are, despite their protected status under international humanitarian law. Although this report does not contain a systematic account of the damage Russia has caused in Ukraine, Russia's attacks against civilian infrastructure and the civilian population is a reoccurring theme. There are numerous examples of the

deliberate targeting of health and emergency service facilities and transports. Since these types of civilian assets are often marked with symbols such as a red cross, they are highly visible and potentially even more exposed.

There are also instances where Ukrainian technicians sent to restore damaged infrastructure are subjected to so-called double-tap attacks. A double-tap is a second strike against a target, in this case a civilian facility, meant to kill or injure civilian personnel who have arrived on site after the initial attack. Civilian personnel are not collateral damage in combat, but the primary targets. It is therefore important to reduce risks for personnel working within civil defence to the greatest extent possible. In Ukraine there are examples of systems where companies, military, police, and local authorities cooperate to increase the safety of technicians performing their duties.

Another serious risk for the civilian population and civil defence personnel is mines and the handling of unexploded ordnances. The issue of mines and demining was primarily addressed in MSB's interim report, but this final report also highlights that mines complicate technicians' repair work and other civil defence personnel's duties.

In addition to direct threats such as active combat, war indirectly causes suffering. When civilian infrastructure is destroyed, the lives and health of the civilian population is put at risk. Compounding this risk is the psychological vulnerability of the civilian population and civil defence personnel. Many first responders suffer from post-traumatic stress. Moreover, people are negatively affected by constant airstrikes, having family serving in active combat zones, personally being or having family forcibly displaced, and continual funeral processions. According to Ukraine's Ministry of Health, 14 million residents need psychological support. A population subjected to these stresses over such an extended period of time risks losing resolve and hope for a better future.

Early Preparations and Planning Contribute to Wartime Resilience

Russian armed aggression against Ukraine began in 2014, giving Ukraine eight years to prepare for the full-scale invasion. There are several examples where early preparations and planning have contributed to resilience in Ukraine's civil defence. These lessons can be applied to the Swedish context. Cyber and information security is one such area. Having long been subjected to malign Russian influence campaigns, Ukraine worked with partners to

develop advanced software to monitor and detect Russian disinformation on social media. In the energy sector, several of the largest companies developed alternative control centers with plans for how operations could be transferred to other locations during a crisis or war. These plans were implemented in the hours ahead of the full-scale invasion. In the transportation sector, Ukraine had built up strategic reserves of vehicles and could deploy diesel locomotives as replacements when power outages rendered electric trains unusable.

In the economic and financial sector, a series of measures had been taken to strengthen the resilience of the Ukrainian economy, including reforms against widespread corruption. Ukraine also prepared emergency legislation that was enacted on February 24, 2022, allowing the Ukrainian economy to focus on maintaining financial payment systems, stabilizing the currency, countering inflation, securing foreign financial support, maintaining the banking system, and preventing the economic collapse of the many small and medium-sized enterprises that form the backbone of the Ukrainian economy.

Ukraine had primarily anticipated and prepared for sabotage and cyberattacks, not full-scale war. This affected the fortification of physical electrical infrastructure. Fortifications need to be built-in when a facility is first erected as retrofits can be costly or even impossible. The earlier the planning, the easier it becomes to ensure effective protection in a critical situation.

Workshops arranged for this report highlighted preparatory planning as particularly important for Sweden. An important part of preparatory planning is deciding what type of activities are to be prioritized during heightened alert and war. A fundamental task for all authorities is to have a list of prioritized duties for heightened alert. In the workshops, there were also calls for clearer guidance on how agencies in the preparedness sector should prioritize their activities.[310] Forthcoming MSB regulations on planning will likely provide personnel with more concrete guidance on how to handle their wartime duties.

Finally, the role that assisting Ukraine has had in developing Sweden's own civil defence is often overlooked. Swedish civilian assistance not only helps Ukraine, but also provides an opportunity to directly feed lessons learned into the development of Swedish civil defence. In many ways, Sweden is

---

[310] *Förordningen (2022:524) om statliga myndigheters beredskap.*

exercising its own civil defence when its civilian equipment and experts are sent to support Ukraine.

