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# NEEDS

## Societal Security Challenges:

### Drawing Lessons from Case Studies on Cyber and Information Security, Climate Change, Global Covid Pandemic, and Youth, Security & Trust

Contributions from by Duncan Cooper, Karla Jonsson and Karl Modig, Roberts Toms Kalējs, Aleks Stepaņuks, Kaspars Vārpiņš and Stephanie Young

Co-funded by the  
Erasmus+ Programme  
of the European Union



## **Societal Security Challenges:**

Drawing Lessons from Case Studies on Cyber and Information Security, Climate Change, Global Covid Pandemic, and Youth, Security & Trust

NEEDS Intellectual Output 3 (IO3) – Case studies

### **The ‘Needs-based education and studies in societal security’ (NEEDS) project**

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The report and case studies were written and compiled during the then ongoing project and reflect the research status at the time.

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## Introduction

This report compiles case studies authored by students from various universities in the Baltic Sea Region. They are written in the context of the 'Needs-based education and studies in Societal Security' (NEEDS) project. The case studies focus on different societal security challenges and crises in the Baltic Sea Region and analyse how these are dealt with at different levels and by different actors.

All case studies apply the theoretical framework by Boin et al. (2017) that identifies sense-making, decision-making, meaning-making, terminating, and learning as well as preparing (Stern) as strategic leadership tasks in crisis management to analyse the respective aspects and implications for societal security.

In the first case study, Duncan Cooper from the Swedish Defence University and from the University of St Andrews (Scotland) focuses on how and in what ways climate change is perceived as a crisis in the Baltic Sea Region and measures for addressing it. The study compares climate change adaptation policies of Finland, Latvia and Sweden at the national level and at the municipal level (comparing Helsinki, Riga and Stockholm).

In the second case study, Karla Jonsson and Karl Modig from the Swedish Defence University focus on how a cyber-related attack can disrupt societal security. The study analyses the crisis management of decision-makers in the context of the 2017 WannaCry ransomware affecting systems globally.

In the third and fourth case studies Roberts Toms Kalējs and Aleks Stepaņuks, both from Riga Technical University, analyse how private businesses and youth in Latvia, Sweden and Finland have perceived and dealt with the COVID-19 pandemic, respectively.

In the fifth case study, Kaspars Vārpiņš and Stephanie Young, from Liepja Municipal Police and Swedish Defence University respectively, analyse the role of youth in societal security in correlation with trust and the crisis potential to the topic.

## The NEEDS Project

The 'Needs-based education and studies in Societal Security' (NEEDS) project addresses the skills gap and mismatch between higher education and the knowledge needs in this field, as well as the fact that there is a lack of structured transnational cooperation and dialogue between higher education institutions, practitioners, and experts in tackling these issues.

The project is co-funded by the EU Erasmus+ Strategic Partnership (project code 2020-1-SE01-KA203- 078013) and runs from September 2020 through August 2023. It is led by the Council of the Baltic Sea States (CBSS) Secretariat, an intergovernmental regional organisation consisting of ten Member States and the EU. The project partners represent a variety of higher education institutions, regional organisations and national authorities from Finland, Germany, Norway, Poland, Latvia and Sweden. The objective of NEEDS is to better prepare the next generation working in the field of Societal Security by boosting their educational experiences with the most relevant, field-specific and up-to date knowledge and skills. This objective will be achieved through the co-creation of educational materials by cross-sectoral, multi-level and transnational teams, where the input for developing such material is collected directly from those working practically in the field.

The countries in the Baltic Sea Region (BSR) face several common Societal Security challenges due to their geographical proximity and functional interdependencies. The fact that neighbouring countries often provide support for one another when a crisis emerges is yet another important motivation for improving transnational cooperation. Even though NEEDS primarily focuses on the BSR, the results may also be relevant for other regions.

The NEEDS project will meet Societal Security challenges by 1) developing common learning materials for a short online course on Societal Security for the BSR, as well as 2) establishing a network of professionals and an interface for collaboration. Transnational and cross-sectoral teams will be at the centre of these efforts and will draw upon an innovative pedagogical approach. Nurturing strategic partnerships and cooperation will strengthen trust and deepen understanding between sectors and countries in the BSR, helping to improve common efforts and reduce the risk of conflict and misunderstanding.

## Societal Security

Within the scope of the NEEDS project, Societal Security is defined as<sup>1</sup>:

- Aims to secure and maintain critical societal values, functions and services (including trust, communication, critical infrastructure, health and medical, financial and economic, governance and civic services, law and order, education, democracy and human rights, national sovereignty, and environment) by focusing efforts on identifying, eliminating and reducing risks, threats, and vulnerabilities, and by promoting meaningful and resilient processes, decisions, strategies, structures, policies and measures.
- Is a responsibility of the individual as well as community and civic groups, national/regional/local governing organisations and authorities, and businesses and companies.

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<sup>1</sup> Christer Pursiainen and Dina Abdel-Fattah, "NEEDS: Societal Security as Higher Education. The State of the Art in the Baltic Sea Region" (NEEDS project consortium, February 2021), 13.

- Is not only local or national in origin, scope, or breadth; it demands transnational and cross-sectoral institutionalised cooperation, despite differences.

# **How are Finland, Latvia, and Sweden addressing the climate change crisis? Comparing national and municipal climate adaptation policies.**

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## Abstract

The effects of climate change represent a threat to the societal security of the Baltic Sea Region (BSR). This case study analyses how three countries in the BSR: Finland, Latvia, and Sweden, are addressing the risks posed by climate change, by comparing the national responses and the responses of their capital cities: Helsinki, Riga, and Stockholm, respectively.

This case study follows the methodological framework set out in *The Politics of Crisis Management. Public Leadership under Pressure* (Boin et al., 2017) and explores the subjectivity of crisis diagnosis and the tasks of strategic crisis leadership.

Finland, Latvia, and Sweden each perceive the climate crisis differently, based on their core values, and how climate change affects these. As a result, each national and municipal government has framed and responded to the crisis in a different way: Finland has framed the crisis as an adaptation and security of supplies issue; Latvia has framed the crisis as an economic opportunity; and Sweden has framed the crisis as an excess consumption issue.

This case study reveals that, whilst different actors consider a crisis to be “over” at different times, society will never be able to consider the climate crisis “over” and return to life as “normal.” Instead, we are entering a “new normal,” where the effects of climate change, from higher sea levels and more frequent extreme weather events, to reduced biodiversity and changes to ecosystems, continue to have an impact on day-to-day lives, and will do so for the foreseeable future.

**Keywords:** *Adaptation, Climate change, Crisis management, Extreme weather, Municipal governance, New normal, Societal security*

## Climate change as a threat to societal security

Climate change can be considered a crisis by many different actors, as it poses many different risks. Coastal communities can consider climate change a crisis, as it has led to rising sea levels and increased the risk of coastal erosion. Farmers can consider climate change a crisis, as extreme weather events threaten crop production and the survival of their livestock; changes to the region’s biodiversity, and the possible introduction of new plants and animals, also threaten individual farmers and the agriculture industry. Climate change could also lead to food and water insecurity, which could then lead to conflicts over scarce resources. Therefore, climate change represents a threat to all of society, as well as crisis managers and the emergency services, who are tasked with responding to the crises caused by climate change. Because climate change threatens so many aspects of society, it represents a serious threat to national

security, meaning that national governments can also consider climate change to be a crisis.

Climate change fits our definition of a societal security crisis as it threatens many of society's core values, functions, and services. Climate change threatens the core values of many groups within society, such as the survival of coastal and rural communities, the cultural practices of Indigenous Peoples, farmers' ability to grow crops and produce food, the ability of different businesses to continue make a profit, the ability of the police, military, and emergency services to uphold public order and safety, and the perceived legitimacy of political leaders.

Many societal functions and services are threatened by climate change. For example: extreme weather events can damage or destroy critical infrastructure, such as telephone and electricity lines, roads, and railways; storms and flooding events can block roads, preventing the emergency services from responding to different events; drought and heatwaves can lead to increased mortality, putting an increased pressure on the healthcare service; the introduction of new pests and viruses to the BSR could impact the agriculture and forestry industries, threaten food production, and could impact human health; and the combined effects of climate change could lead to increased immigration away from rural areas towards urban areas, which could put an increased strain on resources and services, and may lead to conflicts if resources become scarce.

In the future, climate change is going to impact all members of society, therefore responding to the climate crisis will require a whole-of-society response. Individuals will need to ensure they are prepared and know what to do in the event of different crises, such as extreme weather events. Decision-makers at all levels of government will need to conduct risk assessments and implement measures to tackle the risks posed by climate change and reduce society's vulnerability. Finally, because climate change is an international crisis – one which does not respect national borders – it requires regional and international responses. Cooperation between the different States in the BSR, as well as cooperation with the rest of the world, is vital in order to effectively tackle the climate change crisis.

## Introduction

Climate change is already affecting the BSR in many ways. Global temperatures have risen, which has led to higher sea levels and more frequent, more widespread, and more intense extreme weather events. In the past two years alone, there have been forest fires in Finland, where 300 hectares were burned over five days (ClimateChangePost, 2022); severe flooding across Scandinavia, with the European Flood Awareness System (EFAS) issuing 48 separate flood warnings in Finland, Norway, and Sweden over 21 days (Copernicus, 2021); and heat waves across the BSR, with temperatures over 29 degrees Celsius recorded above the Arctic Circle (Koresec, 2020). Climate change also threatens the biodiversity and ecosystems across the BSR, as it may lead to the introduction of new plant and animal species, bringing with them new diseases and pests (Tuhkanen et al., 2020). Climate change also increases the risk of vector- and water-borne diseases affecting the human population, and may threaten food

production, therefore leading to food insecurity (Tuhkanen et al., 2020). Because climate change is already having such serious effects, it is vital that all countries around the world commit to identifying and addressing the main contributors to climate change and creating policies to mitigate the negative effects of climate change; for example, reducing their greenhouse gas emissions, in order to limit global temperature rises and mitigate any further effects of climate change. However, some of the effects of climate change, like those already being felt in the BSR, can no longer be prevented. Therefore, the BSR must implement adaptation measures, in order to reduce risk and vulnerability, by increasing resilience to extreme weather events, coastal erosion, biodiversity loss, and other climate change-related threats. Responding to the climate crisis will require a whole-of-society response, as well as regional and international cooperation. This Case Study will look at how three States in the BSR, namely Finland, Latvia, and Sweden, are addressing the climate change crisis. The national climate change policies of these States will be compared, as well as those of their capital cities - Helsinki, Riga, and Stockholm, respectively. Since the effects of climate change are felt primarily at the local level, it is important to look at governance on the local level. Doing so can provide an insight as to how much support local governments are given from the national government when it comes to implementing climate change mitigation and adaptation policies.

## Crisis Diagnosis

According to *The Politics of Crisis Management*, a crisis is defined if an actor perceives these three elements: uncertainty, time pressure, and core values at stake (Boin et al., 2017, p.5). Several public and private actors perceive climate change-related threats, such as extreme weather events, across the BSR to include all three elements, therefore, they consider climate change as a crisis.

### Uncertainty

With any crisis, there is uncertainty surrounding the nature and consequences of the threats being faced (Boin et al., 2017, p.7). There is a great deal of uncertainty regarding both the nature and consequences of climate change, as we still do not know what exactly its effects will be. Climate change has already led to a rise in sea levels and an increase in extreme weather events, but, as global temperatures rise, the effects of climate change will increase and affect more areas than they do today (Maharramli, 2021, p.11).

Because we do not know exactly how much global temperatures will rise, there is uncertainty as to how much sea levels will rise. There is also uncertainty as to how frequent, and how intense extreme weather events will become, and which areas, exactly, they will affect in the future (CliCNord, 2021). Climate change has made the Gulf Stream weaker than at any point in the past one thousand years (Deutsche Welle, 2021), which has made predictions about the climate and the impact of extreme weather events incredibly difficult to make. There is also a serious risk that part of the Gulf Stream may collapse because of continued global warming (Deutsche Welle, 2021). This would have an untold impact on the global climate and would significantly increase our uncertainty surrounding the effects of climate change.

Current predictions of climate change-related threats in the future, from sea level rise and extreme weather to threats to biodiversity and human health, are based on estimated global temperature rises, which themselves are based on predicted future greenhouse gas emissions levels (ClimateChangePost, 2022). Therefore, if greenhouse gas emissions are not reduced as quickly and by as much as predicted, current modelling may be inaccurate. Current risk assessments and adaptation measures are based on these predictions. Therefore, if these predictions end up being inaccurate, these risk assessments and adaptation measures may prove insufficient or obsolete.

### Time pressure

According to the United Nations, “Time is running out” (Kauffman, 2021) – the entire world has to act quickly and efficiently if the global temperature rise is going to be kept below 1.5 degrees Celsius (above pre-industrial levels) (UNFCCC, 2020). In 2021, the Intergovernmental Panel on Climate Change (IPCC) declared “Code red” for humanity and warned that:

Unless rapid and deep reductions in CO<sub>2</sub> and other greenhouse gas emissions occur in the coming decades, achieving the goals of the 2015 Paris Agreement “will be beyond reach” (Kauffman, 2021).

Since then, the time pressure has increased further. The IPCC’s 2022 Assessment Report has revealed that global greenhouse gas emissions must peak by 2025 in order to limit global warming to below 2 degrees Celsius (IPCC, 2022). In order to have a 50% chance of limiting global warming to below 1.5 degrees Celsius, the world will not only have to meet this target but will also have to reach net-zero emissions by the early 2050s – this will require rapid and immediate reductions in greenhouse gas emissions in all sectors across the entire world (IPCC, 2022).

There is clearly a huge time pressure when it comes to reducing greenhouse gas emissions. However, there is also time pressure to adapt to climate change. Communities across the BSR are already feeling the effects of climate change. Therefore, climate adaptation measures need to be implemented now. Since rising sea levels, increased average precipitation and temperatures, and extreme weather events will only get worse as time goes on (Maharramli, 2021), adaptation to climate change must take place as quickly as possible.

According to *The Politics of Crisis Management*, time pressure, or the sense of urgency, is socially constructed. Different individuals experience time pressure differently, depending on how much they are personally affected or threatened by the crisis (Boin et al., 2017, p.6). Therefore, despite the UN and IPCC perceiving there to be a great urgency to both mitigate and adapt to climate change, some actors will not feel this sense of urgency. For example, those States and communities that have not yet been affected by climate change will likely consider climate change to be a threat that will happen in the future, rather than one that must be addressed right now. If the general public does not perceive there to be a sense of urgency, this will make it much more difficult for decision-makers to justify their climate mitigation and adaptation policies – especially if the implementation of these policies requires taking funding away from other policy areas. Decision-makers must frame climate change in such a way that the public understands the extent to which it threatens their core

values, and how limited a time there is to act. This, of course, presupposes that the decision-makers themselves perceive there to be a sense of urgency, which may not always be the case.

But even when decision-makers and the public both perceive there to be time pressure, this sense of urgency can be forgotten in the face of larger, more immediate crises. For example, the Russian invasion of Ukraine represents a major crisis for Europe and the BSR - especially those BSR States that border Russia. The war in Ukraine has resulted in many European States cutting themselves off from Russian oil and gas supplies. For example, Lithuania became the first EU country to cut itself off completely from Russian gas, while Estonia and Latvia have also temporarily stopped importing Russian gas (Milne, 2022). The time pressure for Europe to stop importing Russian oil and gas is incredibly high, as this is framed as a way of both punishing Russia and showing solidarity with Ukraine. However, increasing energy prices have created a time pressure to find alternative energy sources. Renewable energy could have been framed as the solution to reducing dependency on Russian oil and gas; the crisis in Ukraine could have sped up renewable energy production across the continent, resulting in reduced dependency on all fossil fuels, not just those produced in Russia. However, Europe has instead turned to other sources of fossil fuels. For example, Lithuania is now relying on domestic liquified natural gas production (Milne, 2022), and the EU has signed a deal with the US that will see the latter providing the former with more gas by the end of 2022 (BBC, 2022). Whilst the time pressure to reduce greenhouse gas emissions still exists, the pressure to stop importing Russian oil and gas is much higher. The crisis in Ukraine is perceived as a much more immediate crisis, meaning that it has taken public and political attention away from the climate crisis.

### Core values at stake

Finally, the last criterion of a crisis is when individuals or society perceive that core values are at stake or threatened (Boin et al, 2017, p.5). The core values of many different groups are threatened by climate change and extreme weather events. *Table 1* provides an overview of many of the stakeholders involved, and some of their core values that are threatened by climate change.

Stakeholders	Core values at stake
Coastal and rural communities	Survival in the face of climate change and depopulation, resilience to extreme weather events
Indigenous peoples	Survival, continuation of cultural practices

Agriculture industry	Ability to grow crops and raise livestock, in order to continue to make a living, resilience to climate change-induced extreme weather events
Healthcare sector	To provide care to all those who need it, to stay up-to-date with all the current threats to human health
Businesses	Ability to make a profit, staying in business despite the economic effects of climate change
Police, emergency services, and the military	Ability to uphold public order and safety, being able to respond to emergencies and disasters
Young people	Inheriting a healthy planet that can continue to sustain life
Working people	Job security, being able to make a living despite the economic effects of climate change
Political leaders	Legitimacy, being perceived as in control of the crisis

*Table 1*

The survival of coastal communities is at stake, due to rising sea levels and increased flooding. The survival of inland, rural communities is also at stake. New climates will lead to new plants being able to cultivate in the BSR, which will in turn breed new insects and diseases, as well as new conditions for agriculture. Extreme weather events in rural areas, such as landslides, droughts, and forest fires, are likely to exacerbate the depopulation of these communities - making those left behind even more vulnerable. Furthermore, the economic impacts of climate change are also likely to contribute to depopulation and migration to urban areas. For the Indigenous Sami people in northern Scandinavia, their culture and way of life are threatened since warmer winters are having severe impacts on their practice of reindeer husbandry (ClicNord, 2021). The core values of many businesses and workers are also at stake. For example, the agriculture sector is threatened by storms, droughts, forest fires, and the introduction of new pests and diseases, which can all destroy crops. For other businesses, the wider economic impacts of climate change, such as its impacts on national economies and global supply chains, threaten their ability to make a profit - or even just stay in business. The core values of young people are also at stake - young people need to inherit a healthy planet that can continue to

sustain life as it does today. The health of all individuals in society is at stake due to the threat of new vector- and water-borne diseases being introduced to the BSR. Furthermore, some diseases already present in the BSR, such as tick-borne diseases, are also becoming more common (City of Helsinki, 2018), therefore threatening more individuals in more areas than they currently do. For the different States in the BSR, national security and resilience are threatened by climate change-induced crises like extreme weather events, rising sea levels, and the increased risk of pandemics. There is also concern over the fact that resources will become scarce and that this will fuel competition and conflicts. Finally, the core values of political leaders, at all levels of government, are at stake. If political leaders are perceived as not doing enough to tackle climate change, then their legitimacy will suffer greatly. However, political leaders must also balance the core values of all the different groups in society – even if these core values conflict with one another. Therefore, the decisions they make regarding climate change mitigation and adaptation must identify, consider, and address the needs, interests, concerns, and priorities of as many people as possible.

According to The Politics of Crisis Management:

The more important the value(s) or structures under threat, the deeper the sense of crisis (Boin et al., 2017, p.6)

Since the core values threatened by climate change include the survival of rural communities, the survival of cultural practices, the functioning of the current economic system, public safety, stable and prosperous communities, and many other important values, climate change is clearly an incredibly serious crisis.

Climate change (extreme weather events in particular) represents a crisis for the BSR, as there is a great deal of uncertainty as to what its impact will be, there is a limited time to implement climate change mitigation and adaptation policies, and the many consequences of climate change threaten the core values of many different groups within society. However, crisis diagnosis is entirely subjective. This means that some individuals, including some decision-makers, may not perceive there to be uncertainty, urgency, or core values at stake, or they may perceive the threats posed by climate change to be less serious, and less immediate than others perceive them to be. How decision-makers perceive climate change will have a significant impact on how they frame it, how they respond to it, and when they consider the “crisis” to be over.

## Climate mitigation and adaptation policies

### Finland

A key pillar of Finland’s national climate change policy framework is the Climate Change Act, which was introduced on 1 June 2015. According to this Act, Finland must reduce its greenhouse gas emissions by at least 80% by 2050 (from 1990 levels); the Finnish Government must present annual Climate Change Policy Plans to Parliament, ensuring any and all future governments take sufficient measures to address climate change; and, the Ministry of the Environment is

required to create an annual Climate Change Report, describing emission trends, that informs the political debate in Finland (Ministry of the Environment Finland, n.d.). During Spring 2021, many different stakeholders were invited to share their views on climate change, as part of the drafting process of the 2021 Climate Change Policy Plan. The Government held discussions with the Sami Parliament, a Citizens' Jury was convened, through random sampling of the population, and an online survey was published, which attracted 18,000 responses (Ministry of the Environment Finland, 2021). The current Finnish Government, led by Prime Minister Sanna Marin, has set even more ambitious goals than those required by the Climate Change Act, by setting the goal of Finland becoming carbon neutral by 2035, and carbon negative as soon as possible after that. However, according to the Annual Climate Report 2021, if current trends continue, Finland will not meet this target of climate neutrality by 2035 (Ministry of the Environment Finland, 2021). Finland was one of the first countries in the world to create a national climate change adaptation strategy, doing so in 2005 (Tuhkanen et al., 2019). The new Climate Change Adaptation Plan 2022 was published in 2014. The main objectives of this plan are to integrate climate adaptation across different sectors; to provide actors with the required climate change assessment tools and methods; to facilitate research and development related to climate change adaptation; and to increase citizens' awareness of climate change adaptation (Ministry of Agriculture and Forestry Finland, 2014). The Plan also calls on municipalities to integrate climate adaptation into their emergency preparedness and security of supplies planning.

Due to Finland's political system, municipalities play a key role in climate change adaptation. Municipalities are responsible for land use planning, waste management, flood, and stormwater management, and many are the main local energy suppliers (Tuhkanen et al., 2019). As municipalities enjoy a great deal of autonomy over these areas, they are responsible for the implementation of local adaptation measures, although The Ministry of Forestry and Agriculture is responsible for coordinating these measures. Other national agencies assist municipalities in adapting to climate change, such as the Finnish Meteorological Institute (FMI) and the Finnish Environmental Institute (SYKE). Unlike other BSR States (such as Denmark) Finland has no central disaster risk management agency, which means the municipalities are entirely responsible for assessing and managing disaster risks such as the risk of flooding and wildfires. However, this lack of centralisation is compensated by high levels of trust, communication, and cooperation between municipalities and institutions (Van Well et al., 2018).

Finland's capital and largest city, Helsinki, is a great example of a municipality that is addressing climate change by implementing several mitigation and adaptation measures. Helsinki has, in line with national policies, committed to achieving carbon neutrality by 2035 (City of Helsinki, 2020b); is ranked an 'A List City' by CDP (City of Helsinki, 2021) – an environmental impact disclosure organisation; and officially declared a "Climate Emergency" in 2020 – something the Finnish Government is still yet to do. As a coastal city, Helsinki is vulnerable to many of the extreme weather events exacerbated by climate change, such as flooding; however, a risk assessment commissioned by the City reveals it is also vulnerable to heatwaves (City of Helsinki, 2018). Therefore, as well as reducing emissions, Helsinki has focused on adapting to the effects of climate change –



with the goal of becoming a “climate-proof and safe city” (City of Helsinki, 2019). In 2019, the City published ‘Helsinki’s climate change adaptation policies 2019–2025’, the goal of which is to:

decrease the negative impacts of climate change on societal functionality, the economy, nature, and people’s everyday lives (City of Helsinki, 2019)

The four themes of the document are increasing the city and its citizens’ preparedness for extreme weather events; integration of adaptation measures into different sectors; development of the city; and seizing the economic and business opportunities presented by climate change. Some of the specific adaptation measures that have been implemented include stormwater management planning, flood risk mapping of the entire city, and distributing information materials to residents and businesses, in order to help them adapt. The document also highlights areas where adaptation is still needed, such as ensuring buildings like hospitals and eldercare homes can be kept cool during heatwaves, and managing the moisture levels of buildings, roads, and other infrastructure to prevent damage. Helsinki’s adaptation measures are based on a 4 degree increase in global temperatures. This means that if global temperatures are limited to below 2 degrees (the goal of the Paris Agreement), the City will be more than sufficiently adapted to climate change and extreme weather events. The City of Helsinki is a municipality which has taken serious action to mitigate climate change and adapt itself to extreme weather events. However, not all municipalities in Finland have made this much progress - as of 2019, only half of Finnish municipalities had a climate strategy, and only 60% of these covered climate mitigation and adaptation (Tuhkanen et. al., 2019).

## Latvia

Latvia has acted regarding climate change mitigation and adaptation later than Finland but has still committed to the goals of the Paris Agreement (Ministry of Environmental Protection and Regional Development, 2019) and has acted regarding climate change adaptation, passing its national Adaptation Plan for Climate Change until 2030 in 2019. This plan contains over eighty separate adaptation measures, including those to increase readiness for forest fires and improve infrastructure to manage increased precipitation and clouding (Tuhkanen et al., 2019). These adaptation measures are based on Latvia’s current climate and extreme weather, as well as scenarios for future extreme weather events, up until 2100. The adaptation measures in the Plan are grouped into five strategic objectives. The first strategic objective is to protect human life, health, and well-being from the adverse effects of climate change; adaptation measures under this objective include developing a national early warning system to help predict extreme weather events. The second strategic objective is to adapt Latvia’s economy to the adverse effects of climate change, and to seize the economic opportunities offered by climate change; adaptation measures here include improving the resilience of all sectors of the Latvian economy and promoting the adaptation of the tourism sector. The third strategic objective is making infrastructure and construction climate resilient; adaptation measures related to this objective include the use of ‘green infrastructure’ to reduce the impacts of climate risks on structures. The fourth strategic objective is

preserving Latvia's nature and cultural- and historical values; adaptation measures here include mitigating the impacts of climate change on ecosystems, preserving biodiversity, establishing a system to control the spread of invasive species, and protecting natural, cultural, and historical landscapes from extreme weather events. The fifth and final strategic objective is integrating climate adaptation into all sectors of the Latvian economy. Adaptation measures here include investing in research on climate change adaptation, integrating climate change forecasts into spatial development planning, and distributing information to the public. Latvia's national Adaptation Plan clearly recognises the many ways in which climate change threatens society and the many different adaptation measures needed to reduce the overall vulnerability of society. However, the total cost of these adaptation measures has not been calculated; in fact, the current national budget contains no additional funding for climate change adaptation (Tuhkanen et al., 2019). The Latvian government hopes that EU funding will cover around 25% of the total cost of climate change adaptation measures (Ministry of Environmental Protection and Regional Development, 2019), but great uncertainty remains as to how much the national government will invest in climate change adaptation. Furthermore, despite most adaptation measures taking place at the local level, the Adaptation Plan does not define the role of municipalities or regional governments in climate change adaptation, in fact, the Plan does not assign main responsibility of any of the measures included to the municipalities (Tuhkanen et al., 2019).

According to Ernšteins et al. in *Municipal Climate Change Adaptation Governance Latvia: Approaching Cross-sectorial and Multi-instrumental understanding*, there is a complete lack of municipal climate change governance in Latvia (Ernšteins et al., 2014) – in sharp contrast to Finland and Sweden. There is a lack of research, resources, and information provided to the municipalities by the national government, and, as a result, few Latvian municipalities have implemented adaptation measures or strategies. The first Latvian municipality to adopt a climate change adaptation strategy was the Salacgriva municipality, which did so in 2011 (Ernšteins et al., 2014). Since then, more municipalities have implemented adaptation measures, including Riga, which has adopted a climate adaptation plan to minimise the risk posed by floods and other extreme weather events.

Riga has come a long way in terms of climate change governance in the past few years. In 2014, Riga published 'Riga smart city: Sustainable Energy Action Plan 2014-2020' in which it committed to reducing CO2 emissions by just 20% by 2020 (Riga City Council, 2014a). In 2014, the 'Sustainable Development Strategy of Riga until 2030' and 'Development Programme for Riga for 2014-2020' were also published – "climate change" was not mentioned once in either plan (Riga City Council, 2014b). But in February 2021, the Mayor of Riga, Martins Stakis, signed the Paris Climate Declaration and set a new goal of Riga becoming the first climate-neutral city in the Baltic States by 2030 (Riga City Council, 2021b). Riga is also beginning to take more actions regarding adaptation to climate change. In previous plans, Riga has focused mainly on adapting to the risk of flooding. However, the 'Riga City Energy and Climate Action Plan 2022-2030' is currently being drafted, which aims to achieve a completely "climate-resilient Riga" (Riga City Council, 2021a) by reducing emissions and adapting to the

effects of climate change, like extreme weather events. Riga is also working with several regional organisations regarding climate adaptation. Riga is a member of the Covenant of Mayors, which supports the development of and implementation of local adaptation strategies (Covenant of Mayors); Riga has met with the European Bank for Reconstruction and Development, to discuss possible cooperation projects to help Riga become climate-neutral (Riga City Council, 2021c); and Riga was also involved in the EU Strategy for the Baltic Sea Region (EUSBSR) flagship iWater project, which focussed specifically on improving local stormwater management to reduce the risks posed by flooding (iWater).

## Sweden

Sweden introduced its current climate change policy framework in 2017. The framework is made up of three pillars - the Climate Act, the Climate Goals, and the Climate Policy Council - and sets out Sweden's implementation of the Paris Agreement (Government Offices of Sweden, 2021). The Climate Act was passed by Parliament in 2017 and places an obligation on the current, and all future Governments to adopt climate change policies based on the climate goals. These policies must be presented to and approved by Parliament. The Climate Goals include achieving net zero greenhouse gas emissions by 2045 and at least 70% reduction in emissions from transport by 2030. The Climate Policy Council is an independent expert group which reviews how well the Government's policies meet the Climate Goals and produces annual reports on Sweden's progress towards the Goals. The Council's 2021 report argues that the Government should view the COVID pandemic as an opportunity to implement bold new policies. However, the report argues that this opportunity has been "underutilised by the Government" (Swedish Climate Policy Council, 2021). Furthermore, the report states that Sweden's greenhouse gas emissions must be reduced by between 6-10% every year, for Sweden to reach its goal of climate neutrality by 2045. However, in 2019, emissions only decreased by 2.4%.

In 2018, Sweden introduced its first National Adaptation Strategy and increased the budget allocation for climate change adaptation to SEK 214 million (Tuhkanen et al., 2019). However, due to Sweden's decentralised political system, based on "municipal self-government," the municipalities have the primary responsibility when it comes to creating and implementing adaptation strategies (Ek. et al., 2016). The municipalities are supervised and supported by national agencies at the regional and national level, such as the Swedish Civil Contingencies Agency (MSB), the Swedish Meteorological and Hydrological Institute (SMHI), and the 21 County Administrative Boards.

One municipality which has made great progress in mitigating and adapting to climate change is Stockholm. In 2020, the City of Stockholm introduced its 'Environment Programme 2020-2023', which sets out the City's climate mitigation and adaptation goals. These goals include becoming fossil-free and climate-positive by 2040 and achieving a 'climate-adapted' Stockholm (City of Stockholm, 2020a). The City is aiming for not just climate neutrality, but climate-positivity by 2040; it hopes to achieve this by reducing the greenhouse gas emissions of each resident to a maximum of 1.5 tonnes of CO<sub>2</sub> per year, reducing the climate impact of consumption, electrifying the transport sector, and phasing-out fossil fuels from heating systems. This goal is far more

ambitious than Sweden’s national goal of net-zero emissions by 2045. The City is also being adapted to the effects of climate change. Adaptation policies focus primarily on the effects of torrential rain and heatwaves – as both phenomena are becoming more common for Stockholm and the rest of Sweden. The City is developing a risk analysis for torrential rain and heatwaves which will then be used to develop specific action plans. The City’s stormwater management system is also being improved by increasing the amount of water-absorbing surfaces in the urban environment. The City is also investing in temperature lowering measures in buildings and is identifying solutions to collect rainwater, so that this can be used during droughts. Stockholm has taken serious action to mitigate and adapt to climate change and was named the third best environmental municipality in Sweden in 2020 (after Helsingborg and Gävle) (City of Stockholm, 2020b).

Stockholm is a city comprising several islands, and thus it will naturally be affected by rising sea levels. Therefore, it should perhaps come as no surprise that Stockholm has put a lot of effort into and made significant progress in mitigating and adapting to climate change. Furthermore, since it is Sweden’s largest city, it therefore receives the most funding from tax revenue, helping to facilitate climate action. Across Sweden, smaller municipalities have not made as much progress in adapting to climate change than larger municipalities (Tuhkanen et al., 2019), due, in part, to the lack of coordination at the national level. Whilst the municipalities can apply for grants from national agencies to implement adaptation measures, the funding available is not enough to meet their needs. For example, in 2021, the total grant funding from the MSB was reduced to just SEK 25 million – one tenth of what the municipalities usually apply for (Swedbank, 2021). Therefore, for other municipalities to adapt to climate change as well as Stockholm, the amount of funding from the national level must be increased. The degree of autonomy that municipalities enjoy over climate adaptation may also need to change. The MSB has been criticised for not doing enough to reduce the risk of flooding, for example, but it has argued that it is limited in its actions by Sweden’s ‘bottom-up’ approach to politics (Lendelová, 2021).

## Analysis

*Table 2* provides an overview of the different stakeholders, their perceptions of climate change (sense-making), their framing of climate change (meaning-making), and when they might consider the crisis to be over (terminating). All of this is discussed in more detail below.

<b>Stakeholders</b>	<b>Perceptions of climate change</b>	<b>Framing of climate change</b>	<b>When the crisis might be considered over</b>
Finnish government	Biggest climate change-related risks: heatwaves,	Requires a whole-of-society	When emissions-reduction targets

	<p>forest fires, and droughts.</p> <p>Climate change as a threat to the nation's security of supplies</p>	<p>response.</p> <p>Threat to the nation's security of supplies.</p>	<p>have been met.</p> <p>When security of supplies has been achieved and protected from the risks posed by climate change.</p>
Latvian government	<p>Biggest climate change-related risks: increased precipitation and flooding</p> <p>Climate change as an opportunity to improve economic and regional development.</p>	<p>Economic opportunity, businesses should adapt to climate change in order to take advantage of this opportunity.</p> <p>Opportunity for regional development.</p>	<p>When emissions-reduction targets have been met.</p> <p>When economic and regional development is achieved.</p> <p>When businesses have taken advantage of climate change.</p>
Swedish government	<p>Biggest climate change-related risks: rising sea levels, flooding, and forest fires</p> <p>Climate change as an excess consumption issue.</p>	<p>Excess consumption issue.</p> <p>All individuals have a responsibility to reduce their consumption.</p> <p>Tackling climate change is linked to improving environmental quality and human health.</p>	<p>When emissions-reduction targets have been met.</p> <p>When the nation's consumption has been reduced.</p>
City of Helsinki	<p>Biggest climate change-related risks: flooding, heatwaves, and biodiversity loss</p>	<p>All individuals must prepare for climate change.</p> <p>Businesses should adapt in order to take advantage of the opportunities presented by climate change.</p>	<p>When the city has adapted to the risks posed by climate change.</p> <p>When all citizens are prepared for extreme weather events.</p>

			When businesses have taken advantage of the opportunities presented by climate change.
Riga City Council	Biggest climate change-related risks: flooding and biodiversity loss	All individuals should reduce their energy consumption.	When the city has adapted to the risks posed by climate change.  When individual citizens reduce their energy consumption.
City of Stockholm	Biggest climate change-related risks: flooding, heatwaves, and biodiversity loss  Climate change as a threat to human health.  Climate change as an excess consumption issue.	All individuals have a responsibility to reduce their impact on the environment by reducing their consumption.	When the city has adapted to the risks posed by climate change.  When air and water quality have been improved.  When individual citizens have reduced their consumption.

*Table 2*

*Table 2* highlights how actors perceive a crisis' impacts, how they frame it and at what point they can consider the crisis to be over.

### Sense-making

The first strategic leadership task is sense-making, which involves the detection of emerging threats, and understanding the unfolding crisis (Boin et al., 2017, p.23). Before decision-makers can actually make decisions regarding a crisis, they must first make sense of the crisis themselves. Sense-making requires mapping out and taking into consideration the needs, interests, concerns, and priorities of many different actors and how they are being affected by current events as well as how they may potentially be affected by future events.

Different actors perceive crises in different ways. Whilst all three countries in this Case Study perceive climate change to be an emissions-reduction problem, they perceive the risks posed by climate change differently. *Table 3* provides an overview of the main actors and how they perceive the climate crisis:

<b>Stakeholders</b>	<b>Perceptions of climate change</b>
Finnish Government	<p>Heatwaves, forest fires, and droughts as the biggest climate change-related risks.</p> <p>Climate change is perceived as a threat to the nation's security of supplies</p>
Latvian Government	<p>Increased precipitation and flooding as the biggest climate change-related risks.</p> <p>Climate change as an opportunity to improve economic and regional development.</p>
Swedish Government	<p>Rising sea levels, flooding, and forest fires as the biggest climate change-related risks.</p> <p>Climate change is perceived as an excess consumption issue.</p>
The City of Helsinki	<p>Flooding, heatwaves, and biodiversity loss as the biggest climate change-related risks.</p>
Riga City Council	<p>Flooding and biodiversity loss as the biggest climate change-related risks.</p>
The City of Stockholm	<p>Flooding, heatwaves, and biodiversity loss as the biggest climate change-related risks.</p> <p>Climate change is perceived as a threat to human health, as it contributes to reduced air and water quality.</p> <p>Climate change is perceived as an excess consumption issue.</p>

*Table 3*

Finland perceives the biggest risks posed by climate change to be heatwaves, forest fires, and droughts - as these are phenomena Finland has battled recently.

Finland has a history of striving for self-sufficiency in terms of food and energy supplies, therefore, the effects of climate change on agriculture and food production pose a significant threat to this core value. Latvia perceives the biggest risks to be increased precipitation and flooding; Latvia recognises many other risks posed by climate change, including forest fires, an increase in pests and pathogens, and heat strokes, but these are perceived as future threats, rather than ones that must be addressed now. Latvia, as the least economically developed of the three countries in this case study, also perceives climate change as an opportunity to improve the economy and regional development. Sweden perceives rising sea levels, flooding, and forest fires to be the main risks posed by climate change, although many other risks are identified in the national adaptation strategy. Sweden also perceives the crisis to be an issue of excess consumption, and steps to reduce consumption in favour of a circular economy are set out in its adaptation plans.

The City of Helsinki perceives flooding and heatwaves, as well as biodiversity loss, to be the biggest climate change-related risks. The City's adaptation measures include measures to protect and improve the city's biodiversity and water quality. Riga sees flooding as the biggest threat posed by climate change, as well as the threat of biodiversity loss. Finally, Stockholm perceives climate change as a crisis which affects the city in many ways, from flooding and heatwaves to biodiversity loss and reduced air and water quality. Stockholm also sees reducing consumption as one of the main ways in which it can tackle climate change.

#### *Who is being affected by the situation and in what ways?*

Finland, Latvia, and Sweden are all being affected by climate change in many ways: extreme weather events, rising sea levels, rapidly changing and extreme precipitation and temperatures, and new diseases. These will affect ecological stability, biodiversity, water and food security, and public health (due to increased stress and extreme temperatures). Finland has suffered from heatwaves and droughts, which have increased mortality rates and led to wildfires across the country. In Finland, mortality is lowest when daily temperatures are between 13 and 17 degrees Celsius (City of Helsinki, 2018) – but summers are increasingly becoming hotter than this, threatening to increase mortality rates throughout Finland. Finland is also especially vulnerable to forest fires, as 75% of the country is covered by forests (ClimateChangePost, 2022). Climate change is expected to increase the number of forest fire danger days in Finland by around 56-75% by 2029 (ClimateChangePost, 2022). Forest fires like the ones that burned three hundred hectares in 2021 are, unfortunately, going to become more common. Latvia has not been affected by climate change to the same extent as Finland and Sweden, however, as global temperatures rise, climate change will have worse effects for Latvia. Latvia's National Adaptation Plan for Climate Change until 2030 identified many risks that climate change will pose to Latvia in the future, these include changes in growing seasons, forest fires, an increase in pests and pathogens, tree diseases, the displacement of native species, the spread of respiratory diseases, heat strokes, floods, and many more risks (Ministry of Environmental Protection and Regional Development, 2019). In Latvia, precipitation has already increased and become more intense - the number of days with heavy or very heavy precipitation has



increased by two and one day, respectively, since 1961 (Ministry of Environmental Protection and Regional Development, 2019). Furthermore, by the end of the 21st Century, annual precipitation in Latvia is expected to have increased by 10-21% (Ministry of Environmental Protection and Regional Development, 2019). This will pose many risks for Latvia, including an increased risk posed by flooding. Climate change has already increased the risk and damage caused by flooding in Sweden. The risk posed by flooding has increased significantly during spring, as warmer temperatures lead to rapid snowmelt and higher water flows. Spring flooding in 2020, whilst expected, caused disruptions for many local communities, with one bridge being reported as at risk of collapsing (Copernicus, 2021). In the summer of 2020, northern Sweden suffered from heavy flooding, whilst the south of the country was being warned that the risk of forest fires had increased (Copernicus, 2021). In autumn 2021, the regions of Gävleborg and Dalarna suffered from flash flooding. Many houses, roads, and railway tracks were flooded, causing severe damage and disruption to transport. In Gävle, schools had to be closed and the police told residents to stay at home (Davies, 2021). By the end of 2021, extreme weather events, like flooding, had cost Sweden at least SEK 750 million (Swedbank, 2021).

As coastal cities, Helsinki, Riga, and Stockholm are all threatened by the increased risk of storms and flooding. Furthermore, urban areas typically have less water-absorbing surfaces (CliCNord, 2021), making them more vulnerable to flooding than more rural areas. As a result, flooding is addressed by all three cities' climate adaptation strategies. All three cities' adaptation strategies also include steps to protect biodiversity and water quality. Helsinki and Stockholm both highlight the increased risk of heatwaves and droughts and are taking measures to address these risks. Whilst Latvia's national Adaptation Plan reveals the risk of heatwaves and droughts will increase in the future, Riga has not addressed these risks in its adaptation strategy, revealing that the city does not currently perceive itself to be threatened by these phenomena.

Climate change threatens to put strain on public services across the BSR; research by the Union of the Baltic Cities (UBC) has revealed that Transport, Public health, and Water supply and sanitation services are the services most at risk (Paju, 2019a), however, many other services are also at risk. Climate change-induced extreme weather events put extreme pressure on emergency and rescue services and challenge the (municipal or national) government's ability to protect and provide for its citizens. Extreme weather events can also damage or even destroy critical infrastructure, from roads and railways to telephone and electricity lines, which society relies on to function.

#### *How are different groups perceiving the situation?*

Different groups perceive climate change and extreme weather events differently, based on the core values that they hold, and how the crisis is affecting these. Finland, Latvia, and Sweden are all concerned with their citizens' safety, which is being threatened by climate change and have, therefore, all taken action to address the climate crisis and adapt to climate change. However, Finland and Sweden appear to perceive climate change as a bigger, more existential threat than Latvia – Finland and Sweden introduced emissions reduction targets and adaptation strategies earlier than Latvia. This is likely

because climate change threatens the core values of more individuals in Finland and Sweden. For example, the way of life of the Indigenous Sami people in northern Scandinavia is threatened by climate change. Finland and Sweden's tourism industries - which rely heavily on winter sports-related tourism - are also at risk. Climate change is also being perceived as an opportunity by some groups. For example, farmers and those in the agricultural industry recognise that warmer global temperatures will make it possible to grow crops that currently cannot be grown in the BSR. Indeed, Politico suggests that average farmland values will increase across the BSR, by 2100 (Mathiesen et al., 2021). However, the agriculture industry will still be threatened by decreasing biodiversity, the introduction of new diseases, and extreme weather events, such as flooding, droughts, and forest fires. Indeed, in 2018, a drought in Sweden led to many farmers having to slaughter their animals as they did not have enough food for them (Zhuhan, 2018). This, of course, had long-term economic impacts on the industry.

For urban communities, there is also the issue of city planning and building communities that can endure the effects of extreme weather and rising sea levels. In the long-term, some communities may be forced to relocate or live with fewer resources, both of which have the potential to create conflicts over scarce resources and jeopardize social cohesion.

*What information do we have? What information do we lack? What information do we need and who can we get it from?*

One thing we do know is that weather patterns and extreme weather events are going to become less predictable. This is a big problem, as it will become harder to predict and effectively prepare for extreme weather events. Whilst we can predict which areas are going to be affected worst by climate change, these are only predictions. Therefore, all areas need to adapt and increase their resilience to climate change and extreme weather events.

Local communities need to know the specific threats that climate change poses to them, for example, by commissioning flood risk mapping of their municipality - or having such mapping done by national agencies. Flood and other risk mapping is vital if communities are to sufficiently adapt to the threats posed by climate change. The City of Helsinki created flood- and heat risk mapping to inform their adaptation policies; however, they did not just look at the areas which are at risk of flooding, but also the parts of the population which are vulnerable. The City mapped so-called "social vulnerability" to flooding and heatwaves, based on the average citizen's social and economic situation in different areas (City of Helsinki, 2018). The "social vulnerability" is highest in different areas from the risk maps that are based on geography alone. Mapping "social vulnerability" will allow Helsinki to focus adaptation measures on the parts of the population that are most vulnerable. Other States and Cities should follow in Helsinki's footsteps, in order to base their adaptation on social factors, rather than purely geographical ones.

National and municipal governments alike can access a wealth of information about climate change risks and hazards, risk assessments, mitigation, and adaptation from a number of regional institutions that operate across the BSR. The EUSBSR has, under its Horizontal Action 'Climate,' conducted a number of

regional flagship projects, like the CASCADE and iWater projects, which are relevant to climate change mitigation and adaptation. Both projects created toolboxes that local authorities can use to, for example, assess the climate change-related risk in their community, conduct risk assessments, and learn from other local authorities in the region. The CBSS and UBC Sustainable Cities Commission also have resources that local governments can use to help them adapt to climate change.

### *What core values are at stake?*

As discussed above, the core values of many different groups are threatened by climate change and extreme weather events. Sometimes the core values of different groups within society conflict with each other. One example of this is the conflict between the Sami people in northern Scandinavia and their national governments. Climate change is drastically affecting the Sami people. Warmer winters have led to an increase in the amount of 'basal ice' formation, when a layer of ice forms between the snow and the ground, making it hard, and sometimes impossible, for reindeer to access the moss and lichens they need to survive (ClicNord, 2021). However, the Sami are also being negatively impacted by policies designed to mitigate climate change. For example, the Norwegian government allowed two wind farms to be constructed in northern Norway, in order to increase renewable energy production. However, not only were the Sami people not consulted before the wind farms were built, but the wind farms had serious impacts on the Sami's practice of reindeer herding in the area (Buli & Solsvik, 2021) since the construction of the wind farms meant a large area could no longer be used for grazing, and the sight of and noise produced by the turbines frightened the reindeer. Eventually, the Norwegian Supreme Court ruled that the wind farms had to be deconstructed. Despite this ruling, Finnish energy companies are planning on building wind farms in the north of Finland, which has led to fierce opposition (Barents Observer, 2021). In Finland, reindeer husbandry is also threatened by plans to mine for precious minerals in reindeer herding areas. Studies by the Geological Survey of Finland have found deposits of nickel, copper, vanadium, and cobalt in the north of Finland – all these minerals are in high demand, as they are needed to produce electric vehicles (Barents Observer, 2020). Mining for these materials would boost Finland's economy and would lead to the production of more electric vehicles, helping to reduce fossil fuel emissions. However, mining in reindeer herding areas would be detrimental to the Sami people and their cultural practices.

Another group whose core values conflict with those of other groups is those working in the energy sector. Those working in the energy sector, specifically in fossil-fuel production, may be at risk of losing their jobs if countries completely divest from fossil fuels without ensuring workers in the energy industry have the relevant transferable skills and opportunities to seek employment elsewhere. In countries where fossil fuels make up a larger share of energy consumed, such as Latvia, where fossil fuels make up 56.7% of all energy consumed (World Bank), divesting from fossil fuels in order to meet net-zero emissions targets threatens the core values of some individuals.

Decision-makers have the incredibly challenging task of addressing the climate change crisis whilst also protecting the core values of the groups mentioned

above, and any other groups who may be negatively impacted by climate mitigation and adaptation measures.

*What are our interests? Priorities? What do we not prioritize? What are those with whom we should and need to cooperate with in managing this situation?*

All governments have to prioritise reducing greenhouse gas emissions, as their pledges to do so in the Paris Agreement are legally binding (UNFCCC, 2020). Whilst there is no legal requirement to adopt climate adaptation measures, many governments are doing so, as they recognise the threats that climate change and extreme weather events already pose to their citizens and society as a whole. In Finland and Sweden, there have been many extreme weather events recently, exacerbated by climate change, which have posed serious threats to the safety and security of many different communities. Therefore, adapting to current and future extreme weather risks is a priority for both municipal and national governments alike. In Latvia, the effects of climate change have not been as drastic, although they have still had serious impacts. This could be the reason that adaptation to climate change has moved up the political agenda much slower in Latvia than in Finland and Sweden – of the three countries in this Case Study, Latvia was the last to introduce a national climate adaptation strategy, and Riga was also the last of the three cities to do so. Another reason for this could be that Latvia has been focussing more on climate mitigation and emissions reduction than adaptation. As mentioned above, most of the energy consumed in Latvia comes from fossil fuels, while this is not the case in Finland or Sweden. Therefore, the Latvian government has much more work to do in order to reduce Latvia’s greenhouse gas emissions, and, as a result, emissions reduction has been prioritised over adaptation. A further reason emissions reduction is prioritised over climate adaptation could be the cost of adaptation. Adaptation measures are very costly, and the results of these are typically seen in the long-term, rather than the short-term. This could make it difficult for decision-makers to justify spending taxpayer money on adaptation measures when there are other policy areas in need of investment.

Since climate change affects all of society, decision-makers must cooperate with as many community members and actors as possible in tackling climate change and extreme weather. The need for whole-of-society and cross-sectoral approaches was highlighted by the IPCC in their 2022 Assessment Report: according to the IPCC:

Effective and equitable climate governance builds on engagement with civil society actors, political actors, businesses, youth, labour, media, Indigenous Peoples and local communities (IPCC, 2022).

As highlighted by the IPCC, cooperation with as many actors as possible not only makes climate mitigation and adaptation more effective, but also more equitable, as the decisions made will consider the core values and interests of more actors. As an international institution, the IPCC also stresses the need for international cooperation, calling this a “crucial enabler” (IPCC, 2022) of climate change mitigation.

As discussed above, there are several regional organisations in the BSR and projects that decision-makers should interact with for help in mitigating and

adapting to climate change. However, there are also several actors on the local level who governments must cooperate with for their policies to be conducted successfully.

For example, local emergency services are often the first to respond to crises such as extreme weather events. Therefore, their experience and opinions should be taken into consideration by decision-makers. For example, when considering adaptation to the increased risk of forest fires, municipal fire brigades must be included in the decision-making process, as they are the ones with the most experience – and they are the ones who will have to fight any forest fires that occur. Decision-makers must also cooperate with municipal police forces, as they play a role as first responders, and are tasked with upholding public order and safety during crises.

The police and military must be included in decision-making, as climate change may result in conflicts over scarce resources and increased crime rates. The police and military must be informed of the threat climate change poses to national security and public safety, and the steps decision-makers are taking to reduce the vulnerability to this threat.

City planners also have concerns that should be taken into consideration. Cities and their infrastructure will be impacted by extreme weather events, such as flooding, and rising sea levels. City planning can also play a key role in reducing the risks posed by climate change, for example, by improving flood management systems, and including more green space in cities in order to preserve biodiversity. With regards to adapting to the risk of flooding, decision-makers must also cooperate with private landowners and dam owners, as their actions will have a significant impact on the risk of flooding in the area. The City of Växjö in Sweden recognised the importance of having good communication with dam, land, and homeowners and set up a coordination team in order to facilitate this communication (Paju, 2019b) The municipality now communicates regularly with dam owners and other stakeholders to ensure they are fulfilling their responsibilities to keep the risk of flooding as low as possible.

The concerns of farmers must also be taken into consideration. Farmers' livelihoods are threatened by extreme weather events (from flooding to droughts and forest fires) and the introduction of new species, pests, and diseases; therefore, farmers must be included in the decision-making process. Farmers can also play a key role in adapting to climate change, for example, by improving the irrigation on their land to prevent flooding, collecting rainwater to use during drought, and taking steps such as planting hedgerows to preserve biodiversity. The concerns of farmers are especially important since their ability to produce various products is linked to food security. Should a farmer's crops fail, this will not only have serious economic impacts for that farmer but will also mean there is less food available to the public, increasing scarcity and driving up prices.

The presence of new pests and diseases poses a threat not just to crops and animals, but also to humans. Indeed, climate change has increased the risk of vector- and tick-borne diseases and has also increased the risk of viral pandemics. As a result, the healthcare sector must be communicated with, so that they are prepared and able to provide the appropriate care, should any of

these risks materialise. The increase in heatwaves and drought in the BSR has also placed the healthcare sector under immense pressure. Both events lead to an increase in hospitalisations and threaten those individuals already in hospital. Hospitals should, therefore, be given as much warning as possible of heatwaves and droughts, so that they are able to prepare for increased hospitalisations.

Since the elderly are particularly vulnerable to the heat, elderly care centres must also be given advanced warning of heatwaves and must be included in the decision-making process. The concerns of elderly care centres must be taken into consideration, as the elderly are particularly vulnerable to different crises.

Finally, the public must be included and listened to in the decision-making process. In order to decrease society's vulnerability to different crises, public knowledge and preparedness must be increased. Decision-makers should communicate with the public in order to increase their understanding of the different threats posed by climate change, and the ways in which they can decrease their own vulnerability. For example, the public should be made aware if they need to stockpile certain foods, water, or medicine; the public should also be told what to do in the event of different emergencies.

#### *Is this situation acute or is it burning slowly in the background?*

Many climate change-induced crises appear to be fast-burning. Crises such as forest fires, flash floods, and landslides all happen incredibly quickly, require an immediate response, and (when the crisis response is sufficient) are over quickly. However, fast-burning crises are characterised by the simultaneous termination of crisis response efforts and political and public attention to the crisis (Boin et al., 2017, p.104). This does not happen with climate change-induced crises and extreme weather events: even after the crisis response efforts have stopped, many questions about recovery, reconstruction, and preparedness for future crises remain. Furthermore, every extreme weather event, no matter how quickly it is addressed, highlights the devastating impact of climate change, ensuring that questions about climate change mitigation and adaptation stay in people's minds, in the media, and at the top of the political agenda. There are also many effects of climate change that are likely to occur in the future unless greenhouse gas emissions are reduced rapidly. Water levels in the Baltic Sea will increase further, leading to coastal flooding and erosion; new plant species will cultivate, introducing new pests and diseases and threatening biodiversity; and the risk of viral pandemics will be increased significantly.

There are strong indications that climate change has created a significant paradigm shift and that we will have to accept a "new normal." Therefore, we must not only rebuild those communities devastated by climate change due to rising sea levels and extreme weather events, but we will need to build up the resilience of our communities to the new normal conditions (rapidly changing and extreme temperatures, precipitation, and weather events)

## Decision-making

#### *What decisions shaped or deeply influenced the course of the case?*

The most influential decision in recent history was, of course, the signing of the Paris Agreement, which obliges all Parties to take active steps to limit global

warming to under 2 degrees Celsius (above pre-industrial levels) (UNFCCC, 2020). The Paris Agreement also covers adaptation to climate change and stresses that the Parties must enhance their communities' resilience to climate change-induced crises, such as extreme weather events. The Paris Agreement has influenced policy-making across the BSR: Latvia's National Adaptation Plan for Climate Change until 3020, and Sweden's Climate Act and National Adaptation Strategy were all created after the Paris Agreement was signed, and honour the commitments found in the Agreement. Although Finland's Climate Change Act was passed a few months before the Paris Agreement negotiations began, Finland's goal of carbon neutrality by 2035 was set after the Agreement came into force (Ministry of the Environment Finland). All these decisions may have been made even if the Paris Agreement was not signed, but it is clear that the Agreement has had an impact on the decision-making process across the BSR.

Whilst decisions at the national level have had an impact on climate mitigation and emissions reduction, decisions made at the municipal level have had a significant impact on local adaptation to climate change. Recently, all three cities in this Case Study have created, or started to draft, climate adaptation strategies, with Helsinki adopting its Climate Change Adaptation Policies in 2019, Stockholm adopting its Environment Programme in 2020, and Riga currently drafting its Energy and Climate Action Plan.

Not all decisions have had a positive impact, however. Sweden's decision to decrease the total grant funding available for municipalities to finance their adaptation measures, for example, will have certainly led to some municipalities not being able to adapt to climate change as well or as quickly as they had hoped. Along a similar line, Latvia's decision not to include additional funding for climate adaptation in its annual budget in 2019 will have had similar negative effects on local communities across Latvia.