Civil Defence Requires Society to Be Both Adaptable and Have Endurance

As this report clearly shows, Ukraine's civil defence consists of the entire Ukrainian society. It encompasses everything from Ukrainians' collective will to defend the country to functioning public services. This includes healthcare providers and first responders operating despite being under heavy stress, schools operating in shelters and remotely, "points of invincibility" supporting civilian populations near the front lines, a railway system that reliably transports people and evacuates the injured, laws enacted to improve cybersecurity, cultural institutions preserving heritage, and much more. People from all layers of society contribute, whether through volunteer groups, private companies, or public services. While this is not a new insight, it is worth repeating – civil defence involves the whole of society.

In the event of an armed attack against Sweden, society must quickly adapt to maintain leadership and electronic communications, ensure transportation, prevent the collapse of the power grid, and continue healthcare and rescue operations.[311] There are many valuable experiences and lessons to be learned from Ukraine, especially regarding the country's ability to use commercial technology and existing services in new ways. For example, less than a month after the full-scale invasion, Ukraine introduced national roaming that allowed users to access all available mobile operators in the country. This measure helped maintain communication channels for the population, enabling them to receive information from Ukrainian authorities, access digital services, and stay in touch with friends and family. Another interesting example from a Swedish perspective is managing power outages caused by the war. Ukrainian authorities urged households to reduce their electricity consumption while implementing scheduled restrictions to balance the power system and avoid blackouts.

A prolonged war imposes demands on civil defence beyond the initial adaptation phase. It requires a sustainable supply of essential goods and services, the ability of society to deliver basic public services, and the country's economy to function.[312] A crucial lesson from Ukraine is that a

---

[311] MSB (2023). *Framåtanda – en prioritering av åtgärder för att stärka det civila försvaret. Slutredovisning av regeringsuppdrag (Fö2023/01000).* Publ nr: MSB2263 - oktober 2023.
[312] MSB (2023). *Framåtanda – en prioritering av åtgärder för att stärka det civila försvaret. Slutredovisning av regeringsuppdrag (Fö2023/01000).* Publ nr: MSB2263 - October 2023.

whole-of-society approach is not only required for civil defence but that various sectors reinforce one another. It is hard to maintain the population's will to defend without adequate civil protection, if vital societal functions cease to operate, or if public institutions fail. Without the population's resolve and collective will to defend the country, both civil and military defence quickly lose resilience. Conversely, if society continues to protect civilians and deliver essential services, national resolve is strengthened, increasing the likelihood that people will continue to go to work or contribute to volunteer organizations. Since the whole of society contributes to resilience and sustainability in Ukraine, it is difficult to provide individual examples. However, an important element in maintaining resilience is ensuring access to public services. In this regard, Ukraine appears to have been relatively well-prepared, launching the platform and application DIIA as early as 2020. Functioning as a portal for various public services, such as applying for social welfare and other benefits directly in the app, DIIA seems to play a significant role in Ukraine's resilience by ensuring continuity of public services.[313]

Recommendations

Building on lessons from Ukraine, and in the light of Sweden's ongoing preparedness planning, MSB would like to highlight a couple of recommendations relevant for the continued development of Sweden's civil defence. These are issues where either the division of responsibilities or budget arrangements in Sweden are unclear, or where, for other reasons, they should play a more central role in Swedish contingency planning. While focusing on the Swedish context, the overarching lessons from Ukraine may be applicable for other countries and institutions.

1. **The ability to reallocate resources at national level to cover regional and local needs is required:** Ukraine's ability to reallocate rescue services based upon national priorities has been crucial. This lesson can also be applied more broadly in reinforcing resources. For Sweden, it is important that the prioritization and reallocation of resources can occur between sectors and civil defence regions during heightened alert. The Swedish Defence Commission highlights the need to prioritize resources within civil defence regions, stating that

---

[313] DIIA has facilitated access to public services during the war, especially for the many internally displaced persons who have been unable to reach their local service offices in their hometowns. However, DIIA is not just a digital platform; it also includes physical administrative service centers, including mobile ones. This ensures that even those who do not want to or cannot use digital services have access to the public services offered by DIIA. Thus, DIIA is one of many components that enable society to continue functioning even during prolonged war.