*Who has the responsibility, mandate, and legitimacy/public trust to make the necessary decisions?*

Political leaders and national governments have the primary responsibility to make the necessary decisions. It is national governments that must pass climate change-related laws in order to, for example, reduce emissions and provide funding for climate adaptation. It is also world leaders who negotiated the important Paris Climate Agreement and Glasgow Climate Pact (COP26, 2021a). National Parliaments also have the mandate to make decisions and scrutinise the decisions made by the government. Indeed, the climate change acts in Finland and Sweden oblige the countries' governments to present their progress on fighting climate change to Parliament. In Finland, even the non-national Parliament, the Sami Parliament, has been included in the decision-making process (Ministry of the Environment Finland). However, Parliaments are made up of politicians who are often not experts on climate change. Therefore, it is important for experts in the field – scientists – to take part in the decision-making process. This is the case in Finland and Sweden, where independent, interdisciplinary bodies are tasked with reviewing and scrutinising the Governments' climate policies. These bodies may be seen as more legitimate since they are intended to be impartial.

At the local level, it is local governments that have the mandate to make decisions concerning climate mitigation and adaptation. Here, just like at the national level, political leaders have the responsibility to make decisions, but experts should also be included in the decision-making process. When it comes to climate mitigation, cities and other urban areas have a responsibility to reduce their greenhouse gas emissions through reducing their energy and material consumption, electrifying their transport sectors, and increasing carbon storage capacity in the urban environment (IPCC, 2022). Helsinki is doing this through taking action to reduce the city's emissions, promoting a 'circular economy,' and investing in the city's green spaces, which can capture carbon dioxide and other pollutants. Stockholm has also taken action to reduce its greenhouse gas emissions, through promoting renewable energy and electrifying the city's transport sector and investing in the preservation of green space; the City is also encouraging its citizens to reduce their consumption to reduce the city's overall environmental impact. Riga has taken action to reduce the city's greenhouse gas emissions through the promotion of rational energy use and renewable energy sources; however, the City has focused on reducing energy consumption, rather than also looking at other types of consumption, such as food consumption, which have a high environmental impact.

The effects of climate change, such as extreme weather events, are felt primarily on the local level, therefore local governments also have a responsibility to make decisions regarding adaptation, in order to reduce their community's vulnerability to different risks. Municipal governments should strive to work with the emergency services, local companies and businesses, private landowners, and citizens, so that the decisions made are considerate of the different values, interests, and experiences of these groups.

Recently, climate activists have had a significant impact on the global fight against climate change. Greta Thunberg, for example, has played a huge role in the debate about climate change and has influenced decision-making not just in Stockholm and Sweden, but the entire world. Whilst Thunberg does not have the appropriate expertise or knowledge to drive policymaking, this is something she gladly highlights. Thunberg wants decision-makers to listen not to her, not to corporate lobbyists, but to scientists.

Private companies also have a responsibility to take steps to tackle climate change, specifically energy providers, car manufacturers, and other companies that either emit substantial amounts of greenhouse gasses or contribute to pollution in other ways. Energy providers must shift away from fossil fuels towards renewable energy so that we can reduce greenhouse gas emissions without compromising our access to energy and electricity. Larger energy providers with a higher profit margin should set an example by investing in the development of renewable energy technology and the construction of renewable energy sources. Since a significant amount of greenhouse gas emissions come from transport, car manufacturers have a responsibility to invest in hybrid and electric vehicles, so that individuals can still enjoy the freedom associated with being able to drive a vehicle, whilst also reducing their own carbon footprint. Of course, for more people to choose to drive electric vehicles, more electric vehicle charging points need to be built; currently, national governments are the ones investing in this, but perhaps car manufacturers should also be responsible for



this, so that the electrification of the transport sector can happen quicker. Other private actors that should take action to tackle climate change are fast fashion companies and other companies whose business model relies on excess consumption. Fast fashion, in particular, is responsible for an incredible amount of waste and pollution. Therefore, fashion and clothing companies have a responsibility to move away from their current business models towards more sustainable ones. However, doing so is likely to increase the costs of production which could result in clothing becoming more expensive. This presents a problem for consumers, who will not want to pay more for their clothes.

As individuals, we must make the decision to consume less in order to reduce our environmental impact. Excess consumption is one of the drivers of climate change, as it leads to greenhouse gas emissions, pollution, and waste. As consumers, we need to not only choose more sustainable options (even if these options are more expensive), but we must also make the decision to consume less. For example, sustainable fashion may be much more expensive than fast fashion, but if we choose to buy only what we need, and repair clothes that get ripped or torn - rather than simply throwing them away - we can end up spending less in the long-term and will have a much lower impact on the environment. Another way we as individuals can reduce our environmental impact is by changing our diets towards what the UN and IPCC call “sustainable healthy diets.” These are diets that promote individual health whilst also having a lower environmental impact (IPCC, 2022). ‘Sustainable healthy diets’ involve eating more plant-based foods and choosing animal-sourced foods that have been produced in sustainable, low greenhouse gas emitting systems (IPCC, 2022). Currently, plant-based, and sustainable foods are more expensive than other foods, therefore, governments may have to play a role in promoting ‘sustainable healthy diets,’ for example, by subsidising sustainably produced foods, and by promoting local products. This would also benefit local farmers and the national agriculture industry.

Farmers and those in the forestry industry also have a responsibility to take action to limit the negative effects of climate change. Through sustainable crop and livestock management, farmers can help reduce our impact on the environment (IPCC, 2022); sustainable livestock management, specifically, has the potential to reduce methane and other greenhouse gas emissions. The forestry industry can play a significant role in climate mitigation, through the sustainable management of forests and the conservation of ecosystems (IPCC, 2022) this can provide society with sustainable wood products, as well as protecting our biodiversity and reducing the threat that climate change and invasive species pose to our ecosystems.

*How do we ensure a decision-making process so we can maintain public trust, legitimacy and credibility among our citizens, strategic partners, and others?*

The more people involved in the decision-making process, and the more diverse their backgrounds, the more legitimate the decisions will be perceived as. Therefore, including citizens, businesses, and other partners in discussions is a great way to maintain credibility. For example, COP26 and previous COPs included not just world leaders, but also businesses, members of civil society, young people, Indigenous leaders, activists, and the media (COP26, 2021b).

Holding public consultations, Citizens' Juries, like in Finland (Ministry of the Environment Finland), and schemes like the European Climate Pact (European Commission, b) allow more people to take part in the decision-making process. If ordinary citizens can feel like they have been listened to and have been given an opportunity to influence policy, the policies made will enjoy more support from the population. Doing this will also ensure that different actors' core values and interests are taken into consideration during the decision-making process. It is also incredibly important to discuss climate change policies with those groups of the population who are most at risk from the effects of climate change. For example, the Finnish, Swedish, and Norwegian governments must make more of an effort to communicate and cooperate with the Sami people. Another key to maintaining a legitimate and credible decision-making process is transparency. The more transparent decision-makers are, the more likely they are to maintain public trust. Transparency is also key - the more transparent we are throughout the decision-making process, the easier it is to maintain public trust. One way for governments to maintain transparency is by publishing annual reports as this allows Parliament and the public to see how much progress they are making.

*How do we create an inclusive, forgiving, and secure atmosphere conducive to conducting an open and constructive dialogue by drawing upon and utilizing common ground and differences?*

Climate change is constantly evolving, and as it does the information we have available to us, and our understanding of the crisis, changes. This means that decision-makers may, undoubtedly, make decisions that they later look back on and may regret. When this happens, decision-makers should be able to admit they were wrong in the past without fear of being criticised by opposition politicians. Party politics should not distract us from the ongoing crisis and the work we still have to do to mitigate and adapt to climate change. Decision-makers should be encouraged to ensure that their policies are always in line with the latest science and other relevant information. Likewise, it is important for decision-makers to document the information they have at hand when making decisions so that they can explain later and motivate why a decision was made, before "new" information was known.

Municipal governments may choose not to prioritise adapting to heatwaves, for example, if they believe they do not pose a significant threat to their community; however, if a risk assessment reveals the risk posed is greater than originally thought, the earlier decision must be reversed. This should not be framed by opposition politicians or the media as a 'U-turn,' but rather an example of decision-makers following science. Ultimately, it is up to all of us to create an inclusive and forgiving atmosphere through, for example, our discourse online.

*What are the potential consequences of the various alternatives we have for coping with the situation?*

There are many potential consequences of the current decisions being implemented across the BSR. Mitigating and adapting to the effects of climate change has the potential to uphold many actors' core values, by reducing the risk posed by extreme weather events, protecting the biodiversity of our ecosystems, improving livelihoods, and ensuring food and water security. However, mitigation and adaptation measures can also have negative

consequences. For example, some adaptation measures, such as building dams on rivers to reduce the risk of flooding or clearing areas of forest to reduce the spread of forest fires, may lead to conflicts over land use and ownership, as well as negatively impact some individuals' livelihoods. Therefore, adaptation measures must be designed in a way that limits these negative impacts. In some areas, adaptation measures will have more negative consequences than positive consequences; these areas can be said to have a lower "adaptive capacity" (IPCC, 2022). Decision makers must be aware of all possible consequences of their decisions and may choose not to implement certain measures in areas with lower adaptive capacities.

As well as the current decisions being implemented, there are also alternative options that could be taken. Ultimately, which option decision-makers choose to take is based on which core values they choose to prioritise. One alternative is prioritising national economies which could lead to less commitment to reduce emissions and could see governments taking money for climate adaptation and investing it in other areas. This may have a positive short-term impact on the economy and people's livelihoods; however, it would have a negative impact – not just on the climate, as the world would be less likely to limit global warming to under 2 degrees Celsius, but also on local communities, who would remain at risk of extreme weather events.

Another alternative is to prioritise climate mitigation and adaptation over economic factors. For example, fully phasing-out fossil fuels and investing enormous amounts into climate adaptation. This would have a profound impact on the climate and would make communities less vulnerable to extreme weather events. However, it would negatively impact the core values of many people – from those in the fossil fuel industry, to low-income households.

Therefore, decision-makers must find a balance between economic factors and combating climate change. The EU provides a great example of this, by linking social and economic recovery from the Pandemic to combating climate change (European Commission, a). EU funding is being provided to the member states in such a way that economic needs and climate mitigation and adaptation are both addressed.

#### *How should these decisions be implemented? Coordinated?*

According to Boin et al., the implementation of a crisis response is arguably more important than the actual decisions made (Boin et al., 2017, p.50). This means that the implementation of climate mitigation and adaptation measures, and the coordination between a number of different actors is incredibly important. Decisions made at the national level have to be implemented by actors at the local level, therefore communication and coordination between national governments and their municipalities is vital. In Finland, the Ministry of Forestry and Agriculture coordinates between the national and municipal level and is responsible for ensuring municipalities are in line with the national adaptation strategies. There may be no agency coordinating between the municipalities themselves, but this is compensated by high levels of communication and cooperation between the municipalities. In Latvia, however, there appears to be a lack of coordination between the national government and municipalities, and between the municipalities themselves. In Sweden, the municipalities remain

highly autonomous, however they are supervised and supported by national agencies and the County Administrative Boards. These Boards function as a stepping-stone between the national and municipal level and are responsible for coordinating the adaptation strategies of all the municipalities in each County. All 21 Boards have created Country adaptation strategies – ensuring each municipality is on the right track and making sure municipal adaptation strategies are in line with Sweden’s national goals (Tuhkanen et al., 2019).

There are several platforms in the BSR that allow municipalities to coordinate their decisions with other municipalities across the region. For example, the Covenant of Mayors encourages Mayors from across Europe to share the steps they are taking to mitigate and adapt to climate change and allows municipalities to learn and draw inspiration from each other’s best practice (Covenant of Mayors). Within the BSR, there are currently 362 signatories to the Covenant. The EUSBSR’s Baltadapt project also encouraged information sharing between municipalities, organisations, and countries, and was specifically focused on adaptation to climate change (Andersson, 2013). The project created a strategy for implementing adaptation strategies that any decision maker can use to assist them in implementing adaptation plans. Finally, the UBC’s Sustainable Cities Commission allows for cooperation and networking between different cities within the BSR in order to coordinate and improve adaptation to climate change. The Commission offers training on integrated management of climate change responses in order to improve the sustainability and resilience of cities across the BSR. The Commission also encourages their member cities to disclose their adaptation measures and progress to CDP – an organisation that gathers information and reports on climate change mitigation and adaptation (Maharramli, 2021). By disclosing to CDP, cities can highlight their progress, maintain transparency, and inspire other cities across the world.

### Meaning-making

Each actor has framed climate change in different ways. *Table 4* provides an overview of the different actors and their framing of the crisis:

Stakeholders	Framing of climate change
Finnish Government	Requires a whole-of-society response. Threat to the nation's security of supplies.
Latvian Government	Economic opportunity, businesses should adapt to climate change in order to take advantage of the opportunities it presents. Opportunity for regional development and increased equality.
Swedish Government	Excess consumption issue.

	<p>All individuals have a responsibility to reduce their consumption of energy, food, and other goods.</p> <p>Tackling climate change has also been linked to improving environmental quality and human health.</p>
The City of Helsinki	<p>All individuals must prepare for climate change and climate change-induced extreme weather events.</p> <p>Businesses should adapt in order to take advantage of the opportunities presented by climate change.</p>
Riga City Council	<p>All individuals should reduce their energy consumption, in order to help the city reach its emissions-reduction targets.</p>
The City of Stockholm	<p>All individuals have a responsibility to reduce their impact on the environment by reducing their consumption of energy, food, and other goods.</p>

*Table 4*

Finland has framed the crisis as an emissions-reduction issue, and an issue that requires a whole-of-society response: individual citizens have a responsibility to reduce their impact on the environment, and also have a responsibility to be prepared and know what to do in the event of an emergency. As Finland has a long history of self-sufficiency regarding food supplies, the threat that climate change poses to agriculture and food production is significant. Therefore, the stockpiling of certain foods in case of emergencies is a key message. Latvia has framed the crisis as not just an emissions reduction issue but also an economic opportunity that can be taken advantage of to create equal opportunities and decrease inequality in the country. One of Latvia’s main messages involves linking climate change adaptation with increasing regional development. Sweden has framed the crisis as both an emissions reduction and excess consumption issue; some of Sweden’s main messages include the responsibility of the individual to reduce their excess consumption and choose environmentally friendly alternatives to different products. Tackling climate change has also been linked to improving environmental quality and improving public health by, for example, reducing air pollution.

Each of the cities in this case study has also framed climate change differently, although they have all highlighted the responsibility of the individual citizen. Helsinki has framed climate change as something all citizens must prepare for, by stockpiling certain foods and other items in case of an emergency. Helsinki has also framed climate change as an economic opportunity that businesses should take advantage of. Riga has framed climate change as chiefly an emissions-reduction issue. The City has called on all citizens to reduce their energy consumption in order to help Riga reach its emissions-reduction targets. Finally, Stockholm has focussed on the role of the individual citizen to reduce their consumption of energy, food, and other goods, in order to reduce their environmental impact.

*How do we want to frame the situation? What are our main messages?*

Meaning-making is defined as “the attempt to reduce public and political uncertainty and inspire confidence in crisis leaders by formulating and imposing a convincing narrative” (Boin et al., 2017, p.79). Meaning-making is all about framing a crisis in a way that reassures the public and justifies a particular response. An effective frame has to do at least five things: offer a credible explanation of what has happened; offer guidance; instill hope; show empathy; and suggest that leaders are in control (Boin et al., 2017, p.87).

One example of such an effective frame is the framing of climate change as an emissions-reduction issue. Many decision-makers have highlighted the importance of reducing emissions and reaching net-zero emissions in order to fight climate change. This narrative explains that greenhouse gas emissions have caused global warming, which has, in turn, increased the risk posed by extreme weather events. This is a very simple and easy-to-understand explanation of climate change, therefore, it is an effective way of framing the issue. This narrative offers guidance by calling on citizens, businesses, and organisations to reduce their greenhouse gas emissions, in order to do their part to fight climate change. This narrative instills hope, by suggesting that if we reach our emission reduction targets, we will be able to exit the crisis. By suggesting that we can reach these targets in the next ten years, leaders offer a great deal of hope that the crisis will be over soon – even if this may not be the case. This narrative shows empathy, as it is based on the idea that we should all reduce our emissions in order to protect those who are most vulnerable to the effects of climate change. For example, leaders in the Global North have acknowledged that their emissions directly hurt those in the Global South. Reducing emissions is justified with reference to those individuals and communities who are most at risk. This framing suggests leaders are in control of the crisis. By setting targets, and meeting those targets, leaders can argue that they are in control of the crisis response. Furthermore, after setting emissions reduction targets, leaders can then pass the responsibility to meet those targets on to those actors responsible for the most reductions. Therefore, even if targets are not met, leaders can argue that they did all they could do by setting the targets in the first place.

All the countries and cities in this Case Study have framed the crisis as an emissions-reduction issue, as they have all set emissions-reduction targets. However, some actors have communicated different messages, and framed the

crisis in additional ways. Finland and Sweden have both framed the crisis as a land-use planning and flood risk management issue; both countries have highlighted the need to integrate climate adaptation into land-use regulations and stormwater management. Helsinki, Riga, and Stockholm have also all framed the crisis in this way, by focusing much of their adaptation on reducing the risk of flooding by increasing their stormwater management systems' capacity to manage higher water levels.

The crisis is also being framed as one which requires a whole-of-society response. Finland has framed the crisis this way, and has involved many different stakeholders in the creation of climate change policies; Sweden has also framed the crisis this way by highlighting that it is individual landowners' responsibility to maintain the waterways and any water management infrastructure on their land (Lendelová, 2021); Helsinki has highlighted that it is the responsibility of every citizen to prepare for emergencies by stockpiling certain foods and ensuring they know what to do in the event of an emergency (Helsinki Safety); Stockholm has also framed the crisis in this way by highlighting both the individual and collective responsibility to reduce excess consumption and live more sustainable lives. Stockholm has framed the crisis in many ways, including as a consumption issue. In Stockholm's Environment Strategy, one of the goals set out is to reduce the climate impact from consumption, particularly from food consumption (City of Stockholm, 2020a). The city has also taken part in "Minimeringsmästarna" (The masters of minimisation), a national competition in Sweden that supports and inspires families to live more sustainable lifestyles by competing with other families to see who can reduce their consumption the most (City of Stockholm, 2021). Helsinki has also framed the crisis as a consumption issue and has launched a circular economy project in order to reduce excess consumption (City of Helsinki, 2020a). Stockholm has also framed adaptation to climate change as a health issue. The City has linked adaptation to reducing air and noise pollution, in order to both tackle emissions and make the city healthier (City of Stockholm, 2020a). The promotion of the electrification of vehicles, environmental zoning, the use of sound-absorbing architecture, and speed reduction have all been linked to both emissions reduction and air- and noise pollution reduction. The City's Environment and Health Committee also has the responsibility to follow up on the actions taken by different authorities to achieve these goals, further revealing the link between reduced pollution and health. Latvia has framed the crisis in different ways, focusing mostly on emissions reduction and the economic implications of adaptation. Latvia has framed adaptation to climate change as an issue of promoting equal opportunities: Latvia's 'National Development Strategy 2021-2027' links adaptation to climate change with increasing regional development, decreasing the inequality between different areas of the country, as well as increasing the public's trust in the state (Cross-Sectoral Coordination Centre, 2020). Riga has framed the crisis mostly as an emissions reduction one, focussing on setting emissions reduction targets, increasing the energy efficiency of the city, and promoting the use of renewable energy (Riga City Council, 2014a).

Different decision-makers have crafted many different messages and have framed the crisis in many ways. Whilst all actors have framed climate change as an emission- and flood risk reduction issue, Stockholm has framed the crisis in

many ways - by linking the crisis response to consumption and health. By framing the crisis in different ways, Stockholm can justify many different mitigation and adaptation measures which tackle all of the different impacts of climate change. Furthermore, by linking the crisis to many different issues, Stockholm has highlighted how the crisis affects the core values of the entire population, making it more likely that the city's citizens will support mitigation and adaptation measures.

Climate mitigation and adaptation measures must be framed in a way that links them to the core values and interests of different actors, so that these measures are understood and supported by different groups within society. This is especially true if mitigation or adaptation measures could be perceived as posing a threat to some actors' core values. For example, some measures may impact competing demands on land, leading to conflicts over land use and ownership (IPCC, 2022). For example, the Norwegian government approved the building of wind farms in northern Norway which led to conflicts with the local Sami population over land use and their inherent right to practice reindeer husbandry in the area (Buli & Solsvik, 2021). Had the Norwegian government held a conversation with the Sami people in the area, explained their decision, and framed it in a certain way, perhaps there would have been less resistance to the wind farms. The Sami people are particularly vulnerable to the effects of climate change, as warmer temperatures has led to increased basal ice formation, which can prevent reindeer from grazing. Therefore, the building of wind farms, which would reduce Norway's use of fossil fuels, reducing greenhouse gas emissions, could have easily been linked to everyone's shared interest of reducing greenhouse gas emissions in order to mitigate the effects of climate change. It is vital that decision makers communicate with all relevant actors and frame mitigation and adaptation measures in a way that highlights how these measures provide "co-benefits" (IPCC, 2022) for all actors. Mitigation and adaptation measures should be designed in a way that conserves biodiversity, strengthens ecosystems, improves livelihoods, increases food and water security, and upholds the rights of Indigenous Peoples and local communities (IPCC, 2022). Providing these co-benefits addresses the core values and interests of many different actors, from individuals to society as a whole. By framing mitigation and adaptation measures in a way that highlights some of these co-benefits, decision makers can ensure their support from different actors.

*How can and should we communicate our actions and decisions? To whom?  
Via what channels/actors?*

Since leaders' decisions are often implemented by other actors, these decisions must be communicated to the actors responsible for implementing them. This means governments must establish effective communication with national agencies, municipalities, and local actors, as well as organisations at the regional level. To successfully frame the crisis in the way they want it to be framed, decision-makers must make effective use of both traditional and social media. By being active members of organisations such as the Covenant of Mayors, UBC Sustainable Cities Commission, and others, decision-makers can highlight the progress they have made to other governments and can attempt to have their framing replicated by other decision-makers.



*In what way do we need to communicate in order to uphold trust, legitimacy, and credibility?*

In order to uphold trust, legitimacy, and credibility, crisis leaders must formulate effective narratives and frame the crisis in a way that justifies the actions they wish to take. The first narrative that must be created is framing the crisis as a “crisis” – after this happens, crisis response can be activated. Recently, the EU and City of Helsinki have declared an official “climate emergency” (European Parliament, 2019), clearly framing climate change and extreme weather events as a “crisis”. Whilst the national governments of Finland, Latvia, and Sweden have not officially declared a “climate emergency,” they have used labels like ‘crisis’ when talking about climate change and extreme weather events.

Crafting convincing narratives that meet the criteria mentioned above, communicating clearly, and maintaining transparency at all times are also incredibly important if decision-makers are to uphold trust, legitimacy, and credibility. Should decision-makers fail to put forward a convincing narrative in time, other actors may put forward alternative narratives which could threaten the perceived legitimacy of crisis leaders. It is, therefore, in crisis leaders’ best interest to establish convincing narratives as soon as possible.

However, since different actors and groups have different core values and interests, it is unlikely that any one narrative would speak to all these needs and interests in a way that would justify the crisis response for all groups within society. Therefore, decision-makers may need to craft slightly different narratives when addressing different groups, in order to effectively link the crisis and crisis response to their core values and interests. Decision-makers must ensure, however, that these different narratives do not conflict or contradict each other, as this would undermine their perceived legitimacy and credibility.

*What messages are being communicated by other actors? Are they helpful for us or are they malicious? Do we need to formulate a number of common key messages and what should they be?*

Climate change activists have been incredibly successful in framing climate change as the crisis that it is considered today. Greta Thunberg helped frame climate change as a crisis through her use of emotive language. Thunberg told the UN: “People are suffering. People are dying, entire ecosystems are collapsing. We are in the beginning of a mass extinction and all you can talk about is money and fairy tales of eternal economic growth.” (NPR, 2019) This speech captured the world’s attention and demanded world leaders do more to fight climate change. Greta Thunberg has successfully filled a “meaning-making vacuum” (Boin et al., 2017, p.80) created by world leaders’ reluctance to frame climate change as the crisis it is. By filling this vacuum and crafting such a (now) widely accepted narrative of climate change, Thunberg has become a well-respected, trusted, and legitimate voice when it comes to climate change. This frame is helpful, as it has made more individual citizens recognise how important tackling climate change is; this has made it easier for governments to justify spending on climate mitigation and adaptation.

One alternative message that can be considered malicious is that put forward by fossil fuel companies. Many of these companies have crafted the narrative that it is the individual consumer’s responsibility to reduce their carbon footprint, rather

than the energy provider's responsibility to divest from fossil fuels. This narrative has shifted the focus away from energy suppliers to consumers, allowing many companies to avoid being blamed for greenhouse gas emissions. This has had serious impacts on the trajectory of climate change. Many governments have framed responding to climate change as the responsibility of the whole of society; whilst this is in no way an unhelpful narrative, it does further the narrative that the consumer is more responsible than the energy provider. Decision-makers should make sure that, in their framing of the crisis and crisis response, they do not allow fossil fuel companies to avoid any of the blame they deserve.

A further alternative message that is being put forward is the idea that climate change is a 'hoax.' Many individuals, including one former US-President, claim that climate change is not real, while others claim it is natural, rather than being caused by human activity. These messages are incredibly dangerous, as they undermine all the decisions we have made and all of the actions the world has taken to tackle climate change. Claims that climate change is not caused by human activity undermine our emissions-reduction targets and other efforts taken to limit global warming; claims that climate change is not real, despite melting arctic sea ice, rising sea levels, and extreme weather, undermine efforts to adapt to the different effects of climate change. Because these messages are so dangerous, we must take efforts to combat them and other forms of misinformation.

#### *How can we combat efforts to spread misinformation?*

The misinformation mentioned above must be countered by information from reliable, trusted sources. Crisis leaders should try and turn the public's attention away from actors spreading misinformation towards the findings of international organisations like the UN or IPCC and scientific bodies. Decision-makers should make sure they base all their decisions on reliable, trusted information, and must make sure the public has access to these sources. Decision-makers should also take steps to counter misinformation online and promote information literacy (trust in science, source credibility, and critical thinking). These are incredibly important in order to strengthen society's resilience to antagonistic threats.

#### **Terminating**

Because different actors have framed and responded to the climate change crisis in different ways, based on their core values and how climate change affects these core values, they will also consider the crisis to be "over" at different times. National governments may consider the crisis "over" when greenhouse gas emissions have been sufficiently reduced; local communities may consider the crisis "over" when they have adapted to the current risks posed by climate change, such as extreme weather events; climate activists may consider the crisis "over" once decision-makers and other actors have been held to account; private businesses may consider the crisis "over" once they have successfully adapted their business model, so that they can continue to operate and make a profit, despite the effects of climate change; and crisis managers and the emergency services may consider the crisis to be "over" once they have the relevant knowledge, training, and resources to tackle climate change-induced crises. However, even though some actors may begin to consider the crisis

“over” at some point, the climate crisis will not “end” in the traditional way and allow society to go back to life as “normal” – we will never be able to live our lives exactly as they were before the climate crisis began. Instead, the BSR and the entire world is going to enter a “new normal” as the effects of climate change continue to have an impact on individuals’ day-to-day lives. For example: emissions-related regulations will have to stay in place, to prevent emissions from rising again in the future; local communities will need to carry out frequent risk assessments, to ensure their adaptation measures are still sufficient enough to tackle different climate change-related risks; adaptation measures will likely need to be updated and improved over time; global warming will lead to the introduction of new plant and animal species to the BSR, changing the region’s biodiversity and ecosystems forever; new plants and animals will bring with them new pests, bacteria, and diseases, which could threaten agriculture, forestry, and human health; farmers may no longer be able to grow certain crops, but could be able to grow new crops; and individuals’ consumption habits may have to change, in favour of a “circular economy”. Society will never be able to return to “normal,” instead it will enter a “new normal.” This is something that actors across the BSR must prepare for.