"county administrative boards' mandate to coordinate civil defence regions […] can be strengthened to include the ability to prioritize civilian resources within civil defence regions."[314] However, this does not resolve the issue of national-level prioritization and reallocation, which needs to be further clarified. Receiving international civilian aid will also require national prioritization and reallocation of resources throughout the country.

2. **Effective methods for receiving and distributing international assistance need to be prepared:** Important lessons can be drawn from Ukraine and Poland's work with logistical hubs and cooperation with civil society. Civilian host nation support during wartime requires close cooperation between the Armed Forces and the relevant civilian authorities.[315] Civilian host nation support needs to be planned and exercised in advance. Management and coordination are needed during heightened alert. MSB's and the county administrative boards' joint work and strategy in receiving international humanitarian civilian support can create cohesive preparatory planning and a common organization and structure for Swedish host nation support.[316] However, there remains some ambiguity in the Swedish system regarding the division of responsibilities between national, regional, and local levels, particularly in the formal responsibility of centrally building a robust national capacity during heightened alert. This aspect needs to be clarified to ensure a fully effective total defence.[317]

3. **The Swedish public needs hemorrhage control training:** Public training can harness the power of volunteers. Access to and dissemination of basic equipment and training has been crucial for Ukraine. Lessons from MSB's emergency healthcare "train the trainers" program in Ukraine indicate that the Swedish public will need more hemorrhage control training than is currently provided.

---

[314] Swedish Defence Commission (2023). *Kraftsamling: Inriktningen av totalförsvaret och utformningen av det civila försvaret. Ds 2023:34.*

[315] Swedish Defence Commission (2023), *Kraftsamling: Inriktningen av totalförsvaret och utformningen av det civila försvaret. Ds 2023:34.*

[316] "Although this report focuses on incoming civilian support, host nation support includes both the reception of international civilian and humanitarian aid as well as the reception of foreign units within the framework of a military operation.

[317] In *Civilt försvar mot 2030 – ett totalförsvar i balans,* MSB highlighted that the government should clarify MSB's coordinating role at the national level in a manner similar to the coordinating role of the county administrative boards responsible for civilian areas at the regional level."

Potential initiatives to publicly disseminate both basic and advanced first aid and hemorrhage control skills could be carried out within the health, care and nursing preparedness sector. Non-profit organizations could serve as an important resource in such an effort.

4. **Swedish civil defence needs to plan for widespread mental health issues in the event of war:** This report has highlighted the war's widespread impact on mental health in Ukraine. Swedish health and social services have also reported on the impact of war and heightened alert on mental health. The Swedish Defence Commission has called on the health, care and nursing sector to prepare for public mental health treatment during heightened alert and war.[318] Although this issue is not new, MSB assesses that mental health needs to play a more central role in civil defence, as mental health is closely linked to the public's resilience and willingness to defend the country.

5. **Mortuary responsibilities need to be clearly designated:** The war has strained Ukraine's mortuary service providers. The responsible agencies in Sweden need to plan for jointly managing a large number of casualties. There is a significant need for cooperation on this issue. Currently, no actor currently has taken a leadership role. The Swedish Defence Commission believes mortuary services must be clearly placed within civil defence structures.[319] MSB shares this view and has previously suggested that the government should assign coordinating responsibility to the health, care and nursing preparedness sector.[320]

6. **Maintenance and repair responsibilities need to be clearly designated:** Ukraine's successful maintenance and repair readiness offers several lessons for Swedish civil defence. Central to these lessons is that building up Swedish maintenance and repair capacity would require designating a responsible actor. The Swedish Defence Commission states that a "preparedness organization tasked with carrying out new construction, repair, and clearance work for total defence should be reinstated."[321] This issue has also been raised in

[318] Swedish Defence Commisison (2023*), Kraftsamling. Inriktningen av totalförsvaret och utformningen av det civila försvaret. Ds. 2023:34.*
[319] Ibid.
[320] MSB (2022). *Civilt försvar mot 2030 – ett totalförsvar i balans. Slutredovisning av regeringsuppdrag* (Ju2022/01209/SSK). ISBN: 978-91-7927-316-3.
[321] Swedish Defence Commission (2023). *Kraftsamling. Inriktningen av totalförsvaret och utformningen av det civila försvaret. Ds. 2023:34.*

several other reports, including those from MSB, but no action has yet been taken.[322]

7. **Internally displaced persons must be able to receive financial support:** One of the greatest challenges for Ukraine's many internally displaced persons is receiving sufficient financial support. Sweden will also need to ensure that internally displaced persons can receive compensation and other forms of financial support. This responsibility falls on both national authorities, primarily within the financial security preparedness sector and local municipalities. The Swedish Defence Commission outlines the challenges related to the administration and disbursement of payments to large groups of people, regardless of whether they are displaced or not.[323] The Defence Commission also has a mandate to analyze and propose how social security payments can be ensured during crisis or war.[324]

8. **How to secure core data needs to be clarified:** Several societal functions and essential services rely on access to core data. In Ukraine, this data was secured by moving to cloud services. While cloud services may not be the right solution for Sweden, it is crucial to determine how to secure core data in order to prevent loss of information and to maintain confidentiality. The ongoing work on secure IT operations within Swedish government agencies is part of a joint government effort called NITIS. It will be important to clarify the aspects of data storage within NITIS's body of work. MSB has also initiated the development of regulations for planning the relocation and destruction of data. Such planning is relevant for all vital societal functions but particularly core data.

9. **Evacuation and accommodation plans need to be in place:** Planning should cover all of Sweden, but certain regions require more advanced preparations. The early stages of Russia's full-scale invasion led to large amounts of spontaneous evacuations in Ukraine. One key lesson is that refugee movements are dynamic and can change based on people's perception of the current security situation. Therefore, some regions need to plan for evacuations, others for accommodation, and some for both.

---

[322] See MSB (2023). *Framåtanda och MSB (2022). Civilt försvar mot 2030 – ett totalförsvar i balans.*
[323] Swedish Defence Commission (2023). *Kraftsamling. Inriktningen av totalförsvaret och utformningen av det civila försvaret. Ds. 2023:34.*
[324] Swedish Social Insurance Agency (2022). *Redovisning av Uppdrag att säkerställa utbetalningar från socialförsäkringen under krig och krigsfara. S2022/01531.*

MSB is working on developing regulations for how evacuations should be planned. These regulations were initially supposed to be based upon the proposed legislative changes proposed in "A Strengthened Protection for the Civilian Population During Heightened Alert" (SOU 2022:57), which also included accommodation. However, since these legislative changes have not yet been adopted, it was decided that MSB should develop regulations based upon existing legislation, focusing solely on evacuations. As a result, regulations regarding accommodation are not currently being developed.

In cooperation with the Swedish Armed Forces, MSB has the authority to decide which areas should be planned for evacuation. This work has begun and should take into account the lessons learned from Ukraine. The Swedish Defence Commission provides fairly detailed proposals on how the development of evacuation and accommodation planning should proceed. [325] In MSB's written response, the proposed measures are considered feasible. However, basic preparations are needed to handle spontaneous evacuations. MSB highlights that there is currently a lack of clarity regarding which actors or sector should take overall responsibility for managing and planning for uncontrolled population movements.[326] This must be clarified to ensure that the overall planning for evacuation and accommodation is fully effective. Whether the Swedish Migration Agency should be responsible for internally displaced persons should also be decided.[327]

10. **Schools need to receive financing for preparedness planning**: Ukraine's strategies for adapting educational activities to wartime conditions can provide many lessons. Various Swedish preparedness agencies have emphasized the importance of ensuring schools can continue operating even during heightened alert and war.[328] Beyond a child's right to education, functioning schools are necessary to allow