*At what point can we say that the crisis is over for us? For our partners? For others?*

In order for a crisis to end, there must be closure on both the operational and political levels (Boin et al., 2017, pp.104-105) On the operational level, a crisis can be considered “over” once the immediate danger has been dealt with and the crisis response network is deactivated. The ending of a crisis on the political level is much more complicated, as different actors tend to consider the same crisis “over” at different times, based on how they frame the crisis and how it affects their core values. Furthermore, there often needs to be an accountability process before a crisis can be considered “over” politically. As with all crises, different actors will consider the climate crisis “over” at different times, based on their core values and how they perceive climate change to affect these core values, as seen in *Table 5*:

Stakeholders	When the crisis might be considered over
National governments	<p>When emissions-reduction targets have been met, “net zero” greenhouse gas emissions are achieved.</p> <p>When adaptation strategies have been implemented.</p>
Finnish Government	<p>When emissions-reduction targets have been met.</p> <p>When security of supplies has been achieved and protected from the risks</p>

	posed by climate change.
Latvian Government	<p>When emissions-reduction targets have been met.</p> <p>When economic and regional development is achieved.</p> <p>When businesses have taken advantage of the opportunities presented by climate change.</p>
Swedish Government	<p>When emissions-reduction targets have been met.</p> <p>When the nation's consumption has been reduced to an acceptable level.</p>
Local governments	<p>When local communities have successfully adapted to the different risks posed by climate change.</p> <p>When vulnerability is reduced.</p>
The City of Helsinki	<p>When the city has adapted to the risks of flooding, heatwaves, and biodiversity loss.</p> <p>When all citizens are prepared for extreme weather events and other emergencies.</p> <p>When businesses have taken advantage of the opportunities presented by climate change.</p>
Riga City Council	<p>When the city has adapted to the risks of flooding and biodiversity loss.</p> <p>When the city's energy efficiency is increased.</p> <p>When individual citizens reduce their energy consumption.</p>
The City of Stockholm	<p>When the city has adapted to the risks of flooding, heatwaves, and biodiversity loss.</p> <p>When air and water quality have been</p>

	<p>improved.</p> <p>When individual citizens have reduced their consumption of energy, food, and other goods.</p>
Police, emergency services, and the military	<p>When these services have the required knowledge, training, and resources to respond to climate change-induced extreme weather events and other emergencies.</p> <p>When public order and safety can be upheld, despite more frequent extreme weather events.</p>
Agriculture industry	<p>When biodiversity has been protected.</p> <p>When steps are taken to prevent the introduction of new plant and animal species - especially invasive species.</p> <p>When farmers have adapted to the “new normal” by, for example, growing new kinds of crops.</p>
Healthcare sector	<p>When the healthcare sector and healthcare workers have the required knowledge, skills, and resources to tackle new health problems that might emerge as a result of climate change.</p>
Private businesses	<p>When businesses have adapted their business model to the “new normal”, so that they can continue to make a profit and stay in business, despite the changed climate.</p>
Political leaders	<p>When emissions-reduction targets have been met and adaptation strategies have been implemented.</p> <p>When their citizens’ vulnerability to climate risks has been reduced.</p>
Climate activists, political opposition	<p>When those responsible for the climate crisis have been held to account.</p>

States	When climate change no longer presents a threat to social cohesion, national security, or sovereignty.
Regional organisations	<p>When all states in the BSR have adapted to climate change, so that the region as a whole is more resilient.</p> <p>When the opportunities presented by climate change are taken advantage of.</p>

*Table 5*

Many governments have framed climate change as an emissions reduction issue; therefore, they may be able to consider the crisis “over” once their emissions reduction targets have been met. For the international community, climate change will likely not be considered “over” until the goals set out in the Paris Agreement have been met and global warming has been halted (preferably below 2 degrees Celsius). However, even once global warming has been halted, countries will still be vulnerable to many of the risks posed by climate change. For example, extreme weather events will continue to pose a threat until governments have implemented sufficient adaptation measures. Whilst extreme weather events still pose a threat to public safety, societal security, and social cohesion, national governments will not be able to consider the crisis “over.”

Each of the national governments in this case study has framed climate change differently, meaning that they will each be able to consider the crisis “over” at different times. The Finnish government has framed climate change as a threat to the nation’s security of supplies, therefore once security of supplies has been ensured, the government may be able to consider the crisis “over.” The Latvian government has framed the crisis as an opportunity to increase economic and regional development, therefore, they may be able to consider the crisis “over” once businesses have adapted and regional development has been secured. And the Swedish government has framed the crisis as one that has been caused, in part, by excess consumption, therefore once the nation’s excess consumption has been reduced, the government may be able to consider the crisis “over.” However, decision makers can become trapped in their own frames, preventing them from taking other courses of action or considering the crisis “over” when they would like to. For example, it will be difficult for the Finnish government to suggest the crisis is “over” if security of supplies has not been achieved and protected against climate change; it will be difficult for the Latvian government to suggest the crisis is “over” if regional development has not been achieved; and it will be difficult for the Swedish government to suggest the crisis is “over” until the nation’s excess consumption has been sufficiently reduced.

Local governments and local communities will consider the crisis “over” at different times and may not consider it “over” at the same time as their national governments. Since many of the effects of climate change are felt on the local level, local governments will not consider the crisis “over” until their

communities have sufficiently adapted to the risks posed by climate change. After extreme weather events, such as floods, forest fires, or droughts, there are often long processes of recovery and reconstruction, as the damage caused by these events, for example, damage to critical infrastructure and buildings, must be reversed. Local communities are not able to consider extreme weather events “over” until they have been rebuilt and recovered from the damage caused. However, even once recovery has taken place, local communities will still be at risk of extreme weather events in the future - as climate change has increased these risks. Therefore, before local communities can consider the climate crisis “over,” they must be sufficiently adapted to the new threats posed by climate change and extreme weather events.

Many local governments, like the Cities in this Case Study, have framed climate change as an adaptation issue, therefore, they will not be able to consider the crisis “over ” until they have implemented all the adaptation measures included in their adaptation strategies. Helsinki, Riga, and Stockholm will not consider the climate crisis “over ” until they have reduced the risk of coastal flooding, adapted to the risks posed by heatwaves and drought, and have taken measures to protect their cities’ biodiversity. Adapting to all the risks posed by climate change will take a significant amount of time and resources and may take longer than reducing national greenhouse gas emissions. Therefore, greenhouse gas emissions will likely be reduced before local communities have finished adapting to climate change. Because of this, national governments may consider the crisis “over” before local communities do. However, national governments’ current perceptions of when the crisis will be “over” are based on the current effects of climate change. As the effects of climate change, and new threats emerge, national governments, and all other stakeholders, will find themselves adjusting their perceptions and framing of the crisis. As a result, stakeholders are unlikely to ever reach the point when they can truly consider the climate crisis “over.”

Because the police and emergency services must respond to extreme weather events, they will likely not consider the crisis “over” until they have the required knowledge, training, resources, and funding to tackle extreme weather events without putting themselves at an unacceptable level of risk.

Farmers and others in the agriculture sector will not consider the crisis “over” if droughts, floods, and new species, pests, and diseases threaten their crops and livestock. Measures need to be put in place to protect biodiversity and limit the spread of new species in the BSR so that farmers' livelihoods are no longer at risk. Climate change does not only present a threat, but also an opportunity for farmers; warmer temperatures will mean that new crops will be able to grow in the BSR, which could benefit many farmers economically. Therefore, some farmers may consider the crisis “over” even if global temperatures continue to rise, as they could benefit from this.

Climate change represents a crisis for the healthcare sector as it threatens to increase the spread of current and new diseases in the BSR. Furthermore, climate change-induced extreme weather events such as heatwaves and drought can lead to increased hospitalisations and mortality, which puts increased pressure on hospitals and the entire healthcare sector. Therefore, the health-

related risks posed by climate change must be dealt with before the healthcare sector can consider the crisis “over.”

Climate change is perceived in a similar way by elderly care centres, as elderly people are particularly vulnerable to heatwaves. After temperature lowering measures have been conducted on buildings, reducing the risk posed by heatwaves, the elderly and elderly care centres will be able to consider the crisis “over.”

For many private businesses, climate change is perceived as a threat to their ability to make a profit, or even stay in business. This is especially true for fossil fuel companies and other energy providers. Fossil fuel companies are, of course, threatened by emissions reduction targets and the move towards renewable energy. Therefore, for the crisis to be considered “over” by them, they will need to shift their business models away from fossil fuels towards other energy sources. This will allow them to stay in business and still make a profit even as the world transitions away from fossil fuels.

Some private businesses are also impacted by the effects of climate change around the world. Extreme weather events in other countries can have huge impacts on supply chains and the delivery of certain goods, which can have knock-on effects for many businesses in the BSR. Therefore, even if the BSR adapts to the effects of climate change, if other countries around the world do not also do so, climate change may still pose a threat to businesses, resulting in them not considering the crisis “over.”

For many members of the public, including climate activists, climate change is framed as a crisis which decision-makers have repeatedly failed to take seriously and react to. Therefore, for the public to consider a crisis over, there needs to be an accountability process. Decision-makers from all levels of government, political leaders, fossil fuel companies, and other private actors all need to be held accountable and take responsibility for their role in the crisis. Those individuals and communities who have been directly affected by the crisis will not be able to simply “move on” until this accountability process happens. Therefore, until there is a sufficient accountability process – one which appeases climate activists and affected communities alike – climate change will continue to occupy public and political agendas, preventing political closure, and preventing the crisis from truly being considered “over.” Such an accountability process could take many forms, for example, governments could set up independent Commissions, or the UN or IPCC could play a role and foster an international accountability and review process.

#### *When and how can we go back to our new/normal activities?*

Crises are traditionally considered “over” once the affected individuals or communities can return to life as “normal.” But when it comes to climate change, the world will not be able to go back to “normal,” that is, exactly how it was before the climate crisis began. Instead, the effects of climate change will continue to affect many aspects of our day-to-day lives, and the world will have to adapt to and learn to live with these effects.

Even once global warming has been halted, all the regulations we have put in place will need to stay in place in order to prevent global temperatures from



rising again. For example, emissions-related regulations will need to stay in place and may need to be reviewed and updated over time, to ensure that they are still sufficient. The world will not be able to simply go back to the way it was before the crisis started, otherwise, greenhouse gas emissions would rise again, and so would global temperatures.

Climate change has increased the frequency and intensity of extreme weather events, posing many threats to local communities. These threats represent a “new normal” for communities across the BSR. Communities will have to implement a range of measures to adapt to these increased threats. However, because climate change is a constantly evolving crisis, by the time communities implement all their adaptation measures, the risks posed by extreme weather events will have likely changed and/or increased. Therefore, adaptation measures will have to be constantly adjusted to the reality of climate change-induced threats. Rather than being able to consider the crisis “over ” and go back to ‘business as usual’, communities will have to adapt to the “new normal” of extreme weather events and the risks they pose.

The increased frequency and intensity of extreme weather events will also prevent the emergency services from returning to “normal.” As extreme weather events become more common, and the risks they pose greater, emergency services will have to adapt and possibly change the way they respond to these events. Emergency services may need new tools and resources in order to respond to the increased threat posed by extreme weather. Emergency services may also be required to play a more active role in reducing vulnerability to different extreme weather events and increasing the public’s preparedness for such events. For example, emergency services may be required to communicate with the public and distribute information on behalf of the state; they may also be required to assess individuals’ vulnerability to different extreme weather events, report on areas they consider to be at a higher risk, and check that infrastructure such as flood barriers are being kept in a good condition.

For the police, military, and national governments, part of the “new normal” is the threat that climate change poses to societal security and social cohesion. Climate change poses a risk to many international and national supply chains and may lead to a scarcity of certain resources, increasing the likelihood of conflicts over said resources. The state’s ability to provide for all its citizens will be further exacerbated by migration from rural areas towards urban areas, and international migration from around the equator towards the BSR. A combination of extreme weather events and the economic impacts of climate change mean that people from many different areas may migrate towards the BSR, posing a threat to social cohesion across the region. Extreme weather events, strains on public services, and conflicts over scarce resources all pose serious threats to social cohesion and therefore must be addressed. The police, military, and states must plan for different scenarios, such as scarcity of certain foods, as these are becoming increasingly likely. These threats are no longer hypotheticals that may happen in the future, instead, they are becoming the “new normal.”

Another aspect of the “new normal” is the changes to biodiversity across the BSR. Climate change has already decreased biodiversity in the region, and this is a trend that is likely to continue. Furthermore, new plant and animal species are

likely to move into the region, bringing with them new pests and diseases. As new species establish themselves, ecosystems across the BSR will be permanently changed. New diseases may emerge, threatening farmers' crops and livestock, and therefore the food security of the region, plants such as trees, threatening the forestry industry, and human health.

Climate change will lead to a "new normal" for the healthcare sector, as different diseases and viruses become present in the BSR, and current diseases, such as tick-borne diseases, become more common. The healthcare sector will have to adapt to this "new normal," perhaps by offering vaccinations against different viruses, if such vaccinations exist, or by producing and distributing information about new diseases to the public. The healthcare sector will also be impacted by the increase in extreme weather events, such as heatwaves, droughts, and flooding, as these increase hospitalisations.

#### *What kind of analysis do we need to do about the current state?*

When exiting the crisis, we will need to analyse our mitigation and adaptation measures in order to ensure that they are sufficient to match the current risks posed by extreme weather events. We will also need to constantly update risk assessments and determine if we are already experiencing the worst effects of climate change, or if these effects are going to get worse in the future. If the effects are expected to get worse, we will need to update the relevant adaptation measures. We also need to analyse the impacts of our adaptation policies. Whilst all adaptation policies are designed to have a positive impact on society by reducing the risks posed by extreme weather events, they may have unintended negative consequences on the core values of different groups in society. Any negative consequences must be sufficiently addressed to ensure no one's core values are at stake.

### **Learning and Reforming**

Crises expose failing policies and procedures, as well as faults in our organisations and institutions. The fact that a crisis has happened reveals that the relevant policies, procedures, and institutions in place are not currently sufficient to prevent such a crisis from happening. As such, crises present leaders with "[a] window of opportunity" (Boin et al., 2017, p.135) to reform the organisations and institutions in question, and make them better prepared, in order to prevent a similar crisis from happening in the future. However, decision-makers do not always use these windows of opportunity: the Covid-19 Pandemic and the Russian invasion of Ukraine can both be seen as windows of opportunity that have been missed.

First, the Covid-19 pandemic presented world leaders with a window of opportunity to cut fossil fuel consumption and greenhouse gas emissions. At a time when everyone was traveling less, and most international travel was put on halt, leaders could have implemented reforms to make sure that the greenhouse gas emissions from the travel sector never returned to their pre-pandemic levels. However, this window of opportunity has been missed, as reforms have not been made to prevent domestic and international travel from returning to their pre-pandemic levels.

Second, the Russian invasion of Ukraine presented European leaders with a window of opportunity to both reduce their dependence on Russian oil and gas whilst also reducing their fossil fuel consumption. By investing in the immediate construction of domestic renewable energy sources, such as wind turbines and solar panels, European leaders could have tackled both the climate crisis and the crisis with Russia at the same time. Renewable energy could have been framed as the solution to Europe's current dependency on Russian energy, as no one country controls the wind or the sun. However, this is another window of opportunity that has been missed, as most European countries have instead turned to other sources of fossil fuels, such as domestic Liquid Natural Gas production and a new EU-US gas deal.

Such windows of opportunity are often missed because, for leaders to implement the needed reforms, they need to possess two qualities: the capacity to learn and the capacity to reform (Boin et al., 2017, p.127).

The capacity to learn refers to a leader's ability to learn what went wrong before and during a crisis and to learn what reforms are needed to prevent such a crisis from happening again. The capacity to reform refers to a leader's ability to actually implement the needed reforms. There are often many cognitive and institutional barriers to both learning and reforming which must be overcome in order to truly learn from a crisis and implement the needed reforms to prevent future crises.

Climate change has revealed many flaws in the world's political and economic systems, and these flaws must be addressed in order for the climate crisis to be truly dealt with. Within the BSR, there are many lessons that decision-makers need to learn, and many reforms that need to be implemented, in order to truly tackle the climate crisis and prevent many of the possible risks posed by climate change from materialising and representing a crisis to the region in the future.

The learning and reforming process usually takes place once a crisis is "over." But, as discussed above, the climate crisis will not be considered "over" by many actors in the BSR for a very long time. Therefore, the process of learning and reforming must take place now, before the risks posed by climate change increase further.

There are many lessons that Finland can learn from the climate crisis. Despite promising to be carbon neutral by 2035, current trends suggest that Finland will not meet this target. Therefore, the Finnish government must look at why emissions are not reducing as much as desired and in what ways the government's policies should be reformed in order to ensure the country meets its goal of carbon neutrality on time. If some sectors or areas of the country are struggling to de-carbonise more than others, then the relevant policies and practices must be reformed, in order to help them de-carbonise. As security of supplies is an important core value for Finland, lessons need to be learned about how climate change threatens this, and how practices such as stockpiling can be improved, in order to ensure security of supplies despite the changing climate. When it comes to climate adaptation, Finland's political system allows the municipalities to enjoy a great deal of autonomy. However, as of 2019, only half of Finnish municipalities had a climate strategy, and only 60% of these covered

climate mitigation and adaptation. Finland must investigate why this is the case – is a change of approach or different framing of the crisis needed, in order to ensure all municipalities sufficiently adapt to climate change? Should regional authorities be empowered to facilitate and coordinate adaptation at the municipal level (like in Sweden)? Or do the municipalities require more funding in order to conduct risk assessments and adaptation strategies?

For Latvia, there are many lessons that need to be learned in order for the county to further reduce its greenhouse gas emissions, so that it can achieve the goals set out in the Paris Agreement and Glasgow Climate Pact. Reforms to governmental policies and practices, as well as transformations of the energy sector, are needed for Latvia's greenhouse gas emissions to be sufficiently reduced. Reforms may also be needed for Latvia to take advantage of the economic benefits posed by climate change, and in order for regional development to be achieved. Furthermore, significant reforms are needed to Latvia's municipal government system. The complete lack of municipal climate change governance in Latvia, as well as the national government's ambiguity over the role that municipalities should play in climate mitigation and adaptation, mean that many Latvian municipalities are not adapting to climate change. As a result, the populations of these municipalities remain vulnerable to the various risks that climate change poses.

Like Finland, Sweden has ambitious greenhouse gas emissions reduction targets that it is not on track to meet. Therefore, reforms are needed to Sweden's climate policies and energy sector. Excess consumption is a big issue for Sweden – the country consumes as if there were 4.2 globes and throws away 467kg of waste per person per year (City of Stockholm, 2021). Reducing excess consumption has been framed as one of the ways in which Swedes can reduce their environmental impact and help tackle climate change. However, in order for such extreme excess consumption to be reduced at the national level, various practices need to be reformed, from institutional practices to individual consumption habits. Policies at the national and municipal levels may need to be renewed or reformed to properly tackle this issue. When it comes to climate adaptation, Sweden's County Administrative Boards have been successful in coordinating adaptation at the municipal level. However, since many municipalities have complained about the lack of funding for mitigation from the national government, this is an issue that needs to be addressed. National agencies such as MSB and SMHI may need to reform their practices, in order to better support the municipalities, and the current ways in which municipalities secure funding from the national government may also need to be reformed. For example, if the municipalities were able to secure their own funding for climate adaptation, rather than having to apply for such funding from national agencies, adapting to climate change could be a lot easier.

Each of the cities in this case study can also draw lessons from the climate crisis. Helsinki's climate change risk assessment revealed that the city is vulnerable to many risks, including flooding and heatwaves. Whilst the City has taken many measures to adapt to these risks, the risk assessment reveals that more needs to be done. Many of the City's policies and practices need to be reformed, for adaptation to happen quicker and be more effective. Furthermore, many areas of

the city, such as the energy and transport sectors, need to be reformed for the city's greenhouse gas emissions to be reduced.

Out of the three cities in this case study, Riga has made the least progress in mitigating and adapting to climate change. The City must therefore look at the ways in which it can improve and implement the needed reforms in order to speed up climate mitigation and adaptation. Specifically, Riga's energy sector must be reformed so that the greenhouse gas emissions of the city can be reduced, whilst also ensuring energy security and acceptable energy prices for Riga's residents. Riga's climate adaptation plan, "Riga City Energy and Climate Action Plan 2022-2030", is currently being drafted. Once published, the City must investigate what reforms are needed in order to fully implement this Plan, so that the city can sufficiently adapt to climate change.

Stockholm has made great progress in reducing its greenhouse gas emissions and adapting to the various risks posed by climate change. The City has also set many ambitious targets, some of these being more ambitious than the targets set by the national government. As these targets, such as the electrification of the transport sector, are so ambitious, reforms may be necessary in order to fully realise them. Many of the City's targets rely on Stockholm's residents making changes to their everyday lives - from reducing their consumption of energy, food, and other goods, to using public transport rather than driving. The City may need to implement new policies, such as new tariffs on driving within the centre or other financial measures to discourage excess consumption. The City's communications to the public and their meaning-making may also need to be reformed, in order to convince the public to make such drastic changes.

Each of the national and municipal governments in this case study have taken a different approach when it comes to addressing the climate crisis. Each government also operates within a different political structure, with each of the cities in this case study having a varying degree of autonomy and a different relationship with the national government. Therefore, each of these governments can learn from one another, by looking at what they are each doing well, and what policies and practices have been successful. Cooperation at the regional level, through organisations like the CBSS, UBC, and the Covenant of Mayors provide an excellent opportunity for these lessons to be learned and shared, so that the climate governance of all governments across the BSR can be improved.

#### *When should we start the evaluation process and who should conduct it?*

The learning and reforming process typically takes place once a crisis is considered "over" by decision-makers and other stakeholders. However, this isn't always the case. For example, the Swedish government decided to set up the national Coronavirus Commission while the pandemic was still ongoing. The Commission was tasked with scrutinising all the policies implemented by the Swedish government, specifically the decision not to implement a national lockdown (unlike Finland, Latvia, and all other countries in the BSR). The Commission's report criticised the government's initial response for being too slow, but said the overall response (i.e., not implementing a lockdown) was "fundamentally correct" (The Local, 2022). The Commission's report offered an invaluable opportunity for the Swedish government to learn what they had done well, and what they needed to change, in order to correct their pandemic

response in real-time. The report came out shortly before a new wave of Covid-19 infections struck Europe, therefore, the Swedish government was able to implement the lessons they had learned in their response to this wave. Waiting until all actors consider the pandemic “over ” before starting to learn what went wrong and correct our mistakes is not a sensible strategy, especially since the pandemic, like climate change, will not be considered “over ” for a very long time.

Because climate change is a crisis that will not “end” and allow us to go back to our everyday lives as normal, we cannot wait for the “end” of the crisis before we start the learning and reforming process. Furthermore, because the effects of climate change are only getting worse as time goes on, it is vital that we start our learning and reforming processes now, whilst there is still time to implement the lessons we will learn, in order to mitigate some of the worst effects of climate change.

Finland, Latvia, and Sweden are all currently not on track to meet their emissions reduction targets. Therefore, each country needs to hold an evaluation process, in order to learn what policies and practices need to be reformed so that they can meet their targets. By learning from their mistakes now and implementing the necessary reforms, each country has the chance to change its course of action and meet its emissions reduction targets.

Evaluation processes could be conducted by several actors at the national and municipal levels. In Sweden, the Swedish Climate Policy Council is in the perfect position to lead a national evaluation process, as it is already empowered under the Swedish Climate Act to review the government’s progress on climate change. Similar independent, expert-led councils could be set up in Finland and Latvia to facilitate national learning and reforming processes. However, learning is something that decision-makers and crisis managers must do for themselves. Therefore, the national governments themselves should also set out to review their own decisions in order to learn for themselves what changes are needed.

There are also several actors who could conduct evaluation processes for municipal governments. For example: the Finnish, Latvian, and Swedish Ministries of the Environment, the Finnish Environmental Institute, the Latvian Ministry of Forestry and Agriculture, the Swedish Civil Contingencies Agency, and Sweden’s County Administrative Boards. Any of these actors could conduct reviews of the municipalities’ climate mitigation and adaptation policies. Having national or regional actors conducting the evaluation process would also ensure all municipalities learn from and reform their crisis response. However, just like the national governments need to learn for themselves what changes and reforms they need to implement, so too do the municipal governments. As it is local communities who feel the effects of climate change, and local communities who implement most climate adaptation measures, it is important that learning and reforming is also conducted by local governments.

Other actors who could conduct, or at least assist in, the learning and reforming process are regional organisations in the BSR. Organisations such as CBSS, UBC, the Covenant of Mayors, and others could ensure that all governments (both national and municipal) are taking learning and reforming their climate policies

seriously. Since there may need to be reforms made to regional and international policies and practices in the BSR, such as international trade, a region-wide learning and reforming process would be incredibly beneficial.

*How do we ensure an impartial and inclusive evaluation process?*

Just like with the decision-making process, the more people we involve in the learning and reforming process, and the more diverse their backgrounds and perspectives, the more legitimate the process will be. Involving actors other than just the decision-makers themselves helps to ensure a more impartial evaluation process. Furthermore, including regional organisations, who do not have a stake in national or municipal politics, will also ensure impartiality.

Because climate change affects everyone in society, it is important that as many members of society as possible can take part in the evaluation process. Businesses who have lost revenue as a result of climate change, individuals who have been impacted by extreme weather events, and others who have been affected by institutional and organisational failings deserve to take part in the evaluation process, in order to have their concerns listened to. Sometimes, institutional failings, or the negative effects of a certain policy, will not be obvious to the institution itself – therefore, it is vital that those who do feel these negative effects are given the opportunity to shed light on these issues.

*What mistakes did we make along the way? Were we able to correct these errors during our crisis management or do we need to reform our organization /system /structure?*

A core part of the learning and reforming process is identifying what mistakes have been made before and during a crisis. Decision makers and institutions then need to determine if these mistakes can be easily corrected, or if these mistakes highlight failing institutional policies or structures that need to be reformed. Out of all the governments discussed in this case study, some mistakes have been identified and corrected, leading to better action regarding climate change; some mistakes still need to be corrected; and some mistakes will require significant reforms in order to be fully corrected.

Riga made mistakes in its original approach to climate change, by not taking bold enough action to reduce greenhouse gas emissions. In 2013, the “Riga Smart City” plan was published, which contained the goal of reducing CO2 emissions by just 20% by 2020 (Riga City Council, 2014a) Such a meager reduction is not enough to tackle climate change. Then, in 2014, the “Sustainable Development Strategy of Riga until 2030” and “Development Programme for Riga for 2014-2020” were published. Despite these plans being a perfect opportunity to introduce climate mitigation and adaptation measures, neither plan mentioned “climate change” once (Riga City Council, 2014b). However, Riga has clearly learned from its mistakes and has made drastic changes to its response to climate change – signing the Paris Climate Declaration and setting the goal of becoming the first climate neutral city in the Baltic states (Riga City Council, 2021c). Riga has drastically changed its approach to climate change in just a few years – something that can serve as a great example for other municipalities in Latvia and the BSR.

The City of Helsinki has identified some mistakes that need to be corrected, for the city to fully adapt to climate change. The City's own climate adaptation policies recognise that the City's staff have not received training in climate adaptation, nor have they received instructions in how to implement many of the adaptation measures included in the adaptation plan (City of Helsinki, 2019). These factors will need to be changed before the city can fully adapt to climate change. The City's staff need to be trained in the need for climate adaptation as well as how to implement adaptation measures, for the City to actually implement its adaptation measures. It is important that the City take a lead in adapting to climate change, as this will encourage other actors in Helsinki, from private actors to individuals, to adapt to climate change. Furthermore, it has been recognised that stormwater is not taken care of properly in Helsinki (City of Helsinki, 2019). This is a problem as it exacerbates the risks posed by flooding, makes disruption and damage to infrastructure more likely, and increases the risk that storm water will mix with sewage water, threatening human health. Therefore, the city's stormwater management system must be improved and adapted to the new risks of flooding posed by climate change.

In Sweden, there are many problems with the decentralised approach to climate adaptation and flood risk management. Because of Sweden's 'bottom-up' approach to politics, the municipalities have the main responsibility to adapt to climate change and manage the risk of flooding in their areas. However, the municipalities currently suffer from a lack of supervision, as well as a lack of resources (both financial and knowledge), from the national level, which has meant many smaller municipalities are struggling to adapt to climate change (Ek et al., 2016). Currently, the municipalities can apply for grants from MSB to finance climate adaptation, but the amount of funding available has been cut recently, preventing many municipalities from adapting to climate change. The same problems exist in Sweden's decentralised flood risk governance. There is a serious lack of coordination between the municipalities, and between the municipalities and agencies at the national level, which means the quality of flood risk management varies greatly from one municipality to the next. The main national agency responsible for flood risk management is MSB, as it oversees Sweden's implementation of the EU Flood Directive. However, MSB currently only receives €2 million a year for "flood prevention" (Lendelová, 2021). Like with climate adaptation, the municipalities compete for funding from this budget, as there is never enough funding to cover all the municipalities' planned projects. Sweden clearly needs to implement significant institutional and political reforms if it is going to solve these problems. Reforms to Sweden's flood risk management system are needed. Whilst the municipalities can still play the main role in flood risk management, there needs to be better coordination between the municipalities and national agencies, in order to ensure all municipalities in all regions of the country are sufficiently managing the risk of flooding. This role could be played by MSB, but the agency's budget would need to be increased for it to take on this responsibility. Furthermore, the current budgets for flood prevention and climate adaptation also need to be increased, so that smaller municipalities can adapt to climate change. Sweden may also need to look at reforming its municipal governance system, with changes to the way the municipalities interact with each other, as well as changes to their relationship with national level agencies and the national government. Such



reforms may be needed in order to ensure that all municipalities are adapting to climate change at the same pace.

*What things did we do right that we should continue with moving forward?*

Whilst many mistakes have been made that actors need to learn from, there have also been many good decisions made that should be continued moving forward.

Finland has made many good decisions regarding climate change. Finland introduced its Climate Change Act, requiring all future Finnish Governments to take action to mitigate and adapt to climate change. Finland was also one of the first countries in the world to pass a National Climate Change Adaptation Strategy, setting a precedent that the other countries in the BSR would follow. These decisions placed both climate change mitigation and adaptation firmly at the top of the political agenda. Finland was also right to include many different stakeholders in the drafting process of their Climate Change Policy Plan, for example by holding discussions with the Sami Parliament, convening a Citizens' Jury, and holding an online consultation. Different stakeholders were able to share their concerns and ensure that their needs, interests, and priorities were taken into consideration during the drafting process. Finland should continue to include as many stakeholders as possible in the creation of climate mitigation and adaptation policies, as this ensures that the policies implemented benefit as many people as possible.

Latvia has also made many good decisions regarding climate change. For example, by signing the Paris Agreement, Latvia committed itself to reducing greenhouse gas emissions in order to mitigate the effects of climate change. Furthermore, Latvia's Adaptation Plan for Climate Change addressed the need to adapt Latvia's society and economy to the many different risks posed by climate change. By including over eighty separate adaptation measures, Latvia's Plan successfully identified the many different types of climate adaptation that are needed. Latvia recognised that simply adapting to the risk of flooding and other extreme weather events is not sufficient. This is something that must continue to be recognised by future plans.

Sweden made the right decision by passing the Climate Act which, like Finland's Climate Change Act, requires all future governments to act regarding climate change. Sweden also made the right decision in passing its National Adaptation Strategy for climate change, although (as explained above) many municipalities are struggling to fully adapt to climate change. A further good decision was the creation of the independent Climate Policy Council which has the authority to scrutinise the government's action on climate change. This ensures that the government's climate policies will always be held to account. The Climate Policy Council's reports also ensure transparency, as the public can read these reports and stay up to date on what the government is doing well, and what they are not doing well. The fact that the government's climate policies are scrutinised by an independent actor, rather than just political actors, means that the debate on climate change is driven by independent, expert opinion, rather than being hijacked by various political actors.

Each of the cities in this case study have also made many good decisions regarding climate change. Helsinki has made many 'good' decisions, as it has been labeled an "A List City" by CDP, an environmental impact disclosure organisation, but Riga and Stockholm have also made good decisions. Riga has made great progress on mitigating and adapting to climate change in a short period of time. The City has gone from having mediocre greenhouse gas reduction targets to aiming to be the first climate neutral city in the Baltic States by 2030. Riga has also taken different measures to adapt to the risk of flooding. Stockholm has also set ambitious greenhouse gas emissions targets - and currently has more ambitious targets than the Swedish government. Stockholm has also taken action to adapt to the different risks posed by climate change and has highlighted that climate action is the responsibility of not just the government but also the individual. All three cities in this case study have also recognised the risk that climate change poses to their ecosystems and biodiversity. This is an incredibly important area to focus on, but it is one that is often forgotten in the face of larger, more immediate climate change-related risks, such as extreme weather events and sea level rise. Therefore, it is important that these cities continue to focus on strengthening their biodiversity and reducing the vulnerability of their ecosystems to climate change.

*Should some individual or organization be held accountable for these errors or good practices and why?*

In order for some stakeholders to consider a crisis over, there must be an accountability process. This is especially the case with climate change. Since climate change has been framed by many political actors and activists as a crisis that decision makers have failed to take seriously, said decision makers must take responsibility for any mistakes that they made. Further, because climate change has already had serious effects on many communities across the BSR, these communities will need to see decision makers held to account before they can achieve proper closure. As explained in *The Politics of Crisis Management*:

“Without some form of public reckoning, it is [...] very difficult for communities to achieve a new and stable post-crisis equilibrium.”  
(Boin et al., 2017, p.110)

However, an accountability process does not necessarily mean that certain decision makers have to be blamed for the crisis. Instead, climate change should be recognised as being a symptom of policy or network failure. The climate crisis has not happened due to the errors of any one individual or organisation, instead, it is the result of many different flawed systems that need reform. Framing the climate crisis in such a way is important for two reasons: first, it prevents decision makers from being personally blamed for the climate crisis, and second, it justifies the institutional reforms that are needed in order to truly tackle the crisis and prevent its effects from becoming worse in the future. Therefore, whilst decision makers should take responsibility for any of the mistakes that they have made regarding climate change, they should not be considered personally responsible for the crisis. Instead, the crisis should be recognised as a result of system failure, so that the necessary reforms can be implemented.

*How can we utilize research to improve our activities /organization /system / processes?*

There is already a wealth of research on climate change that can be used to augment the learning and reforming process. By utilising research in the learning and reforming process, decision makers and organisations can ensure that they are making sufficient reforms, and that they are reforming in the right ways.

Because climate change is a constantly evolving process, it is vital that research is conducted, so that we know if new mitigation or adaptation measures are required, or if certain reforms are needed. Decision makers, governmental organisations, businesses, and other actors should commit to basing future climate action on the most up-to-date research, so that any policies or measures they implement are as effective as possible. Striving for research-based practice may require more funding for researchers. Therefore, new research grants specifically for climate change-related research may need to be introduced. Research is needed not just on the national level, but also on a regional level, in order to better understand how climate change is affecting the entire BSR. Regional organisations such as the EU and CBSS could play a role in facilitating more climate change-related research in the BSR, so that all BSR countries can use research in their climate mitigation and adaptation work.

*What needs to be reformed, rebuilt and re-constructed, and how?*

There are many reforms that are needed on the national, international, and individual level in order to truly tackle the climate crisis.

On the national level, some countries may need to reform their municipal governance structures, in order to empower local governments to fully adapt to climate change. This is especially the case in Latvia, where there is still a complete lack of municipal climate change governance. However, such reform may also be needed in Sweden, where many municipalities are still struggling to adapt to climate change. In Latvia, the role that the municipalities should play in climate adaptation must be established, and sufficient funding must be provided to the municipalities for all tasks that they are expected to conduct. In Sweden, the current processes that municipalities must go through to acquire funding for climate adaptation must be reformed, so that smaller municipalities can afford to adapt to climate change. These countries may choose to base their reforms on the Finnish municipal governance structure, which appears to be working well (at least when one looks at municipal climate change governance). The Finnish municipalities enjoy a great deal of autonomy, whilst also having high levels of trust for and communication with regional and national organisations. However, this system, particularly the high levels of trust and communication, is something that has developed organically over time, and is not something that can be easily replicated just by passing reforms through legislation.

All countries also need to reform their energy sectors, which are currently far too reliant on fossil fuels. Reducing the consumption of fossil fuels is an essential part of mitigating climate change and is something that needs to happen quicker in order to meet the goals of the Paris Agreement. Each country in this case study has made progress in reducing their fossil fuel consumption, but to different degrees. Sweden has made the most progress by cutting fossil fuel consumption to under one-third of its total energy consumption. Finland has

made less progress, as fossil fuels still account for over 40% of their total energy consumption. And Latvia still has a long way to go in reducing fossil fuel consumption, since nearly 57% of their energy consumption comes from fossil fuels. All three countries need to reduce their fossil fuel consumption further but must do so in a way that protects the needs and interests of their population. For example, reforms to the energy sector must take place in a way that prevents energy prices from increasing.

Since climate change is an international crisis, reforms may also be needed at the regional and international levels. Across the BSR, there needs to be reform to the energy sector, international travel, and international trade, in order for the region as a whole to reduce its greenhouse gas emissions. Such reforms could be made through the CBSS or the EUSBSR. At the international level, we may need to make reforms to the international climate governance structure, in order to ensure that the goals of the Paris Agreement are met.

Finally, individuals across the BSR, and across the world, may need to make reforms to their everyday lives in order to help mitigate climate change. In the future, individuals may have to trade their diesel or petrol vehicles for electric or hybrid ones; commuters will be pressured even more to take public transport to and from work; and we may all have to change our consumption habits in favour of a “circular economy” in order to reduce our individual impact on the climate.

## Conclusion

This case study, and the theoretical approach from *The Politics of Crisis Management*, have highlighted that, although climate change threatens the societal security of the entire world, different actors perceive the crisis in different ways, which leads to them taking different actions and framing the crisis differently. Finland, Latvia, Sweden, as well as Helsinki, Riga, and Stockholm are all being affected by climate change in different ways, which has led to them perceiving, responding to, and framing the crisis differently.

The three countries in this case study have all understood and framed the crisis differently: Finland has understood and framed the crisis as a threat to the nation’s security of supplies, whilst Latvia has perceived and framed the crisis as an economic opportunity, and Sweden has perceived and framed the crisis as one fuelled by excess consumption. The three cities in this case study have perceived the climate crisis in similar ways, as they are all coastal cities which are facing an increased risk of flooding. The three cities have also framed the crisis in similar ways, each highlighting the responsibility of the individual citizen. Helsinki has highlighted the responsibility of citizens to prepare for emergencies, such as climate change-induced extreme weather events; Riga has highlighted the responsibility of citizens to reduce their energy consumption; and Stockholm has highlighted the responsibility of citizens to reduce their consumption of energy, food, and other goods.

Because the different actors in this case study have understood and framed the crisis differently, they may be able to consider the crisis “over” at different times. For example, national governments may consider the crisis “over” once

their emissions-reduction targets have been met, whilst local communities will not consider the crisis “over” until they have sufficiently adapted to the many risks posed by climate change. However, even once emissions-reduction targets are met and climate adaptation strategies have been implemented, society will not be able to go back to life as “normal.” We will never be able to go back to our lives exactly as they were before the climate crisis began. Instead, we will enter a “new normal” as climate change will continue to have an impact on our lives in many ways. The entire BSR will be impacted by more frequent extreme weather events, the introduction of new plant and animal species, altered biodiversity, and new risks to human health, as well as the long-term impacts of climate change mitigation and adaptation policies. Therefore, instead of viewing climate change as a crisis which will eventually be “over,” governments, businesses, and individuals across the BSR must adapt to, and learn to live with, the various effects of climate change.

Finally, as we enter this “new normal” and different climate change-related risks emerge, we will need a new phase of sense-making, decision-making, meaning-making, terminating, and learning-and reforming. It is vital that we go through these steps continuously, so that our climate response remains sufficient to uphold societal security in the face of new climate change-related risks.

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# **Information and Cyber Security: The WannaCry Attack**

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## List of acronyms

BSR	Baltic Sea Region
CBSS	Council of the Baltic Sea States
DHS	Department of Homeland Security (US)
EU	European Union
HEI	Higher Education Institute
ICT	Information and Communication Technologies
IoT	Internet of Things
NEEDS	Needs-based education and studies in Societal Security
NIST	National Institute of Standards and Technology
NHS	The UK National Health Service
RIA	Estonian Information System Authority
SMBv1	Server Message Block 1.0

## Introduction

Information and communication technologies (ICT), and the Internet of Things (IoT), permeate nearly all spheres of our lives today; only by looking around you when you are sitting at your home, you most probably see several technical solutions connected to your network. The computer, the TV, the mobile, the watch, maybe even the fridge and the thermostat? What would happen if one, or all of them, got infected by a virus, if all your essential files got encrypted, or if someone successfully gains control over your thermostat in the middle of the hottest summer? If you and your home are so dependent on these advanced solutions, what can we say about our society? How would our community cope if all the machines at our closest hospital stopped working, if the telecommunications were disrupted, or if the ATMs unexpectedly closed? If we cannot trust these crucial societal functions and services, how secure can we feel in our society?

Cyberattacks have developed to be a new and multifaceted security threat towards our societal security, where everyone is vulnerable. They come in different shapes and forms, affecting critical sectors worldwide. Since we live in a time with a massive, global, and fast-paced digitalization of data and where our critical infrastructure is becoming increasingly reliant on well-functioning and secure technology. The internet penetration in the Baltic Sea Region is higher than ever, with an 82-99%<sup>2</sup> penetration in 2020 (Datareportal, 2021).

Furthermore, infrastructure interconnectedness has become part of our daily lives, as our societies depend on functioning IT networks, reliable systems for energy supply, functioning health care, and robust communications (Sundelius, 2016). If one of these systems breaks down, it may have immediate effects on another. Cyber-related threats exploit this development's increased complexity and connectivity and will continue to put our society's security and public safety at risk (see, for example, National Institute of Standards and Technology (NIST), 2018; Ministry of Defence UK 2018). It may even go as wrong as when the University Hospital Düsseldorf was a victim of a ransomware attack in 2020. A woman had to be sent to another hospital for emergency care; the delay of her treatment contributed to her death (ISFH, 2020).

The Baltic Sea Region (BSR) countries are advanced in their work and cooperation with cybersecurity; however, since these threats lack respect for functional, political, and geographical borders, it is crucial to incorporate and strengthen the understanding of cybersecurity's relation to societal security. Furthermore, our society's dependence on technological advancements is assumed to continue, creating new vulnerabilities. So, even though our modern society has developed and learned in terms of technology, knowledge, and experience in handling several different crises, it also becomes increasingly sensitive to disruption.

The following case study approaches the issue of preparing for, managing, and learning from a transboundary cybersecurity crisis by analyzing the crisis of

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<sup>2</sup> Lithuania 82%, Latvia 88.9%, Estonia 91%, Finland 95%, Sweden 98%, Denmark 98.1%, and Iceland 99%. (Datareportal, 2021)

WannaCry ransomware from 2017. WannaCry was one of the most widespread ransomware, which hit approximately 200-300 000 computers and machines in over 150 countries. The study uses an analytical toolkit developed by prominent scholars within crisis management (see, for example, Boin, Stern, t'Hart, and Sundelius, 2017) to analyze the process of sense-making, decision making, meaning-making, terminating, and learning. The ambition is to promote a comprehensive toolkit for managing future risks and crises within the BSR and enabling a more resilient decision-making process, strategies, structures, policies, and measures.

### What is Societal Security?

The understanding of a change in the security paradigm has been prevalent for years now. Since the Cold War global order breakdown, the security threats have changed tremendously (t'Hart and Sundelius, 2013). We now know that the challenges of the 21<sup>st</sup> century, for the BSR, will most probably not come from an armed attack by a state with the intent to capture and hold our territory, but rather in terms of damage to our critical societal functions, values, and services (Sundelius, 2021). Since our societies are becoming more advanced and interconnected, new vulnerabilities are being created. The nature of crises and threats appears with no respect for geographical, political, or functional borders. This brings with it the need for severe rethinking about security and a need to create better tools to deal with today's now more varied challenges (Sundelius, 2016).

These new threats also question the traditional roles of the state and state institutions, both at international and national levels, and evolve a new complexity of multi-level governance (Sundelius 2016). Since these new threats affect all society's stakeholders, from individuals to government entities, private corporations, and non-governmental organizations, it is crucial to adopt a "whole-of-society" approach (Sundelius, 2021). If the society cannot safeguard its critical functions and values, its people will lose their confidence in the governance. At the core of such an approach is the concept of resilience, often described as a society's capacity to "withstand" or "bounce back" in the face of disturbance (ibid.).

#### *Societal Security Within the Scope of the NEEDS Project*

The NEEDS project uses the concept of Societal Security as "an umbrella concept to characterize the variety of activities related to non-military safety and challenges in the region"<sup>3</sup>. More specifically, within the scope of the NEEDS project, societal security is defined as an aim to secure and maintain critical values, functions, and services (including trust, communication, critical infrastructure, health care, financial, governance and civic services, law and order, education, democracy, and human rights, national sovereignty, and environment). The project further believes that societal security is reached by identifying, eliminating, and reducing risk, threats, and vulnerabilities and promoting meaningful and resilient processes, decisions, strategies, structures, policies, and measures. Since the concept is not national in origin, scope, or

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<sup>3</sup> For a comprehensive introduction of the concept as a higher education in the Baltic Sea Region (BSR), see *Societal Security as Higher Education: The State of the Art in the Baltic Sea Region*, compiled by Christer Pursiainen and Dina Abdel-Fattah (2021).

breadth, it demands a transnational and cross-sectoral approach and cooperation despite differences.

### *What is a Crisis?*

Our definition of a crisis follows the standpoints of a traditional crisis definition, with three key components to consider; that the crisis composes a *threat* to core values, creates a sense of *urgency*, and is highly *uncertain* as to their origin and consequences (see, for example, Boin, Stern, t'Hart, and Sundelius, 2017, and Boin, Ekengren and Rhinard, 2014). Since we all prioritize different values or perceive various things as uncertain, the perception of a crisis is actor-centred. Based on the three components, we use the following aspects to diagnose if a particular situation may appear as a crisis.

1. Who are the stakeholders, and which core values are perceived to be at stake? (For who may this be a crisis, and why?).
2. How much time is available, and is it possible to buy more time somehow?
3. What are the significant uncertainties in the situation? What is happening, and who can implement countermeasures to reduce some of this uncertainty?

Furthermore, in line with the cross-border aspect of societal security and the NEEDS project, our crisis definition also entails components of a transboundary crisis. A transboundary crisis is characterized by the potential to cross geographic, political, and functional boundaries. It may affect multiple jurisdictions through its massive spread and undermine the functioning of various policy sectors and critical infrastructures, escalate rapidly and morph along the way (Boin et al., 2014). The challenges that a transboundary crisis comes with, and the increase in involved actors, make them even more complicated to handle.

Besides the intensity and time pressure during the actual crisis, it is further necessary to note that crises often cast long shadows on the politics and contexts in which they occur (Brändström, 2016). Moreover, the sense of threat and uncertainty that a crisis evokes is likely to profoundly affect people's perception of the world and the society around them (Ibid.). Therefore, it is essential that an organization, or society, is prepared to deal with new and unimagined threats and build resilience into the governing structure. Furthermore, management of crises is essential to ensure that the consequences of a crisis are as minimized as possible (Boin et al., 2014).

### *Cyberattacks as a Threat to Societal Security in the BSR*

With the digitized and globalized environment we live in, most people and sectors are likely to experience some form of cyber insecurity in their lifetime. Moreover, cyber-related threats do not take national borders or traditional structures into account, and society's dependence on technological solutions and interconnectedness will only continue to increase. It is, therefore, a major global challenge and a crucial concern for the Baltic Sea Region. Therefore, it is vital to develop and strengthen transnational cooperation and a shared understanding of cyber threats as a threat to societal security. To emphasize this, the following section looks closer at how different core elements of society become vulnerable and threatened by cyberattacks and cybercriminals.



### Disruption of critical societal functions, services, and values

The Ministry of Defence, amongst others, predicts that we will see a continued improvement in computing power and that technology will drive improvements in virtually every area (Ministry of Defence, UK, 2018). Due to the increased dependence on technology and its interconnectedness, several societal functions and services, such as railways, ATMs, telecommunication, schools, health care services, and medical devices, are possible victims of hostile takeovers. As this study will highlight, several of these societal functions and services are dependent on unsecured and sometimes pirated software systems.

As we are in the middle of the challenging COVID-19 pandemic at the time of writing, we have seen that our societies become even more vulnerable to disruption, and certain groups might be extra exposed. Swedish authorities, for example, emphasize that since state actors change their direction of focus to manage the pandemic, criminals may seize the opportunity to take advantage of this increased vulnerability in both individuals and businesses (Swedish Armed Forces et al., 2021).

### Weakening of trust towards governance and civic services

The public trusts their government to perform in a crisis and keep state security and individual safety intact (Sundelius 2021). However, the available resources to meet such threats are often reduced. Within the increased vulnerability of critical societal functions, the public's trust in institutions (and thereby their agency), governance, and civic services may erode. The citizen's inability to trust these services contributes to a lack of personal safety and a deteriorated confidence in society's ability to keep them safe. For example, if hospitals and schools keep using outdated software, they constantly put people and services at risk. If the public cannot trust the resilience of these services, how should they trust the decision-makers to work for societal security?

Furthermore, the expanded information space also enables an increased spread of misinformation and distrust. The Ministry of Defence emphasizes how, for example, social media may cause polarizing effects and create further insecurity and uncertainty in society (Ministry of Defence, UK, 2018). Once an eroded trust towards governance or civic services has taken root, it is thereby easily spread and strengthened, enabling another platform to exploit for a malicious actor. Moreover, this misinformation can often devolve into a blame game where actors try to blame each other instead of shouldering responsibility for the events.

### Interference in national sovereignty and democracy

Cyber-related threats and incidents do not neatly align with traditional national security policies and democracy, nor do they take national borders into account. Therefore, they put new demands on national sovereignty, state leaders, and international relations. The traditional roles and mandates become even more complicated and interrupted since multinational corporations (such as Microsoft) have gained more influence. Private security companies grow significantly in impact and provide cyber services, which states depend on. In addition to weakening the public trust towards the states, it also interrupts the state's ability to act. Furthermore, since cyber-related threats occur on all levels, it is difficult to distinguish the local from the global, which may call basic assumptions about identifying those to be protected and designate the responsibility for providing security into question (Kjæregaar Christensen and Liebetrau 2019).

On a more international political level, cyberspace also brings complexity in accountability. States more than rarely use the blame process as a political game to earn political points, power, and control. Which, in turn, also creates a platform for political motives behind attacks or undermining disinformation campaigns. The political tensions and power diffusion pressure our international institutions and mechanisms and the norms of the international system, which may make it more challenging to forge internationally binding treaties (Ministry of Defence UK, 2018). In a worst-case scenario, this kind of “blame game” about who holds the responsibility for the cyber-related threats and attacks may lead to severe conflicts.

## The case: WannaCry Ransomware, 2017

### Case Selection

The WannaCry ransomware attack from 2017 acts as a central case of this report and a starting point for our analytical and theoretical toolkit. With the crisis diagnosis and the reasoning around how cyberattacks are a threat to societal security in mind, we chose the specific case of WannaCry Ransomware for several reasons.

First, when it hit, it was the most chaotic and catastrophic cyber-attack the world had ever seen. The virus spread exceptionally quickly and hit over 200 000 computers in over 150 countries in less than a day. It demonstrates the cross-border perspective within these types of threats, both geographical and sectoral.

Secondly, it affected several critical infrastructure sectors, such as hospitals, railways, and communication companies, and is a perfect example of how a cyberattack may disrupt critical societal functions and services.

Thirdly, even though some technically savvy and informed persons were aware of the vulnerability and the possible threat, the majority affected by the ransomware were clueless in approaching it.

Lastly, the unclear nature of WannaCry made it almost impossible to track who was behind it and whom to hold accountable for it.

In sum, we can see that it includes the three key components of a crisis; *threat* to core values, a sense of *urgency*, and a feeling of *uncertainty* as to its origin and consequences (based on the definition presented in section 1.2). Furthermore, it provides a practical example of how the results of a cyber-attack have severe impacts on critical societal functions and values. It, therefore, should be understood as a significant threat to our societal security.

We also want to emphasize that crisis management is like driving in a fog, where it is impossible to see into the future because no crisis is like the previous. However, with that said, it is helpful to analyze the course of events, the affected values, and the measures taken (and not taken) during events leading up to the crisis, during the crisis, and its aftermath.

## A Summary of the Critical Course of Events

The following section revolves around presenting different triggers of the crisis, possible essential occasions of decision, and key actors. This chronological timeline intends to give a framework for the critical events we revisit throughout the analysis. See Figure 1.

Figure 1. Timeline of the WannaCry ransomware crisis.



Developed by authors.

### The NSA Created EternalBlue and Kept it a Secret

As early as 2013, the NSA had spent almost a year hunting for a usable bug in Microsoft's software. They finally found a vulnerability in the Microsoft Server Message Block 1.0 (SMBv1), a network file sharing protocol that allows applications on a computer to read and write to files and request services on the same network. It was this function that enabled WannaCry ransomware's catastrophically rapid spread. The SMBv1 was developed in 1983 as a network communication protocol to allow shared access to files, printers, and ports. It was initially used as a way for Windows machines to talk to one another and with other devices for remote services. Once they found it, they developed EternalBlue to exploit that vulnerability.

Rather than flagging this newfound vulnerability to Microsoft, the NSA kept it a secret and used it as part of its controversial program on stockpiling and weaponizing cybersecurity vulnerabilities. According to three former NSA operators, in an interview with the New York Times (2017), this was a relatively common way to go about it for the NSA, and they refer to this secrecy as NOBUS, nobody but us, in a conviction that only the NSA can exploit the software vulnerabilities. Moreover, they emphasized that EternalBlue was one of the most valuable exploits in the NSA's cyber arsenal, making the agency hold on to it for more than five years and used it in "countless intelligence-gathering and counterterrorism missions" (New York Times, 2017).

### Microsoft decided to end its support for Windows XP

The second stop in our timeline is in 2014 when Microsoft ends its support for Windows XP. The end of support for specific, outdated software is not uncommon. Microsoft themselves claim that "every Windows product has a lifecycle," which

begins when a product is released and ends when it is no longer supported. Furthermore, Microsoft explains this logic by emphasizing the need to “invest our resources toward supporting more recent technologies so that we can continue to deliver great new experiences (Microsoft, 2017b). The date for retail software end of sales for XP was as early as 2008, and the end of sales for PCs with Windows preinstalled was in 2010 (Microsoft, 2017). The “end of support” meant that neither technical assistance nor automatic updates to protect the PC will be available for Windows XP, and also that Microsoft stops providing “Microsoft Security Essentials” for downloaded Windows XP. Simply put, this means that PCs and other machines running Windows XP will not be secure and will therefore be at greater risk for infection.

Furthermore, when Microsoft ends support for an operating system, it sends a signal to other software and hardware companies, and they will most probably also stop supporting that older version. Of course, nothing of this happens overnight, though, for example, Google Chrome did not stop supporting Windows XP until April 2018, and Mozilla Firefox stopped supporting it in June 2018.

#### *The NSA gets hacked, and Microsoft releases new patches*

As noted above, EternalBlue was a valuable “spy tool” for NSA, and they had no intention of revealing the vulnerability to Microsoft. However, although they believed the exposure to be known for “nobody but us,” a hacker group successfully hacked their system and obtained the tools. Little seems to be known about how this could happen; some believe the responsible hacking group got the tools through reverse-engineered technical artefacts captured from attacks carried out by the NSA (New York Times, 2017). Another theory is that they stole the tools from a poorly secured NSA server or that a rogue NSA group member leaked the devices to the hacking group (Ibid.).

When NSA became aware of the breach, they reached out to Microsoft and other tech companies to inform them of their software flaws (New York Times, 2017). As they usually do when becoming aware of a software vulnerability, Microsoft acted by releasing a patch for the deficiencies in the SMBv1 protocol. They named it the MS17-010 patch and designed it to fix the flaw for all supported Windows operating systems, including Windows Vista, Windows 7, Windows 8.1, Windows 10, Windows Server 2008, Windows Server 2012, Windows Server 2016 (Microsoft, 2017). However, unsupported systems, such as Windows XP, did not receive this patch for free (Ibid.).

#### *A hacker group leaks several hacking tools, including EternalBlue*

In April 2017, a hacker group called The Shadow Brokers leaked several hacking tools, all of which were allegedly developed by the NSA, including EternalBlue, via a link on their Twitter account. This leak made the vulnerabilities available for everyone wishing to exploit them as weapons. The antivirus and cybersecurity company Avast Academy (2020) explains that by making these exploits accessible for everyone to use, all that would be needed for someone with evil intentions were to send a maliciously crafted packet to the target server, and the malware would then scatter through the networks and create a cyberattack. When Microsoft became aware of this leak, they released a second emergency patch for all the unsupported operating systems, such as Windows XP (Windows, 2017).