---

[325] Swedish Defence Commission (2023). *Kraftsamling. Inriktningen av totalförsvaret och utformningen av det civila försvaret. Ds. 2023:34.*
[326] MSB (2024). *Samlad bedömning av genomförbarheten av Försvarsberedningens delrapport "Kraftsamling" – MSB:s redovisning av regeringsuppdrag. Fö2023/01997.*
[327] In the Swedish Migration Agency's response to MSB's inquiry on December 19, 2023, the agency highlights that it sees potential synergies if the agency had joint planning with the county administrative boards responsible for civilian areas, not only regarding the efficient management of population movements of foreign nationals but also concerning people fleeing within the country as a result of war.
[328] See MSB (2022*). Civilt försvar mot 2030 – ett totalförsvar i balans.* Final report of government directive (Ju2022/01209/SSK). ISBN: 978-91-7927-316-3.

parents with critical position to go to work. MSB has repeatedly stressed that local municipalities, responsible for the education sector's civil defence planning, require government funding. Such financing has not yet been secured.

11. **Unexploded ordnance and mine clearance capabilities are required to restore normalcy and functionality to society:** Sweden has not yet clearly established how the clearance of unexploded ordnances and mines would be carried out on Swedish territory. Dialogue between relevant actors is necessary. To reduce the risk of injury to rescue personnel in active combat zones, or where combat is expected to begin, there should be pre-established cooperation channels between civilian rescue services and the Armed Forces.

12. **Contingency planning needs to increase physical protection for the civilian population:** Increased physical protection not only involves ensuring that shelters are operational but also supplementing them with a system of protected sites. As civilian infrastructure and the civilian population are deliberately targeted in Ukraine, a key lesson is the importance of constructing additional protected structures in densely populated areas. The inquiry "Strengthened Protection for the Civilian Population During Heightened Alert" (SOU 2022:57) proposed creating additional protected structures in Sweden, but no decision has yet been made. Although MSB identified the need to enhance the civilian population's ability to protect themselves through taking simple measures in their homes and workplaces, no measures aimed at increasing the public's capacity for self-protection have been implemented. Increasing the public's ability to protect themselves could be achieved through government support, information, and communication efforts.

13. **A long-term, national public communications plan during heightened alert is required both to promote adaptation and to build resilience:** The content of such a communications plan could include choices of communication channels, adaptations, and methods for reaching different target groups, as well as how messaging and medium might need to evolve over time. This plan should be supplemented with broad, continuous, and long-term initiatives to increase public knowledge about total defence and personal preparedness. Various target groups can be reached through such

knowledge-raising initiatives, harnessing public engagement, and maintaining the collective will to defend the country.

Way Forward

This final report concludes MSB's government assignment to investigate how experiences and lessons from Russia's war against Ukraine can be utilized in MSB's operations and in the development of Sweden's civil defence. The report should be viewed as part of a continuous effort to deepen the understanding of lessons from Ukraine, not a final conclusion. The value of continuing to learn lessons will persist long after the war has ended.

A wide range of entities within Sweden's civil defence must continue gaining knowledge and experience. Authorities, municipalities, regions, private businesses, civil society, and academia all have important roles to play. Some areas that could benefit from additional study include individual preparedness, legislative preparedness, governance and leadership, public-private cooperation, civil society involvement, the utilization of spontaneous volunteers, the justice system's handling of war crimes during an ongoing war, and cooperation between national, regional, and local administration. It may be worthwhile to further explore how the population's collective resolve and willingness to defend the country evolves over time.

When drawing lessons from Ukraine, it is important to remember that the conditions for civil defence often differ between countries. These differences may involve the types of threats, as well as the unique characteristics of each society, such as geography, administrative structure, economy, security policy, equality, and levels of corruption.

NATO membership is changing how Sweden conducts total defence planning and operations. Sweden's civil defence will be increasingly integrated into NATO structures and that of other NATO allies. It is likely that Nordic cooperation with the Baltic states will become more prominent. If so, the experiences from Poland and other countries neighboring Ukraine that have channeled international assistance will be particularly important for Sweden. While this report outlines several key lessons in this regard, there is every reason to continue deepening our understanding.