### *WannaCry ransomware spreads across the globe*

On May 12th, 2017, the ransomware WannaCry, using a so-called worm module built on the leaked exploit EternalBlue, spread chaotically through networks worldwide. Europol chief Rob Wainwright said, in an interview with BBC hours after the breakout of the ransomware, that the act was “unprecedented in its scale”, and that it was an “indiscriminate attack across the world on multiple industries and services” (BBC, 2017a). In less than a day, the ransomware had reached over 200 000 computers in over 150 countries. As soon as a machine became infected, its files were encrypted and made inaccessible to the user, with a ransom demand of at least 300 USD dollars, in Bitcoins, to make them available again. Thanks to EternalBlue, the ransomware could spread from one computer to all machines in its connected network.

However, not everyone was as severely affected since computers with outdated software were those vulnerable to the EternalBlue exploit. The sectors that were most affected were health care services, manufacturers, and small business owners.

### *Kill-switch, the beginning of the end...*

Even though the ransomware had already spread massively during its first day alive, it came to a sudden stop when a then anonymous security researcher found the so-called kill switch. The ransomware was designed to check if it could access a specific website before it infects a computer; if the website is offline, the ransomware proceeds with the encryption of the computer; if the website, however, is online, the ransomware shuts itself down instead of continuing with the encryption. When the security researcher found the name of the said website within the code of WannaCry, he registered the website’s name and uploaded a picture to it, which in turn effectively shut down the ransomware from spreading any further (Avast, 2017).

As the cybersecurity company Avast (2017) emphasizes, it is essential to note that the kill switch only stopped one variant of WannaCry from spreading, the one with the so-called worm functionality in it (the one that allowed it to reach and attack so many computers). As a result, those devices that were already infected with the active strain of ransomware continued to spread it laterally to other devices. While these infections did not trigger the encryption process, they still opened a backdoor that enabled attackers to gain complete control over the device with minimal effort (Armis Security, 2019). Moreover, the other inner components of the WannaCry, such as the “file-encryption part,” were not controlled by the kill switch and could, therefore, still cause harm (Avast, 2017). So, those computers which encountered the ransomware itself, for example, from an already infected device via a copy file on a USB stick, can still become infected.

In short, the kill switch crippled the momentum of the crisis; however, many of its consequences were left unresolved. Which leaves the intriguing question: when did the crisis end for different sectors and values?

## Methodological & theoretical framework

To properly analyze a crisis, our methodological structure builds on the three following steps. Firstly, the crisis itself is diagnosed. This step entails asking questions such as who was affected by the ransomware and why they were affected. Secondly, a timeline will be established with the main events of the crisis and the key actors involved; the critical decision moments will be identified where vital decisions were made regarding the WannaCry crisis. Finally, the five leadership tasks presented by Boin, Stern, t'Hart, and Sundelius (2017) will be used to analyze the WannaCry crisis.

### **A three-step approach to crisis diagnosis and analysis**

1. Crisis diagnosis - For whom is this a crisis and why? (threat, uncertainty, time pressure)
2. Dissect/Retrace the course of events and key players/actors. Identify the key decision occasions
3. Analyze the crisis using the five critical tasks (Boin et al., 2017) from the key actors' perspectives

Developed by authors based on Stern (1999):59 and Boin, Sundelius, Stern and t'Hart (2017) 2nd edition

### Diagnosing the Crisis and the Threat

In our understanding, a threat and a crisis are actor-centred. Actors experience, perceive and are affected by crises in different ways. A cyber-related threat is an excellent example of that, as it is traditionally not seen as a threat to society. The kind of threat and crisis that this report focuses on are transboundary and concerning societal security in the Baltic Sea Region. As a first step in conducting this report, we ask the question; for what critical societal functions, values, and services is this a threat, and why?

Furthermore, it is crucial to understand from which context the crisis occurs and how different actors perceive it based on the three key components of a crisis (Boin et al. 2017:7); *threat* to core values, creates a sense of *urgency* and is highly *uncertain* as to their origin and consequences.

### Establishing a timeline

The second step is based on establishing a frame and determining the narrative of the crisis. This is often revolved around finding the "trigger", i.e., the event that started the crisis. From that point follows a simple linear, chronological timeline from start to finish of the crisis. However, some cases do not follow this simple timeline. For example, if the crisis did not have a clear trigger and was caused by a slower, gradual increase in pressure. Therefore, this timeframe must be continually revised during the analysis. After the timeframe has been created, a narrative will be developed. This is done by using as many empirical sources as possible and should result in a narrative that describes the event in detail,

following the timeframe (Stern, 1999: 48-9). Once the timeline has been established, the key decisions will be distilled to understand which events were the most important in shaping the course of the crisis.

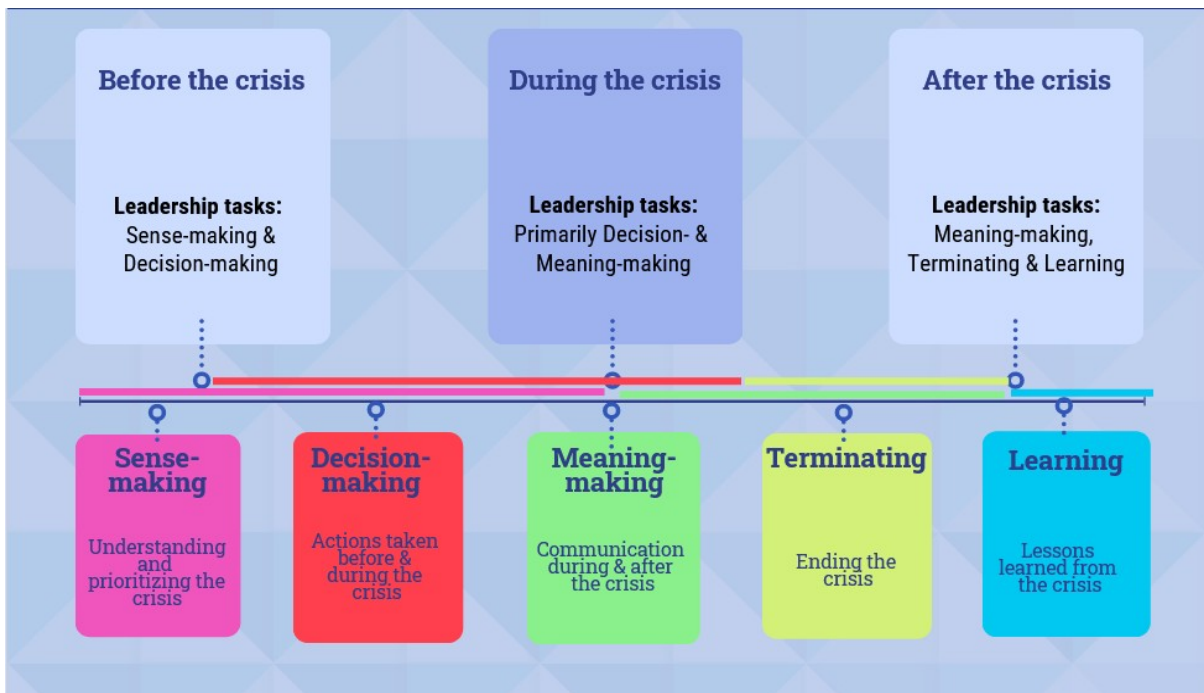
### The five leadership tasks/Analytical toolkit

The core of this case study's theoretical framework is the so-called "five leadership tasks" (Boin et al., 2017). They build on the idea that the analysis should be placed in the hands of the decision-makers to understand how they perceived and handled the crisis and why. Since, as mentioned several times already, the nature of a crisis is uncertain, it is beneficial to approach it with a comprehensive toolkit that leaders and analysts can apply to various crises, both of yesterday and tomorrow.

Figure 2 shows that these tasks all represent different stages of the crisis as it unfolds, burns, and ends. The first task, *sense-making*, includes the process before and early stages of a crisis, where the key actors collect information and try to make sense of the crisis. The second task, *decision making*, emphasizes the preparations, coordination, and implementation of essential decisions to manage the situation. Thirdly, *meaning-making* highlights what messages are being communicated about the situation, and how the crisis is narrated and transferred to the public and other leaders. Fourthly, *termination* is when the crisis eventually comes to an end, either naturally or by force. Lastly, *learning and reforming*, where time should be spent observing failures and successes to identify what needs to be rebuilt and reconstructed, to manage the following situation even better, and strengthen our resilience.

Together, this toolkit can help to minimize the consequences, as well as hopefully strengthen resilience. How these stages look, how long they last, and how much they overlap with each other are highly varying between situations (and actors). The following sections provide a closer presentation of the tasks, how they appear during a cyber crisis, along with an explanation of how they will be operationalized as part of our analytical toolkit.

*Figure 2. Model of the five leadership tasks before, during, and after the crisis*



Developed by authors, based on Boin et al. (2017)

### Sense-Making

Even before a crisis has occurred, leaders and decision-makers need to evaluate possible threat levels as preparations for what could eventually become a crisis. Since the nature of cyber-related threats is challenging to define, especially for those without cyber expertise, it can be unclear who risks being affected by an impending threat. Research on crisis management shows the importance of understanding how a crisis unfolds by bringing together as much relevant information as possible (Boin, 2019). This process includes deciding which information to rely on, which to dismiss, and deciding which core values and interests need to be prioritized (Boin et al., 2017: 44).

The following analysis of the WannaCry attack considers what questions a leader should ask themselves when approached by a threat and a crisis, such as “What do we know about this threat?”, “What do we do with our information? For whom is this a crisis?” and “What core values are at stake?”

### Decision-Making

Based on how leaders interpret the crisis and how they chose to prioritize their interests and actions, the decisions made before and during a crisis are crucial for the outcome. During a crisis, citizens look to their leaders for answers to the problems. To keep the public’s trust and legitimacy, decision-makers need to act desirably and in line with specific values and beliefs. When the situation has escalated into a time-pressuring and devastating crisis, it puts a lot of pressure on organizations and decision-makers to make quick and effective decisions with access to limited information. Citizens may expect their leaders to foresee possible disasters effectively. It can be reasoned that public leaders would benefit from taking the time for strategic reflection on their crisis management capacity (Boin et al., 2017). Good crisis management needs a good balance between prevention and resilience (t’Hart and Sundelius, 2013). That inherits a challenge in acknowledging possible weaknesses and strengthening capacity-



building processes for long-term resilience. Leaders also face the challenge of how to prioritize short-term and long-term consequences, where short-term imperatives often win over long-term preparations. Furthermore, collaborative approaches for crisis management are a key priority worldwide, and collective action issues in responses have long been on the social science research agenda (Bynander and Nohrstedt, 2020); however, they consist of several practical difficulties when faced with a major disaster.

### *Meaning-Making*

Legitimacy affects not only how people act towards government authorities in crises but also how people understand them. The next task involves meaning-making, communicating what these decisions involve, and, above all, what they mean. This is important to uphold credibility in the eyes of the public as well as shape the understanding of the crisis by the people (Boin et al., 2017: 97). In essence, the key actors aim to create a reliable narrative of the current events. The questions a leader should ask themselves when communicating their narrative during a crisis should be: “How can and should we communicate our actions and decisions?”, “In what way do we need to communicate in order to uphold trust, legitimacy, and credibility?” and “What messages are being communicated by other actors? Are they helpful for us, or are they malicious?”

### *Terminating*

During the final stage of a crisis, some may hurry to call it a day and go back to normal activities. However, the process of terminating may protract, both in terms of long-lasting consequences and the subsequent accountability process. Research shows that the success of crisis termination depends, in part, on the vulnerability of the affected (Boin et al., 2017). Our analysis approaches this by asking the question, “When is the crisis over, and for whom?” What does the end of the crisis mean for the continued threat? Can we continue with our everyday/normal activities?

### *Learning*

As the most intense phase of the crisis is over, organizations and society need to seize the opportunity and learn from this newly gained experience to better prepare for managing the threat and potential new crisis. Research shows that the next crisis will probably never look the same as yesterday (Boin et al. 2014); this is especially true within the cyber realm since technology changes constantly, and criminals often are one step ahead in finding new vulnerabilities to exploit. However, it is crucial to consider if something in our current structures and routines needs to be reformed and rebuilt to strengthen our resilience and better prepare for the next uncertain thing? Moreover, how do we keep the balance between putting too much focus on “yesterday’s crisis”, while at the same time learning from our mistakes?

In sum, this analytical toolkit is beneficial for analyzing this crisis and as a more operational toolkit for managing and approaching different stages of various crises. Applying this to the specific case of WannaCry ransomware from 2017, this case study enables an understanding of essential aspects of societal security when managing a cyber-related threat and its consequences for society.

## Sense-Making

Since a cyber-attack and cyberspace's nature are dynamic and challenging to define, it is often unclear who is affected by any given cyber-incident and what issue is at stake (Christensen and Liebetau 2019). Compared to flooding, where the water spread is relatively easy to follow and map, the spread of ransomware does not follow the same rules and is, therefore, more challenging to comprehend and predict.

After a crisis has occurred, it is always easy to look in the rearview window and ask the crucial question "Could something have prevented this crisis in any way?". It may often be more pronounced then, and it is easy to pinpoint specific events and occasions that could have prevented the outbreak and the consequences of the crisis. However, the uncertainty of *what* will escalate to a crisis makes it almost impossible for us to clarify which threats we need to address. By dissecting the course of events leading up to the WannaCry outbreak, this section emphasizes how the use of our analytical toolkit may enable a more inclusive and resilient process of prevention and preparations before a crisis.

### *What Do We Know About This Threat?*

Already when Microsoft ended their support for Windows XP, a message was sent out about how computers and machines running that software were especially vulnerable to cyber-attacks. Windows XP was once one of the most popular operating systems globally. Microsoft announced this need for transition from Windows XP as a "technical necessity" and part of the "software's life cycle". Whether that was the only reason, or if the transition was a decision to encourage people to buy their latest computers and software, the aspect of interest here is not Microsoft's underlying intentions, but rather how people and organizations interpreted it and how the world responded to the available information.

Thus, the information about the risk of continued use of Windows XP was out there. Those technically savvy enough to understand the impact of such risk may also have easily updated their operating systems. The Baltic News Network reported that the number of Windows XP users declined by half during the two years after the support ended; however, it was still the third most popular operating system globally (Baltic News Network, 2016).

According to a data and internet traffic measure conducted by the international research and technology company Gemius Global in 2014, there was a clear correlation between "market maturity and adoption of newer Windows versions" (Gemius Global, 2014). Furthermore, the Baltic News Network highlights that they found a correlation between "the development of the internet market and rising popularity of the latest version of Windows" (BNN, 2014). One reason for these numbers, according to BNN, is that "people do not seem too keen to update to a new operating system" (BNN, 2016). Several debate articles emphasize the opinion of how it is impossible to know for sure if something "new and supported" automatically equals more security than "Old and unsupported" (Mahler, 2016). The argument in question is based on the thought that Windows XP had been "battle-tested in the real world for 15+ years", and through that, it could be possible to believe that its code contained fewer bugs than the newly launched Windows XP.

More information about an increased risk of a possible crisis came in March 2017, when the NSA finally made Microsoft aware of the vulnerability they had used as a “spy tool” for years. Microsoft assessed that this meant an increased exposure to the threat of a cyberattack; they reacted rather quickly and released a patch to secure computers from that specific vulnerability. Moreover, Microsoft also published comprehensive information about how this newly found vulnerability could “allow remote code execution if an attacker sends specially crafted messages to a Microsoft Server Message Block 1.0 (SMBv1) server” (Microsoft, 2017). They further explained how that could affect nonsecure computers and how “an attacker who successfully exploited this vulnerability could craft a special packet, which could lead to information disclosure from the server” (ibid.).

Consequently, information about the security vulnerability was out there; Microsoft had done a technical risk assessment and acted on what they believed needed to be done. Furthermore, ransomware is not a new phenomenon for the world; previous incidents had demonstrated its grave consequences and its exponential profit trajectory for criminals (Adams 2018). Through previous experiences and now the knowledge about the vulnerability in SMBv1, many scholars stated that it was apparent that something big was on the way (see, for example, Adams 2018). Already in the beginning of the weekend that WannaCry spread, the Microsoft Defender Security Research Team was quick to inform about the situation and explained that the ransomware “appears to have affected computers that have not applied to the patch MS17-010”, and they reminded their customers to install it if they had not already done so (Microsoft, 2017). This indicates that the technical information needed was available to the responsible authorities, but it is unclear what was done with this information.

Even though the information and knowledge about the risks were available, “a vulnerability in the Server Message Block 1.0 system” does not mean anything to most people. Furthermore, our capacity to absorb information is aggravated by the fact that our modern society is flooded with data, and the volume of information per consumer is growing exponentially. For example, the Ministry of Defence UK statistics shows that while the daily amount of information available to one person in 1986 equalled 40 newspapers with 85 pages, today’s consumers receive information equating to 184 newspapers (Ministry of Defence UK, 2018: 74). Moreover, because of that, they assess that people will increasingly be required to manage and select out of this vast and increasing volume of information (ibid.). What information that individuals absorb from that messy amount depends, in part, on their own experiences and interests. A descriptive parable of how it works is; “people take a scrap of information, and weave a scenario around it, using encoded experience as mental yarn” (Boin et al., 2017: 36).

Furthermore, it is crucial to note that it was an economic issue in many cases and thereby a question of prioritization and interests. For example, the patch that Microsoft issued in March 2017 was free for users running recent versions of Windows; however, consumers with computers running older software versions had to pay up to 1000 USD a year per device for protection (Mattei, 2017). This procedure entails a significant dilemma. For example, it became known that UK Secretary of State for Health, Jeremy Hunt, decided to stop paying Microsoft for the extended Windows support, a deal that would have cost about 5.5 million

dollars (Ibid.). However, by not paying for the protection, it later became aware that the health care systems of their whole nation became exceptionally vulnerable to a ransomware attack.

### *For Whom is this a Crisis?*

Even though WannaCry did not target any specific sector, its consequences were unevenly distributed throughout societies. The following sections look closer at what societal functions and values were significantly affected by this attack, and more importantly, how this could help us understand the importance of viewing cybersecurity as a threat to societal security. Furthermore, it is well established that certain groups are disproportionately exposed to and affected by conflict and other threats to international peace and security; however, there is little data on how this may be understood in the context of a cyber-attack (see, for example, Brown and Pytlak, 2020). By acknowledging this and asking questions about how deficiencies in cybersecurity may affect certain vulnerable groups, we can contribute to a more comprehensive threat and crisis management.

### **Human Lives and Health**

With all facts in hand, we now know that the UK National Health Service (NHS) was one of the most significant casualties of WannaCry, with over 600 affected organizations, including 34 infected hospital trusts and 46 affected hospital trusts (Ghafur et al., 2019). Hospitals that were directly infected with the ransomware had a decrease of about 6% in total admissions per day, 4% fewer emergency admissions, and 9% fewer elective admissions; where the total economic value of the lower activity at the infected trusts during this time was £5.9m including £4 m in lost inpatient admissions (Ibid.).

Furthermore, with the available information, it should have been possible to assess that the healthcare industry would be extra vulnerable to these attacks. This is because their services rely on machines and computers for everything from keeping track of appointments to conducting advanced surgery.

### **Personal Safety and Integrity**

Beyond the affected health care services that are affected in case of a data breach, it is crucial to note that the personal safety of the patients in terms of patient information gets violated. Patient information is as highly prized as a credit card number since criminals can use it to target attachments such as spear-phishing (the act of sending emails to a specific target while purporting to be a trusted sender, to either infect the device with malware or to convince the victim to hand over information or money).

There were no reported data breaches during WannaCry; however, it is relatively common due to insufficient cybersecurity. We will demonstrate its possible dangers with two examples of massive data breaches. The first one happened in Chile, in 2016, at a public hospital that suffered a cybersecurity failure where more than three million health records were made available to the public (Brown and Pytlak, 2020). The files included the name of patients, their ID numbers, and they entailed addresses of women and girls who asked for the morning-after pill, as well as personal information about living with HIV (Ibid.). The other case was in Brazil, also in 2016, where the personal data of an estimated 650 000 patients spread. In addition, the breach included personal data that referred to women who went through abortions. Since abortions are illegal in Brazil, such a breach

interfered with the women's privacy and exposed them and their doctors to potential criminal charges (Ibid:12).

Cyber-attacks can also interfere with personal safety in terms of internet and communication shutdowns. Research is done on how vulnerable groups are disproportionately affected by this, as well, since, for many, having a functioning phone or communication tool is a way of feeling secure (Brown and Pytlak, 2020). For all the people in a society that rely on secure communication channels, being cut off from them can threaten their safety.

### *Economy and Small Business*

The economy is maybe the area where it is easiest to estimate the consequences of a cyberattack in retrospect; however, it can be challenging (let us say impossible) to predict how high the costs of a crisis may be. Even though large corporations are targets of cyber-attacks, they often are relatively well prepared, or at least they have some sort of safety net to handle it. On the other hand, small businesses often lack sufficient in-house expertise to deal with cyberattacks, at the same time as they face the same cyber threat landscape that the larger organizations. The US Securities and Exchange Commission released a report in 2015 where they emphasize a concern that small businesses may not be taking cybersecurity as seriously as they should. According to one of their investigations, the owners of small businesses handle their cybersecurity matters themselves roughly 83 percent of the time (US Securities and Exchange Commission 2015).

### *Decision-Making*

It is almost impossible to know what a situation might escalate into before the crisis strikes; many of today's emerging threats are extremely difficult to prevent or predict (t'Hart and Sundelius, 2013). When backtracking the WannaCry crisis today and looking at the neat timeline provided in section 2, it would be easy to argue that all the information to take preventive measures was available. However, the crisis was generated by, for many, new and complex technologies; not only was the information difficult to understand, but the information or the possible consequences of a cyber-attack also did not reach everybody.

This section approaches these difficulties by looking closer at how the preparations and management of the WannaCry crisis went down in the UK and Estonia. It should be noted that this study does not try to provide a comprehensive comparison between the two but rather highlights how the preparation and management and the consequences of a crisis may affect societies differently.

### *Preparing for a Crisis*

One of the biggest scandals during the WannaCry attack was how badly the National Health System in the UK managed the crisis. It was a known fact that the cybersecurity of the NHSs various trusts was lacking, where only 88 out of 236 trusts passed the required cybersecurity standards, according to the NHS's digital branch (BBC, 2017b). In addition, it has been made clear that the NHS had been warned and informed of the need to update their old software systems by the Department of Health already in 2014 (National Audit Office, 2017). However, one of the things pointed out as the problem was that "there was no way for the

Department to force the trusts to actually upgrade”, or to follow up to make sure it was done (Ibid.).

It has become publicly recognized that the UK Secretary of State for Health, Jeremy Hunt, decided to stop paying Microsoft for extended Windows support (Mattei, 2017). It is also known that it was a deal that would have cost about 5.5 million dollars (Ibid.). If he had known what consequences it would have had, or could have had, for the organization and its legitimacy, it might have been worth paying. This is an excellent example of how leaders may be too preoccupied with the achievements of today and the possible financial constraints that they operate under (Boin et al., 2017:39). Furthermore, several reports state that the programs and machines used in health care are exceptionally delicate and that “updating the overall operating system could, for example, interfere with a medical monitor attached to a patient on life support” (Louven, 2017). Looking at those facts, it is not that unexpected that decision-makers decided to prioritize more short-term efforts to boost their reputation or work. However, if they knew about the consequences that would come for the organization and its rumour and legitimacy, they might have felt the efforts were worth it.

One can also argue that this is an example of how what scholars may call “the problem of complacency” (t’Hart and Sundelius, 2013), where decision-makers tend to look away from crises that they do not believe can happen to them and that they, therefore, do not need to prepare for them. This reasoning goes in line with how most organizations are not designed to look for crises or trouble since that is not their main activity. Another aspect of this, and why the WannaCry crisis hit the NHS so hard, both in reparation and reputation, may also have to do with the aspect that they viewed themselves as invulnerable to such a crisis. t’Hart and Sundelius (2013) emphasize the vulnerability paradox, where the more invulnerable a community has been in the past, the more severe the impact of any single disruption it does experience. This can be understood as partly a cultural phenomenon, where the population is unprepared for hardship and more likely to be traumatized and uninformed about ways to survive and recover (Ibid.).

When WannaCry ransomware spread and infected an unimaginably large number of computers, it was only found in about twenty systems in Estonia (Estonian Systems Information authority, 2018). Furthermore, all the infected systems already had the patch that they needed to secure the system, so no harm was done (Ibid.). The Estonian Information System Authority (RIA) (2018, 24) explains that the reason WannaCry did not impact Estonia was a result of “both readiness and rapid response”. Their strategy seems based on the idea that even though we can never rule out an incident, the readiness of both systems and people is significantly essential in preventing and minimizing the damage of such incidents (RIA, 2018). This was done by continually notifying the information security managers of state agencies and vital services providers and issuing public warnings and guidelines (Ibid.). For example, the RIA started an awareness campaign as early as 2013 to get people to stop using the Windows XP system (Estonian Systems Information authority, 2018). Thanks to that specific campaign, the usage of Windows XP dropped to below 20% in Estonia (Ibid.).

The focus on “the people’s readiness” is further emphasized through how the RIA works for improving the cybersecurity skills of organizations, where they enable

the organization's knowledge about what is going on in their information systems to be spread beyond the IT specialists, which further enhances the possibilities and the readiness to prevent the risks and react to them quickly (RIA, 2018). This enables that incidents that otherwise would have been dealt with by the information system administrators can be noticed at other levels as well, which benefits both the information system operators and more importantly, the state and society (Ibid.). Since this improves risk awareness and early detection of attacks, or other types of threats, it is possible to reduce the severity of the risks and the possible damage from such attacks/threats.

### *Coordination and Implementation*

Since, as we have made clear, a cyberattack leaves no one unaffected, it defies the traditional boundaries of public institutions meant to perform one specific function, such as policing or fire rescue, and forces organizations to cooperate (Boin et al., 2017: 64). Even if some technical preparations are made in some instances or organizations, almost every individual, every small business owner, school, and hospital, has access to a computer connected to a network, which means that the threat will persist against the community, nonetheless. This emphasizes why managing a crisis should be seen as a whole-of-society endeavour, where cross-border collaboration is highly needed.

Crises are often supposed to be solved on a local level if possible. However, when the crisis spills over this boundary, the problem of "vertical upscaling" becomes apparent. It is not always obvious when this upscaling should happen when the crisis has become impossible to deal with for the local organization. Centralizing the decision-making "widens the gap between decision-makers and the scene" (Boin et al., 2017: 65). Especially in the few but essential steps before the crisis has even started, it is often unclear whether a central authority should step in.

Let us once again look at the case of the UK and the NHS. We find that the Department of Health had the overall responsibility for responses and resilience in cybersecurity, but its management was delegated to the local NHS trusts. There were both overseeing bodies put in place to monitor the trusts and others to monitor cybersecurity. However, the first did not have cybersecurity as a speciality, and the latter lacked a way to enforce cybersecurity plans and upgrades. Because of that, the developed plan could never be rehearsed (Department of Health, 2017:21). This can help to explain why, when the WannaCry ransomware spread, there was confusion between the local and national levels in the NHS on who was supposed to take charge. For example, a fundamental thing such as planning for maintaining the communication during the most critical time when the ransomware closed the ability to communicate through emails, for example. The staff of the local NHS were then forced to communicate using their personal cell phones (National Audit Office, 2017). This is not uncommon as the organization that is supposed to be responsible for the coordination may find itself handicapped (Boin et al., 2017:64-5).

One way to interpret the obstacles encountered by the NHS is to use the concept "compartmentalized". Where the division of responsibility and efforts of preparedness created obstacles for the crisis management, rather than if the efforts would have been driven from the centre of government in close cooperation with all the bodies in society (Bynander and Nohrstedt, 2020). Since, as seen in the example from the UK, when different groups have difficulties

interacting due to their different objectives and responsibilities, it complicates the coordination and implementation of preparation plans. Therefore, to promote resilience in all societies, it seems crucial to ensure cybersecurity and communication more collaboratively across borders and levels.

If we turn back to the example of Estonia, we may see how the coordination followed a more “whole of society”-approach. The Estonian Systems Information Authority was quick to contact companies and healthcare institutions that could have been targeted and “advised them on systems protection”. It seems overall that the Systems Information Authority played a significant part in securing Estonia’s safety in the WannaCry crisis. The Authority also contacted “state agencies and vital services providers” to ensure they were prepared for the WannaCry attack. The Authority also made sure to warn the public and provide general guidelines on protecting oneself. The authority concludes its rapport on the WannaCry crisis by stating that “Although incidents can never be entirely ruled out, the readiness of both systems and people has a significant role to play in preventing or minimizing damage” (Estonian Systems Information Authority, 2018:24-25).

The examples above show that, even though decision-making during a crisis often is characterized by improvisation and the ability to act and think quickly, well-planned coordination facilitates well-executed crisis management. For example, if organizations have prepared materials with information about dealing with various forms of cyber threats, they could quickly apply these to the nature of the crisis (Swedish Armed Forces et al., 2021). Furthermore, this emphasizes the importance of overcoming the gaps of traditional distinctions between professions and responsibilities, where such gaps may reduce the effectiveness of smooth coordination (Sundelius, 2021).

### Meaning-Making

The third task, meaning-making, is about communication. The public expects the government and leaders to supply information about the current event. This is a difficult task, as authorities collect massive amounts of information that are often hard to verify. Moreover, even if verified, it is often difficult to filter out what is essential and not. Once the information is verified, the authorities need to form them into a real story to present to the public. Often, there is not enough time to build enough information to do that. The public is often desperate for information and will turn to alternative channels if the authorities are not quick or informative enough. Further, it is often possible that people view the government as something to be distrusted, which hinders effective communication even more (Boin, Stern and Sundelius, 2017:17).

#### *How can and should we communicate our actions and decisions?*

During a crisis, and perhaps especially during a cybersecurity crisis, communication from the authorities is essential to offer solutions to the crisis. As mentioned at the beginning of this case study, cybersecurity is not solely a technical issue but also one of management and communication. Despite this, much of the communication during the weekend of 12<sup>th</sup>-14<sup>th</sup> May 2017 focused on the technical aspects of the WannaCry crisis. For example, the Swedish Civil Contingencies Agency released a statement regarding the WannaCry crisis, which solely dealt with the technical aspects of ransomware. The statement contained



recommendations on which updates to download and advice on how to switch off the SMBV1, which was thought to enable the further spread of the virus (CERT, 2017). In addition, the statement referenced an earlier post that also entailed other technical solutions to similar problems (CERT, 2015).

The Swedish Civil Contingencies Agency was not alone in focusing on the technical aspects of their communication regarding WannaCry. The British National Cyber Security Centre wrote a statement on the 14<sup>th</sup> of May 2017, which circled the importance of drawing “two lines of defense.” These two “lines” were about stopping the immediate spread of WannaCry and about hindering similar crises from appearing in the future. The first step, stopping the spread, was focused on advice such as regularly creating a backup of the hard drive, blocking websites known to inhabit malware, and installing anti-virus programs. While these tools, if enacted, would stop the spread of the WannaCry ransomware, they do not get to the core of the problem. They are all technical solutions, perhaps meant for the IT expert at a company. They do not solve the managerial, human problem of cybersecurity. The second step, hindering similar attacks from happening, should have the opportunity to involve solutions based on management.

Instead, the solutions offered are to keep security software up to date, use authorized anti-virus programs, and keep backups of data (NCSC, 2017). These indicate how the WannaCry crisis was communicated as a technical crisis that needed technical solutions. The problem with this type of communication is that they focus too much on one specific aspect of the issue and fail to capture the entire picture. They also address a public who is already proficient in computer and data skills. For example, if an everyday person is advised to turn off the SMBV1, they would not know what to do. Keeping backups of files is crucial, but how are small business owners and home computer owners supposed to know how to do this? Thus, this type of communication can generally do a disservice to those affected by a cyber crisis. One risk is that the intended target does not even understand the communication that is being made and that it only adds to the confusion, which will be explored in the next section.

#### *How to Communicate to Uphold Trust, Legitimacy, and Credibility?*

A recurring theme in meaning-making during a cyber crisis is the confusion that spreads among the public. During a cyber crisis, a critical task for leaders is to dampen that confusion and instead provide a guiding light during the turmoil. Unfortunately, despite what is happening on the ground, the authorities often try to communicate that they control the situation and can be trusted. In the following section, this is exemplified by the case of China during the WannaCry crisis, where reports on the ground stood in contrast to the statements made by Chinese authorities.

In China, it was reported that educational institutes such as universities were severely affected by the WannaCry ransomware. The main reason for this seems to be that it was common to have used outdated or pirated versions of the Windows system, making the computers extra vulnerable to ransomware attacks. It has been reported that 29 000 computers in China were affected by WannaCry, including more than 4,300 educational institutions, including Beijing University and Tsinghua University (Sharma, 2017). However, conflicting reports were coming out of China regarding the severity of the attack. Beijing University and

Tsinghua University reported that they had not been affected by the attack but instead said that they had “prevented ‘large-scale’ infection on their campuses”. Of note is that none of the universities explained any further how the attacks had been prevented. Tsinghua University hosts several security-related “research projects” and also hosts the primary server “of the China Education and Research Network or CERNET”. CERNET directly opposed the Qihoo 360, instead stating that only 66 educational institutes in China had been affected (Chen, 2017). This seems unlikely, as most other sources indicate that the universities and institutions affected in China were in the thousands.

This can be seen as an attempt by the Chinese officials to make it seem like they were in control of the situation by denying a crisis underway. In doing this, the victims of the crisis are ignored. If the officials confirmed that China had been affected to the reported extent, then that would also mean that they would indirectly confirm the existence and use of the piracy versions of Windows. CERNET even went so far as to state that the claims about the thousands of infected computers in China “have seriously misled public opinion, caused panic among teachers and students, and affected the normal order of instruction and life” (Sharma, 2017).

The WannaCry crisis confused the general population, and the Qihoo 360 report was among the first to comment on the situation in China. The problem for Chinese officials with the Qihoo 360 report was that it pointed towards weaknesses in the Chinese cybersecurity system, indicating that many pirated versions of Windows could be at fault. Therefore, Chinese officials countered by denying these claims to communicate trust and credibility to the public. If this succeeds is unclear. However, by doing this, one could assume that they aimed to lessen “the confusion and produce a reliable narrative of the current events” (Boin et al., 2017: 17).

#### *What Messages are Being Communicated by Other Actors?*

There is much confusion during a crisis, and it is up to leaders to lessen that confusion and produce a reliable narrative of the current events. The leaders must communicate their version of the crisis and get the public to accept this version. This version attributes “meaning” to the current events and the crisis management that the leaders are attempting to handle. The consequences of poor meaning-making could lead to the leader being misunderstood or, worst case undermined. There are several actors always trying to tell their version of the crisis. If someone else than the leader succeeds in this, the leader's capacity will be “severely constrained.” (Boin et al., 2017: 17).

Furthermore, to add to the confusion, it is difficult to determine the attacker and even to know how to solve the crisis because of the nature of cyber-attacks. Boin (2019:95) illustrates this by writing, regarding cybersecurity issues, that “It is rarely clear who or what is behind a cyber disruption.” Due to this, the communication of leaders and actors can quickly devolve into blaming each other for the crisis, which we will explore in the latter parts of this chapter. A blame game of sorts where actors try to pin the blame for the crisis on each other is commonplace.

This blame game is evident in the latter stages of the crisis, where China was a vocal actor. Chinese State Media criticized the U.S. and specifically the National

Security Agency (NSA). The China Daily stated that the NSA “should shoulder some blame for the attack” which “has infected some 30,000 Chinese organizations”. The U.S. had previously banned Huawei, a Chinese telephone and communications company, and the China Daily called this ban hypocritical in the wake of the NSA’s creation of EternalBlue as well as its leak.

Furthermore, the implication of the NSA in the creation of WannaCry should “instill greater urgency” in China’s mission to replace foreign technology with its own (Reuters, 2017). This critique was repeated by Russia, who joined China in criticizing the US (Seddon, 2017). Blaming someone else has a double function as it both pushes blame away from oneself and it also makes it possible to avoid responsibility for what has happened. The blame game by the Chinese state media can be viewed as an attempt by China to push the blame for the crisis away from themselves and instead put it on others. As established in the earlier section, China was trying to communicate that they were in control of the WannaCry crisis. However, looking at the statistics, they seemed to have little to no control over the spread. Thousands of computers on university campuses around the country had been infected, and even universities that were supposed leaders within cybersecurity had been affected.

In this light, it becomes evident why China was pushing the guilt to the U.S. The virus had originated in the United States of America, but it was evident that the cybersecurity routines had failed in Chinese universities, thus exposing them to the virus. The authorities then had a choice. They could either claim responsibility for the security failure and try to make amends to the affected students and universities or push the blame away. They chose the latter. In doing so, they could communicate that they had control and found a scapegoat in the U.S.

Nevertheless, there is also a downside to this type of meaning-making. This downside is that the victims are forgotten. In enacting this type of meaning-making, the ordinary citizen and their needs are ignored. By making the communication into a great power struggle, the leader does not have to accept that they have failed and had a hand in the crisis, even becoming a crisis. As such, the blame game becomes a way of protecting oneself for the leader and making the public believe that it was all someone else’s fault. Thus, the leader does not have to concern itself with what went wrong and how to prevent it next time. Blaming someone else effectively moves the question away from societal security and into great power politics, ignoring the actual faults that lead to the crisis becoming a reality.

### Terminating

WannaCry was a fast-burning crisis; it arrived suddenly, spread intensely, and then, the discovery of the kill-switch halted it hastily. It would seem easy to say that the finding of the kill-switch was the end of the crisis, and it did for sure pause the critically high time pressure and reduced some uncertainty of how to approach the ransomware. Looking at data from the cybersecurity company Avast (2017) we can see that the number of detections of the malware decreased from 10,000 to approximately 2,000 per hour after discovering the kill-switch. However, several consequences remained. Such as new versions of ransomware, IT costs, decryption of files, lost files. The following sections look closer at how

this process looked for different groups and values. In addition, this section looks closely at how the termination process, and the end of the crisis, looked concerning certain affected groups, values, and services; and how the political aftermath may have influenced it.

### *When is the Crisis Over and For Whom?*

#### *Individuals and Personal Safety*

As noted, it was not only large corporations' machines and systems that were affected but also individuals with no idea how to manage this devastating incident. Since the kill switch only stopped one variant of WannaCry from spreading (the one with the so-called "worm functionality" that enabled the massive spread of the ransomware), people still suffered the consequences of being targeted by the other versions of WannaCry that circulated. The cybersecurity company Avast (2017) reports that they had noticed at least six different versions of WannaCry, containing different kill switches. Since cybercriminals quickly realized WannaCry's success, they started "piggybacking on the trend to earn their bunch" and managed to create similar ransomware applications (Ibid.).

Moreover, since the inner components of the WannaCry, such as the "file-encryption part", were not controlled by the kill switch, the files on those computers which had already encountered the ransomware were still encrypted. Europol (2017) informed that decryption was a complicated process, even impossible in many cases. Some different decryption keys circulated; however, they only worked for some operating systems. Only if the infected system had not been restarted or killed the ransomware process somehow (Europol, 2017). So, both cybersecurity companies and cybercriminals offered solutions, and since the information contains a massive number of technical details, it required specific technical knowledge to understand. Without the proper knowledge, the decryption solution could very well be another malware in disguise, putting the help-seeking individuals in an even more vulnerable and exposed position.

Another aspect of the termination process is whether the threat and the vulnerability are still alive, even after the crisis itself is over. As we now know, the ransomware used a vulnerability in the SMBv1 protocol, and there is a patch available for it. However, companies, industries, and individuals continued to run machines connected to the internet, with the vulnerability still exposed. For example, in complex networks (especially industrial ones), network segmentation is used, which means that parts of the network do not have internet access at all but are still routed securely to parts that do (Armis Security 2019).

#### *Health Care and Human Lives*

As we know, the health care system became significantly affected by the crisis and is deemed highly vulnerable to this kind of attack. According to the Department of Health and Social Care (DHSC), no reports of harm to patients or patient data were compromised or stolen. However, the NHS is an excellent example of how the crisis-like situation did not end when the kill switch was found. According to DHSC's report "Lessons Learned Review of the WannaCry Ransomware Cyber Attack", the primary phase of the crisis lasted for a week (DHSC, 2018). The NHS local trusts, partner organizations, and regional NHS teams spent the weekend collaborating across healthcare sectors to share

knowledge, resources, and information to support the response and resolution (DHSC, 2018).

The attack and the following IT support led to disruption in one-third of hospital trusts in England (DHSC, 2018), which, of course, had a severe effect on patient care throughout the week. According to data presented by the DHSC, 6,912 first appointments were cancelled and rearranged during the week, and at least 139 patients who had an urgent appointment for potential cancer got cancelled. It should be noted that the DHSC acknowledges that this number may have been higher had the trusts identified cancellations after 18 May when the major incident was stood down. Another source shows that a total of almost 19,000 appointments were cancelled during the week (National Health Executive, 2018). Although it was just an estimation of 1% of all the NHS care disrupted throughout the week, 19,000 people should not be reduced; it is a significant number of patients.

The issue of the lack of data is further causing problems in identifying the termination process. For example, NHS England did not collect any data during the incident on how many GP appointments were cancelled or how many ambulances and patients were diverted from the accident and emergency departments were unable to treat patients (DHSC, 2018). Furthermore, there was no evidence to confirm whether and how many social care providers were infected. However, the DHSC acknowledges that there is some anecdotal evidence that both councils and care providers may have been affected by delays in NHS care, with business continuity arrangements needing to be put in place between health and care organizations in some local areas.

#### *Political Accountability, Who Should We Hold Responsible for the Crisis?*

As we saw in section 3, political leaders' efforts to shape the public understanding of the event start already during the acute stage of the crisis; however, it becomes even more powerful and meaningful when the most disturbing phase of the crisis has been dealt with (Boin et al., 2017: 109). No matter how competent or poorly the crisis leaders acted before and during the crisis, their performance during the political game of the crisis aftermath may help them prevent losses to their reputation, autonomy, and resources (Boin et al., 2017: 101).

A large amount of the accountability process is driven by the mass media. For example, only days after the WannaCry outbreak, the BBC was quick to question the US National Security Agency's (NSA) responsibility since they were the ones that built, used, and then lost control over the EternalBlue exploit (Lee, 2017). Following that, together with the US Government, they took much blame from the community of IT-security professionals following the WannaCry attack (Kjærgaard Christensen and Liebetrau, 2019). Without EternalBlue, WannaCry would not have been nearly as devastating as it was.

The whole situation provides an example of why stockpiling of vulnerabilities by the government is a problem. Microsoft's president and chief legal officer, Brad Smith, stated that "We need governments to consider the damage to civilians that comes from hoarding these vulnerabilities and the use of these exploits" (Kjærgaard Christensen and Liebetrau, 2019). However, the government has refused to take responsibility, and in an interview with the director of the NSA

during the breach, explained their liability as such; “If Toyota makes pickup trucks and someone takes a pickup truck, welds an explosive device onto the front, crashes it through a weld and into a crowd of people, is that Toyota’s responsibility? The NSA wrote an exploit that was never designed to do what was done.” (New York Times, 2019).

One may argue that a cyberweapon should not be compared to a pickup truck, but at the same time, it may be worth it to hold on to that logic for a while. Especially in cyberspace, when it seems almost impossible to trace the ones behind the attack, whose blame should we focus on? The NHS has received much criticism for using outdated IT systems at the time of the attack and that they had not rehearsed for a national cyber-attack, amongst other things. Furthermore, it may be tempting for decision-makers to blame the individuals and the organizations that did not follow the recommendations about updates; after all, information about the vulnerability was out there, and the patch was made available to everyone. Microsoft had done its part by announcing the vulnerability; several countries and companies had also made sure that their cybersecurity was up to date.

However, in our modern society, it is possible to be almost certain of the fact that our governments will continue to develop and use cyberweapons for their purposes, that our hospitals and universities will be dependent on poorly funded cybersecurity, and that there will always be cybercriminals that are ready to find and exploit vulnerabilities, even in patched systems. Concludingly, the crisis is not over simultaneously for everyone, especially as a cyber crisis demands specific technical knowledge, which not everyone has. Therefore, leaders must acknowledge how the crisis, and the continued threat, may be perceived and experienced in different sectors and how values such as trust and personal safety may suffer long-term consequences.

### Learning and Reforming

Although research shows that the next crisis will never look the same as yesterday (Boin et al., 2014), it is crucial to evaluate and learn from such an occurrence to strengthen the resilience of the organization and society. WannaCry demonstrated how devastating a cyberattack can be and how it may stretch into all possible fields, both locally and globally. One important thing to acknowledge with lessons is that they are often never entirely new but instead already observed and confirmed during previous similar situations (Swedish Armed Forces et al., 2021). Thus, there is more to it than observing and acknowledging a lesson. To increase societal resilience towards the cyber realm, we need to ensure that the continued evaluation process is more comprehensive and reflect on these priorities by looking at the analysis of whom this was a crisis and why? Furthermore, how do we strengthen the security for these groups/fields/values before the next similar crisis occurs? What needs to be reformed, and how?

#### *Lessons Learned and Implemented?*

One lesson WannaCry brought with it was the danger of running outdated operating systems and keeping old software connected to the internet. The easy way out of this would be to keep encouraging individuals and organizations to update their computers; however, this knowledge was available even before the

outbreak of WannaCry, and many organizations still became severely affected. Furthermore, WannaCry was not the last attack of its kind, and cyber-related threats are one of the most significant future threats globally and for the Baltic Sea Region. Therefore, the following section looks at the challenging balance between the importance of updating the software and the need also to push the evaluation process even further than that to make it more sustainable, efficient, and inclusive.

WannaCry hit hospitals hard due to its challenges to update all their machines. Since hospitals have thousands of devices connected to the IT network, and any one of them can have vulnerabilities in either hardware or software, which means that cybercriminals can easily exploit them if they desire. According to the Department of Health and Social Care (DHSC), the incident highlighted several areas for improvement both within individual NHS organizations and across the whole health care system (DHSC, 2018). DHSC further emphasizes how they have tackled these challenges, including supporting local organizations to upgrade from Windows XP and establishing a specific cyber support service (Ibid.).

However, two years after the WannaCry attack, the software company Check Point investigated how well the NHS had taken measures towards being such an easy target as they were to WannaCry. They highlighted that there was still an alarmingly high number of outdated software and operating systems active in their health care business (Digital Health, 2019). To demonstrate the severeness of this, Check Point highlighted ultrasound machines as particularly vulnerable. By testing the cybersecurity of an often-used ultrasound machine, they could gain access to the machine's entire database of patient images. As a result, they could quickly download all the scans of patients, manipulate the scans, replace patient names, and load ransomware on the machine (Digital Health, 2019). Since hospitals are responsible for managing their cybersecurity, and hospitals' IT teams simply do not have the time or resources to manage and update every device (Digital Health, 2019), it is no wonder that they are left relatively unsecured. Recovery and rebuilding efforts were, of course, different throughout the world, and some learned the lesson better than others. However, as mentioned, ransomware attacks are still a significant threat to our societies. If the criminals profit from these attacks, they will most probably continue to find vulnerabilities to exploit.

#### *What Needs to be Reformed, Rebuilt, and Reconstructed? How?*

One possible analysis of what needs to be recovered to make our societies more resilient to cyberattacks is that traditional cybersecurity priorities reflect the interests and biases of its developers and therefore neglect societal functions such as education or health care. In addition, research shows that the development of laws, policies, and norms of cybersecurity tends to occur in highly securitized settings, without the benefit of civil society input or human rights expertise (Brown and Esterhuysen, 2019), and therefore, efforts to bolster cybersecurity ignore the human rights dimension.

To further demonstrate this gap between cybersecurity and human security, let us look at the following example: when the University Hospital Düsseldorf was the victim of a similar ransomware attack, almost four years after the WannaCry attack. According to the Institute for Peace Research and Security Policy (ISFH),

at the University of Hamburg, the hospital was well prepared; despite that, the attack led to the hospital having to de-register from providing emergency care, alongside having to reschedule planned surgeries (ISFH, 2020). Unfortunately, this led to the hospital sending a woman in need of urgent admission to another facility around 30km away, causing a delay of her treatment by around an hour, contributing to her death (Ibid.). This emphasizes that “even the best efforts are sometimes not enough” (ISFH, 2020). Furthermore, while cybersecurity is essential, so is the societal and human aspect of resilience.

Furthermore, to successfully build a whole-of-society approach with a strong core of resilience, individual preparedness is essential (Sundelius, 2021). Even though the attack may target an organization, there will always be a person present on-site to act as the first responder to the crisis before official representatives are acknowledged (Ibid.). We saw the successful example of how Estonia informed its public of the dangers of running outdated software, making society more resilient to WannaCry and similar attacks. Another example of how a similar campaign can be found in Sweden in 2018. The Swedish Civil Contingencies Agency sent out the leaflet “If crisis or war comes” to 4,8 million households to inform people how to prepare to meet basic needs when vital functions in society do not function as usual (Swedish Civil Contingencies Agency, 2018). The leaflet mainly focused on the importance of keeping water, food, and essential supplies at home in case of an emergency.

In the report “In the shadow of a crisis”, Swedish agencies emphasize the need for carrying out exercises with a cybersecurity focus and a closer connection to the daily work to develop a routine and habit of dealing with these incidents (Swedish authorities, 2021). Furthermore, they highlight the importance of supporting the employees with developed guidelines and proactively informing them about how different situations affect cybersecurity (Ibid.). As mentioned, it is of the most importance to keep the individual at the centre of building a resilient society. Even though organizations may have developed new technologies and solutions, the people that the attack will target need to be informed of how to avoid unnecessary risks.

By constantly informing the public, and most of all, making sure that the information reaches everyone and not just groups that keep themselves informed, society’s resilience will be strengthened. One issue, however, is to make sure that the information reaches everyone. As we saw in section 4.1., just because the information is out there does not mean that everyone takes part in it or understands it. Therefore, it is crucial to continually acknowledge if there might have been a specific group, area, or sector with an extra hard time managing the crisis, that might need extra careful communication. With today’s new social media technologies, it might be easier to spread information broadly in a timelier manner (Sundelius, 2021) and reach people not usually reached by leaflets.



## Concluding Discussion and Future Challenges

The objective of this analysis has been to investigate the WannaCry ransomware attack through the analytical toolkit of the five leadership tasks. Based on the theoretical background of societal security and crisis management and the understanding that society's responsibility is to be able to prevent and respond to unexpected high consequence events (Sundelius, 2021).

Throughout the analysis, we have highlighted several challenges and threats and essential aspects of prioritizing vulnerable groups, sectors, and functions and using comprehensive and transparent communication in preparing and managing a crisis. We have highlighted several challenges and threats towards societal security efforts in the Baltic Sea Region through the analysis. Starting with the essentiality of acknowledging cyber-related threats as threats to the whole of society, as well as towards especially vulnerable groups, services, and functions. Furthermore, to acknowledge the need for a comprehensive and inclusive preparation plan, where the cybersecurity work is incorporated into everyday work, not kept isolated at the specific cybersecurity departments or relocated to private companies.

As mentioned, cyber-related threats do not neatly align with our traditional national security policies, nor do they take national or sectoral borders into account. Furthermore, the WannaCry incident shows how they put further new demands on national sovereignty, state leaders, and the need for transboundary cooperation. It demonstrates that private companies obtain a tremendous amount of power over the cybersecurity that states are dependent on for a functioning society and security. This might come with dangers and uncertainties in how their interests and agendas will guide their services and priorities. For example, The British Ministry of Defence (2018:138) warns about the risk that these companies may be driven to “provide offensive cyber capabilities for hire”. Hackers and cybercriminals are also becoming more sophisticated and can create tools that previously were thought to only be for state actors. This muddies the distinction between non-state and state actors in cyber-attacks and makes it more challenging to find the correct culprit of an attack (Auchard, 2017).

The importance of a comprehensive cybersecurity approach that includes all of society becomes even more urgent since the last year's COVID-19 pandemic. For example, the recommended measures for infection spreading control relocated many workplaces to the employers' homes, as well as introduced several new digital communication solutions (Swedish Armed Forces et al., 2021). This created new ways of working, increased exposure to cyberattacks, and a greater need for a more widely adapted cybersecurity (Ibid.). Another thing that has been made clear during the analysis of WannaCry is the challenges of communicating a threat only as a technical issue, which risks alienating the ordinary citizen from understanding what is going on. This should be even more emphasized in relation to the COVID-19 pandemic, where a significant part of cybersecurity is reliant on individuals working from home. Employers may use private equipment that does not meet the safety requirements or use service equipment for private use and therefore exposes it to attacks in a way that would not have happened at the

physical workplace (Swedish Armed Forces et al., 2021). Moreover, the planned development project and safety-enhancing measures and the ongoing maintenance work in support of cybersecurity were not prioritized to the same extent as usual.

It is known that actors who wish to inflict harm upon a society search for its critical and vulnerable points (Sundelius, 2021). When a society already tackles a large-scale crisis, such as the pandemic, it becomes easier for malicious actors to use external events to entice or attract the attention of their targets (Swedish Armed Forces et al. 2021), and through that, finding the critical points where various infrastructures connect. This has been seen through, for example, net fishing or fraudulent mobile applications and websites that pretend to assist with helpful information about vaccination or the pandemic (Ibid.). Therefore, a challenge for societal security and resilience is to try to transform these vulnerabilities into a high-reliability system (Sundelius, 2021). Furthermore, this shows the need for a coordinated preparation process with the active participation of those agencies involved.

To sum up, by using a toolkit that highlights the different challenges and essential aspects, like the one used throughout our analysis, it becomes easier to acknowledge vulnerable groups, sectors, and functions and prioritize them in societal security. Furthermore, implementing a more structured way of thinking about the different tasks, sense-making, decision-making, meaning-making, terminating, and learning will contribute to a more trusted information-sharing environment, decision-making, communication, and rebuilding.

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# **The Global Covid Pandemic from the Perspective of Private Businesses in The Baltic Sea Region: Winners vs Losers**

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## Introduction

Throughout the years there have been many discussions regarding the topic of societal security. One aspect of societal security is the health and safety of the people, whether it's the regular worker or a company's director, we all deserve to have a healthy environment to live in.

In recent years, more specifically since the end of 2019 when the first case of Covid-19 was discovered, we have seen that managing a crisis is very important. The virus spread rapidly and has caused over a million deaths worldwide and this number continues to grow day by day even though the vaccine has been around since late 2020.

The following case study researches how private businesses have perceived and dealt with the pandemic since governments made many restrictions and regulations for most of the business sectors in the Baltic Sea region. The case study focuses on three countries - Latvia, Sweden and Finland and compares the three in how the private businesses of these countries have coped with the virus and what has been done to stabilize the situation.

### What is a Crisis?

When we talk about a crisis, we usually mean that something bad is to befall a person, group, organization, culture, society, or, when we think really big, the world at large. Something must be done, urgently, to make sure that this threat will not materialize (Boin et al. 2017).

According to the crisis definition presented in the book "Politics of Crisis Management: Public Leadership under Pressure" by Boin et al. (2017), an event can be defined as a crisis if an actor perceives the following three elements: time pressure, a great deal of uncertainty and core values at the stake. It is important to highlight the subjective element of this definition since not all actors may perceive the same situation in the same way.

Thus one needs to start by asking questions like who are the stakeholders, and what core values are at stake? In other words - for whom is this crisis and why? How much time is available? What are the uncertainties in the situation? What is happening?

The first element in determining if an event is a crisis is to determine if core values are at stake. Thus, one must first identify who the stakeholders are, what values they have and if they perceive their core values are being threatened.

- Who are the stakeholders?
- What are the core values at stake for them? Human health and lives? Human rights and democratic freedoms? Environmental interests? Property and material goods? The credibility of the legal system and rule of law?
- Are they value conflicts and trade-offs?

The next factor in determining if an event is a crisis is to determine if there is significant time pressure over and beyond what is considered to be an acceptable amount of time.

- How much time is available? Do the stakeholders have enough time to collect information, make the necessary decisions and act?
- Do the stakeholder's partners whom they typically cooperate with have the same concept of time? Or are they operating with different time parameters?

If there is indeed time pressure, crisis managers and leaders will need to determine how much time they need and if it is possible to buy more time (and at what cost?). Furthermore, they will need to determine if their current actions will affect more long-term issues (for example, protecting jobs or property rights vs protecting longer-term environmental concerns).

The final factor in determining if an event is a crisis is to determine the amount of uncertainty and if that degree is manageable. A crisis is defined by a heightened degree of uncertainty which is over and beyond normal degrees of uncertainty.

- Do the stakeholders know what is actually happening and what or who is instigating the events?
- Do the stakeholders know how the course of events will evolve?

When faced with increased uncertainty, crisis managers and leaders may need to call in experts or countermeasures to reduce some of the uncertainty. Likewise, considering all potential developments of the current scenario (best, most likely and worst case) may also help to conceptualize how the current situation could develop or unfold. Cognitive shortcuts (for example historical analogies) can be helpful but they can also be detrimental since every crisis is unique.

### Pandemic as a Threat to Societal Security in the BSR

A global pandemic is a threat to societal security for several reasons. One of the reasons being the fact that the virus is a threat to the stakeholders, meaning their core values which mostly are safety, health and security are at risk causing a deep sense of crisis - in this situation it is the threat of death and serious illness.

Also, the pandemic caused huge time pressure for leaders. They had to evaluate the situation and act quickly before the situation could get even worse. This also resulted in mistakes such as too strict precautions and closing down several business sectors.

The pandemic caused a great deal of uncertainty. It was something never faced and many leaders and actors were uncertain about what was happening and how did it happen? What's next? How bad will it be? This also clouds the search for solutions: What can we do? What happens if we select this option? What will the consequences be and for whom?

Another reason is the issue of uncertainty and the lack of accurate information about the virus, how it spreads, and how it can be treated. Since the Covid-19 outbreak, conflicting information has been spread worldwide and consequently

led to different strategies for dealing with it. Furthermore, the pandemic has been politically exploited and has been used for the purposes of misinformation and disinformation. One of the most serious challenges is that the ability to defend against the negative effects of a pandemic largely depends on the mood, attitudes and behaviour of civilian communities, which largely depend on the effectiveness of defending against disinformation. It is notable to mention that a possible lack of trust in the information policy of the authorities can make it difficult to fight the pandemic which in consequence violates economic and societal security and thus national security (Sługocki and Sowa 2021).

## Summary of the course of events and the key stakeholders

### Case selection

The 2020 Pandemic Covid-19 is the central case of this report and a starting point for an analytical and theoretical toolkit. With the crisis diagnosis and the reasoning around how the pandemic is a threat to societal security, we chose the specific case of private businesses during the pandemic for several reasons.

First, when the first pandemic wave hit, it was chaotic. It spread worldwide, starting from China to Europe, the USA and later to every country in the world. It demonstrated how the first wave was taken very seriously but since then the restrictions in some countries were reduced. Private businesses are an essential part of a country's and even the global economy. They provide the most job offers for citizens.

Secondly, the pandemic affected several private businesses such as service sectors, tourism agencies, airports, theatres and many more. Others tried to run businesses during the pandemic and lockdowns by applying necessary safety criteria. But as soon as one employee got a positive Covid-19 test the whole factory, construction site or quarry had to stop work, get all people tested and even do a 14-day quarantine.

Thirdly, when the pandemic spread stopped during mid-2020, some industries were struggling to provide the demand for goods to customers due to Covid cases at their workplaces and slower working conditions. The companies had to raise the final prices of goods to keep business alive in such critical conditions. It is also important to add that supply chains were impacted as well. Transportation of goods was limited and made more difficult. For example, if one factory supplies goods for other factories that are producing something further, they are impacted as well. As a result, the transportation of goods was more difficult and took longer time.

Lastly, skyrocketing prices caused massive changes in the global economy and market. It caused a chain reaction in the market by setting prices of the most valuable materials such as wood and metal ten times higher than they were before.

In summary, we can see that the pandemic includes the three key components of a crisis: Time pressure, core values at stake, and a great deal of uncertainty.

Furthermore, it provides practical examples of how the results of the pandemic have severe impacts on critical societal functions and values. It should be understood as a significant threat to our societal security.

For this case study due to limitations of research, we will be looking at the pandemic crisis from January 2020 to December 2021.

## A Summary of the Critical Course of events

### *First wave of the pandemic (Latvia, Sweden, Finland)*

In **Latvia**, the first wave of the pandemic affected the public health and safety sector the most. Hospitals were getting full and, to stop that, a lockdown was announced. The government declared a state of emergency on 12 March 2020 with a number of epidemiological safety measures and restrictions, primarily limiting gatherings, travel, most public venues, and educational institutions.

The first wave also made a big impact on the health sector, but **Sweden** did not impose a lockdown. Instead, the Swedish public was expected to follow a series of non-compulsory recommendations from the government agency responsible for this, the Public Health Agency of Sweden. “On 18 March, the Health Agency recommended that everyone should avoid traveling within the country. This came after signs of ongoing community transmission in parts of the country, due to concern that a rapid spread over the country would make redistribution of healthcare resources more difficult” (Swedish government response to the COVID-19 pandemic n.d.).

In **Finland** on April 15th the Parliament voted to lift the closure of the borders of the Uusimaa region, which had been closed since the region had the most confirmed cases, in the hope of slowing down the epidemic in the rest of the country (COVID-19 pandemic in Finland n.d.).

### *Second wave of the pandemic (Latvia, Sweden, Finland)*

The second wave of the pandemic started around October 2020. In **Latvia**, the number of infected people was much higher because people were less cautious than in the first wave. However, hospitals were a bit more ready as they knew what they would have to deal with in contrast to the first wave when Covid-19 was unknown.

In **Latvia** this time there wasn't already a lockdown, most working areas switched to remote work conditions but with a hybrid model applied (a few days of remote work, a few days of work at the office).

In **Sweden**, once again, the decision and responsibility were left to private actors in some sectors. Since there was no lockdown before and now restaurants, for example, were not mandated to close down but, at the same time, customers would still rather not show up due to the governmental recommendations. Some private businesses in Sweden made so-called “rapid tests.” They were simple tests that workers did before coming in to work to make sure they were not infected, meanwhile, such tests were not available to the general public yet and till the creation of vaccines.

In **Finland**, “in the autumn [of 2020], the situation worsened again and Finland entered the second wave of an outbreak of the infectious disease. In early 2021,

the situation was stable at first but worsened at the end of February 2021, which forced the Government to re-introduce stricter measures. Therefore, the Government, in cooperation with the President of the Republic, declared again a state of emergency in Finland due to the coronavirus epidemic. The state of emergency entered into force on 1 March 2021 and the Emergency Powers Act was re-introduced" (Adoption of the Emergency Powers Act during the COVID-19 pandemic 2022).

### *The creation of vaccines and vaccination of employees*

In **Latvia**, some business sectors like catering, customer services, etc. made it obligatory for employees to be vaccinated to be able to work in these business sectors. In administration sectors and other office-related workplaces were able to work differently during the summer of 2021. The Government made a decision to give new rights to employers regarding vaccinated people. That meant if an employee had gone through a full vaccination course and received a "Green pass", this employee could work in an environment without the need to sit with a facemask on.

In the autumn of 2021, the Latvian government decided to have mandatory vaccination for state and municipal employees. And in that time also vaccinated people had to wear face masks again.

In **Sweden** when the first vaccines were created an unwritten rule was set - elderly first. This decision was way different from the Latvian approach because they vaccinated medical support personnel first and only then started vaccinating civilians by also starting with elderly people. After vaccinating elderly people the vaccine was available to other categories and people were waiting in large queues to receive the vaccine against COVID-19.

Despite several attempts to secure data regarding the vaccination of private sector employees in Finland, the author was not to find any concrete statistics.

## Methodological & theoretical framework

### **Crisis diagnosis**

To identify the pandemic as a crisis it must include three main key components of a crisis: time pressure, uncertainty and core values at stake.

**Time Pressure.** By the time the first Covid cases appeared, public leaders in every country had to act immediately. For example, while Italy was registered as the first Corona case, other European countries, including Baltic Sea region countries, had to decide and make the right and most effective critical actions in order to prevent Covid from spreading in their own countries. This situation put our leaders under time pressure because we wouldn't know if somebody already came from Italy with a positive Covid test or not.

**Great deal of uncertainty.** When speaking especially about private businesses, it is hard to understand and predict what would happen during the pandemic. The commonly asked questions in these uncertain times by almost every enterprise were: How will the pandemic affect our business in the short-term and long-term? Will we be able to import our necessary supplies? Will we be able to

maintain business continuity? Are our employees at risk of getting seriously ill? If we have a shortage of staff due to Covid-infections, will we still be able to conduct business? What if our important business partners can't deliver due to high staff illness? How can we take orders if we cannot meet in person?

**Core values at stake.** The Covid-19 pandemic is not only dangerous to human health, which is the first core value in this case but also dangerous to other actors and their core values which changed during the period of quarantine. The core values changed due to the chain reaction of the pandemic. The government reacted rapidly by announcing the quarantine to ensure people's safety, but they didn't have enough time to ensure other actors and core values are not dramatically affected. As a result, the pandemic crisis turned into a new kind of crisis and set new core values for different stakeholders.

Firstly, the pandemic affected public health and safety. Hospitals were chock-full and in order to prevent total healthcare sector collapse quarantine was announced.

Secondly, after a few weeks in quarantine, the pandemic started to affect the next core value- the working industry and the global economy. Working industry had to switch to completely remote workspaces, but for some industries, it was impossible or not effective to keep business running.

Looking at statistics and comparing the 2019 and 2020 gross domestic product (GDP), Latvian GDP dropped by -3,8% during the first wave of the pandemic. Sweden's GDP only dropped by -2,9% and Finland's by -2,3% GDP (Countries data: Demographic and economy n.d., respective country sides). From this, we can see that Latvia and its economy were impacted by the pandemic more than the other two countries.

Meanwhile, other core values were affected- education and mental health. Students and schools had to completely switch to online learning which as a result was not so effective. Also, not all schools and students were able to switch. Schools were totally unprepared to work on an online platform since teachers didn't have the skills and equipment. Also, not all families had the possibility to use computers or the internet to connect to online learning platforms. It requires a lot of motivation for students to learn since they are at home which is not the same working environment as at school or university. The same applies to office workers, for some, it was a win-win situation, but for others, it made work inefficient and caused mental health problems.

## Establishing a timeline.

### *Closing national borders, closing some business sectors.*

At the very beginning, nobody had a clue how serious this crisis would be. As an immediate reaction, governments decided to close borders and go into lockdown, except for Sweden. Not being able to travel safely or work, some business sectors had to be temporarily shut down in order to protect their employees from the virus and businesses from bankruptcy.

### *Government support for temporarily closed businesses*

Months passed and no solution for containing the spread of the virus was found. The governments started to support the most affected private business sectors

by helping them pay rent, employee salaries and other taxes. This helped these enterprises to stay on the edge and not to fall down/ out of the market completely.

### *Greenpass, opening back several business sectors*

At the beginning of May 2021, the Latvian government decided to allow only people with valid vaccination certificates, also known as “Green pass”, to enter big shopping centres, warehouse shops and centres like IKEA. Although the government was not able to make vaccination obligatory, they made it almost impossible for people without certificates to do anything. But for some work categories, such as customer service, the government made vaccination obligatory if people wanted to work at the place.

### The five leadership tasks/ Analytical toolkit

Figure 1 shows that these tasks all represent different stages of the crisis as it unfolds, burns, and ends. The first task, *sense-making*, includes the process before and early stages of a crisis, where the key actors collect information and try to make sense of the crisis. The second task, *decision-making*, emphasizes the preparations, coordination, and implementation of essential decisions to manage the situation. Thirdly, *meaning-making* highlights what messages are being communicated about the situation, and how the crisis is narrated and transferred to the public and other leaders. Fourthly, *termination* is when the crisis eventually comes to an end, either naturally or by force. Lastly, *learning and reforming*, where time should be spent observing failures and successes to identify what needs to be rebuilt and reconstructed, to manage the following situation even better, and strengthen our resilience.

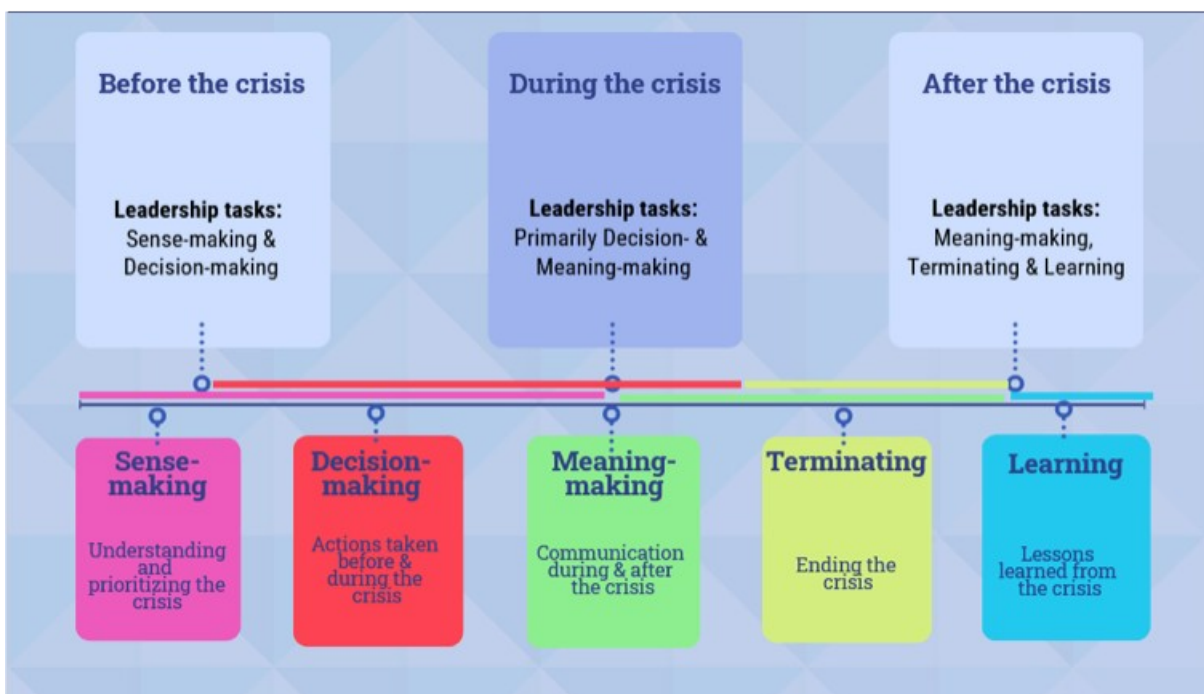


Figure 1. “Five leadership tasks” Developed by WannaCry Case Study.

### *Sense-Making*

The following analysis of the pandemic considers what questions leaders should ask themselves when faced with a threat and a crisis, such as “What do we know



about this threat?”, “For whom is this a crisis?” and “What core values are at stake?”.

“Policy makers at the top of public organizations and governments do not have the luxury of forming impressions about crises after the fact, as commentators and academics do. They live in a world full of uncertainty and ambiguity where at any given time numerous contingencies can materialize and have a profound effect on their domain of responsibility. They must recognize real impending crises from the sea of possible contingencies” (Boin et al. 2017, 44).

### *Decision-Making*

During a crisis, citizens look to their leaders for answers to the problems of the ongoing situation. To keep the public’s trust and legitimacy, decision-makers need to act desirably and in line with specific values and beliefs.

“Leaders are important – not as all-powerful decision makers, but rather as designers, facilitators and guardians of an institutional arrangement that produces effective decision-making and coordination processes. We do not suggest that leaders should simply rely on the benign innovation of people and organizations, which will “emerge” in the wake of a crisis” (Boin et al. 2017, 74). Leaders must actively monitor the response. They must try to identify decisions that are critical to the quality of that response, and which should be made by those who carry political responsibility. The most effective crisis leaders involve themselves quite selectively when it comes to making response decisions.

### *Meaning-making*

Meaning-making is an “attempt to reduce public and political uncertainty and inspire confidence in crisis leaders by formulating and imposing a convincing narrative” (Boin et al. 2017, 79). “Crisis meaning making makes a crucial difference between obtaining and losing the “permissive consensus” that leaders need to make decisions and formulate policies in times of crisis” (Boin et al. 2017, 79).

Meaning-making asks questions such as how are actions and decisions communicated? To Whom? Via what channels/actors? Are these messages successful in upholding trust, legitimacy and credibility? What messages are being communicated by other actors? Are they helpful or are they malicious? What efforts are being made to combat the spreading of misinformation? How do we want to frame the situation? What are our main messages?

“The picture of meaning-making that emerges from this chapter is one of adapting to an increasingly complex, nonstop, “wired”, and wireless, as well as (socially) mediated communications context. It entails balancing multiple considerations and communicating the right narrative at the right time, in the right way. It involves coordinating an overall message without muzzling individual actors or inhibiting the flow of alternative views that might in fact be warning signals that adjustments to the crisis strategy may be needed” (Boin et al. 2017, 98).

Meaning-making is all about framing a crisis in a way that reassures the public and justifies a particular response. An effective frame does at least five things: “it offers a credible explanation of what happened, it offers guidance, it instils hope, shows empathy, and suggests that leaders are in control” (Boin et al. 2017, 87).

### *Terminating*

According to Boin et al. (2017, 107), in order to end a crisis, there must be closure on both the operational and political levels. Sometimes, a crisis ends on the operational and political levels at the same time, but not always.

On the operational level, a crisis is over when the crisis response network is deactivated. This is when those responding to a crisis on the ground are no longer needed.

"[F]ast-burning crisis is that the termination of operational response efforts also marks the political end of the crisis. The natural disaster - earthquake, hurricane, tsunami - is often cited as a text-book example: it suddenly arrives and visits only briefly (...) This crisis is intense and short, even though it will certainly be remembered as a painful and time-defining calamity" (Boin et al. 2005, 93). "Fast-burning crises have cathartic effects, as has been noted in cases of international confrontations between major and minor powers" (Boin et al. 2005, 94).

"[L]ong-shadow crisis demarks that category of crises that remain alive in political and societal arenas, even though the threats that gave rise to the crises no longer exist (...) Sometimes it is the other way around: operational challenges remain after political closure seem to have been achieved. Environmental crises, for instance, tend to be chronic rather than short lived. Solutions involve much trial and error, radical U-turns after political turnovers, symbolic gestures, and rearguard battles during implementation" (Boin et al. 2005, 95).

"Crises cast a long shadow when they come to be seen as indicators of deeper problems or when they "connect" with critical issues in other organizational or policy domains. They may expose flaws in existing prevention and preparedness arrangements, which trigger intense scrutiny of institutional structures. In some cases, they escalate into full-blown institutional crises, i.e. fundamental challenges to organizational structures or policy paradigms" (Boin et al. 2005, 95-96).

### *Learning and reforming*

"A final strategic leadership task in crisis management is political and organizational lesson drawing. The crisis experience offers a reservoir of potential lessons for contingency planning and training for future crises. We would expect all those involved to study these lessons and feed them back into organizational practices, policies and laws" (Boin et al. 2005, 14).

"Again, reality is a bit messier. In fact, it turns out that lesson drawing is one of the most underdeveloped aspects of crisis management. In addition to cognitive and institutional barriers to learning, lesson-drawing is constrained by the role of these lessons in determining the impact that crises have on a society" (Boin et al. 2005, 14-15).

## Analysis

### Sense-Making

The nature of the pandemic is unpredictable. Compared to forest fires or flooding, where the spread is relatively easy to follow and map, the spread of Covid-19 does not follow the same rules and is, therefore, more challenging to predict where and how fast it moves.

Months or even a year after a crisis occurred, it is hard to say that it could have been prevented better. However, the uncertainty of what is going to happen or how the pandemic will affect our lives was impossible to predict in the short period of time till it spread worldwide.

#### *Why are they significant to this issue?*

The chosen stakeholder - private businesses are part of the global economy. Therefore, if private businesses are affected by Covid-19, so is the economy of the region, country and even worldwide. In the Baltic Sea Region, there are several big and small private businesses that were affected by the pandemic. As a result, they divided into businesses that kept running during the pandemic and still are - the winners; the businesses which had a hard time adapting to the situation but still managed to keep business running - the slow adapters; and lastly, the businesses who were not able to adapt or were unable to continue their work during the pandemic and public safety restrictions and had to be temporarily closed - the losers.

#### *What are their core values and the trade-offs? (2-3 sectors in BSR)*

1. **Ensuring business continuity.** In order to ensure that, they need to focus on many aspects such as securing alternative suppliers, production, customer service and many more. At this time, it was more important to focus on employees' health and safety during the pandemic which leads us to the second core value.
2. **Employee health and safety.** Even before the pandemic, this core value played an important role in enterprises but during the pandemic, people started to take their health and safety more seriously at their workplace and everywhere else - grocery shopping, public transport, etc.

The pandemic made few trade-offs for private businesses which faced almost every business including Baltic Sea region private businesses.

The trade-off between **low and high inventory levels**. “[T]he recent disruptions have renewed attention on inventory levels. Many industries have spent the last several decades moving to just-in-time manufacturing models, which emphasize low stock levels in order to reduce inventory costs. Just-in-time, however, is based on assumptions of reliable, on-time deliveries of defect-free products. Production can rapidly grind to a halt due to any delivery delays, situations that have been exacerbated in many industries by Covid-19. While companies can hedge against these risks with higher levels of safety stock, there is a clear cost trade-off between low and high inventory levels” (Searcy and Ahi 2020).

**Increased contract costs or reduced efficiency** due to lower order volumes per supplier. “Covid-19 has highlighted the importance of flexibility within the supply chain. Supply chain flexibility is fundamentally about adjusting to changing circumstances, such as product demand or supplier capacity. For example, the pandemic has tested the ability of companies to keep up with surging demand for some products. It also tested the capability of companies to change suppliers due to export restrictions or facility shutdowns, which can only be done if those suppliers have unused capacity or the ability to rapidly shift production. Having a wider or redundant supplier base can facilitate such supplier pivots, but it could also mean trade-offs related to increased contract costs or reduced efficiency due to lower order volumes per supplier” (Searcy and Ahi 2020).

The trade-off between the **strength of supplier collaborations and the costs of that relationship building**. “[T]he pandemic has shone light on the advantages of strong collaboration throughout the supply chain. Collaborations can help in proactively identifying and managing risks, which can increase the resilience of a supply chain during times of crisis. Regular communication with collaborators can also increase the visibility of the supply chain, which is critical in understanding the potential impacts of disruptions beyond the first tier of suppliers. Strong collaborations, however, require long-term relationship building that require ongoing investments, such as in information sharing and mutual capacity building. There is often a trade-off, at least in the short-term, between the strength of supplier collaborations and the costs of that relationship building” (Searcy and Ahi 2020).

Private business sectors such as IT, telecommunications, administration and other similar businesses where employee work is mostly based on computers were the ones who were prepared for the pandemic. It is not like they could have predicted it, but this type of business working conditions allowed and provided employees to continue working either from home or while travelling even before the pandemic.

### Decision-Making

The main decision maker is the governmental authority. The private business sector only takes action in their enterprise regarding government-made decisions during the pandemic. However, to accomplish actions, these different actors raise some tensions.

**“A balancing of conflicting values and interests.** First, business actors have their own interests, such as profit interest. Being an agent of the state often involves a complex balancing of conflicting values and interests. Business actors may even use the role of agent of the state to further their own interests rather than the public interest of mitigating the pandemic” (Svedberg Helgesson n.d.).

**“A blurring of accountability and blame.** Second, relying on private business actors as agents of the state means that issues of accountability become fuzzy around the edges. National security is a core responsibility of the state. A key issue here is that it becomes more difficult to identify the state as the ultimate principal when the public-private divide is crossed and businesses act as agents of the state. As a consequence, blame may be placed on the wrong party when

external audiences hold states, or businesses, to account during the COVID-19 crisis” (Svedberg Helgesson n.d.).

**“Action takers versus decision-makers.** Third, as an agent of the state, business is charged with taking action. Still, the state is the principal, and thus the ultimate decision-maker. This situation causes friction if and when agents move into the domain of decision-making by deciding for themselves what needs to be done and how in order to combat the virus or other threats” (Svedberg Helgesson n.d.).

**Key decision: adapting to the new conditions and environment.** Government made rules and restrictions for everyone, and it was a matter of time until each private business sector adapted. All of them had to do it as soon as possible because by not adapting to them the business could not be continued legally.

**Customer service sector** businesses quickly implemented measures for social distancing and “digital services”. These services had helped customers being able to order online, pick up their products from pick-up stations instead of driving to the actual shop, make an appointment for the service at their preferred time and so on.

**Manufacturing sector** businesses had to think rapidly and effectively to not slow down the production of goods. There are several manufacturing sectors in which employees were already socially distancing before the pandemic by doing their roles, but even here some precautions had to be made. If a factory had a limited area and many workers who sit close to each other, surely it had to implement wearing face masks throughout the working time. For factories where workers work at their own separate workplaces, within a big area and at a distance from others, there was still a risk. The biggest infection risk came when workers from the same shift went on lunchtime. They all sat in the same room, with a high risk of infecting each other. Some enterprises implemented scheduled lunch times for each worker or provided an additional lunchroom where at least two employees could have lunch while keeping their distance.

#### *Key decision occasions*

Governmental authorities had to take immediate actions in order to prevent the virus from spreading and they were not completely sure these decisions would guarantee the best actions to be implemented.

Key decision occasions such as closing borders, recommendations concerning working from home, and restrictions for social activities also affected the private business sector.

Some businesses such as tourism and catering couldn't work from home They had to be temporarily closed for an unknown time till further government decisions would allow the catering sector to work but with restrictions. For tourism agencies it was different. They were dependent on the situation in other countries. Event organizers, night club and restaurant owners also had to shut down their businesses until further information from the government.

Big business sectors such as the wood and metal industry had to implement hybrid models to keep businesses running and employees safe from the virus. Hybrid models meant for office workers to work most of the time from home and,

only if necessary, come to the office once or twice a week. This required a change in working schedules and time to adapt for some professional workers.

In the BSR countries we are looking at (Sweden, Finland, Latvia), government decisions differed. Consider, for example, lockdowns: Sweden did not go into lockdown, unlike Latvia. Finland also did not apply nationwide lockdown like Latvia. Instead, Finland temporarily closed the borders of the Uusimaa region, which had the most confirmed cases of Covid, in hopes of slowing down the pandemic in the rest of the country.

#### *Most affected business by the pandemic*

1. **Travel and tourism** are the most affected sectors. Travel and tourism are the key industries in many developing countries, including the BSR countries as well.
2. **Catering**, firstly temporarily shut down. Later offered food only for takeaway in plastic packages. After the vaccination rates began to rise, the government made changes to rules by allowing people with valid vaccination certificates to eat meals indoors. Also, the EU regulations on plastic usage forced people to either pay an additional 10 cents per plastic package or eat at a place with a valid certificate from dishes without being taxed for plastic usage. The EU regulation was made with the goal to reduce the effect of plastic waste on the environment (Helmane 2020, see also EU Directive 2019/904 of the European Parliament and the Council from 5 June 2019).
3. **Passenger airlines**, and passenger shipping companies. Had to be temporarily shut down due to closed borders until governments made it possible to travel with Covid tests and vaccination certificates. Meanwhile, on the other hand, passenger airlines such as Lufthansa didn't stop their flights during the Covid-19 pandemic.

“In the early days of the pandemic, when demand for air travel abruptly flatlined and international borders closed, “ghost flights” became a common phenomenon. These were empty or near-empty planes traversing the skyline as airline schedules kept to their contractual obligations to fly. The problem is that, more than two years on, they're still haunting the skies above us. A new report by the Guardian, based on a freedom of information request, found that at the end of last year there were around 500 “ghost flights” departing from the UK per month” (Sillers 2022).

In the CNN article, a Lufthansa spokesman is quoted saying that “They are scheduled flights that are poorly booked due to the pandemic. Despite poor demand, Lufthansa Group Airlines must operate these flights to continue securing takeoff and landing rights at hubs and major EU airports.” As a result, this situation further contributes to climate change, according to Greenpeace (Sillers 2022).

4. **“Small companies** tend to be vulnerable during an economic crisis, in part because they have fewer resources with which to adapt to a changing context. The ITC COVID-19 Business Impact Survey gathered evidence on how the pandemic affected 4,467 companies in 132 countries. Analysis of this data, collected from 21 April–2 June 2020, shows that the pandemic

has strongly affected 55% of respondents. Nearly two-thirds of micro and small firms reported that the crisis strongly affected their business operations, compared with about 40% of large companies (...). One-fifth of Small and medium-sized enterprises (SMEs) said they risked shutting down permanently within three months” (International Trade Centre 2020, 5 emphasis added).

“Service companies have been the hardest hit around the world. In accommodation and food services, for instance, 76% of surveyed firms said partial and full lockdowns strongly affected their business operations” (International Trade Centre 2020, 5).

### *Highlighted private business decisions*

In **Finland** a startup food delivery company that has become hugely successful internationally - “Wolt” - has minimized human contact throughout the delivery process to help prevent the pandemic via no-contact delivery - the food is left at your door/entrance - and no-contact pick-up at restaurants. Wolt was “advising restaurants to set up separate delivery counters/desks, where the restaurant staff can leave the orders for the couriers to pick them up with minimum human contact. In addition, we are asking restaurants to use gloves and face masks while preparing and packing orders, where available” (What Wolt is doing to help prevent the spread of Covid-19 2020).

In **Latvia** businesses also started shifting to remote work and Wolt applied safety criteria. However, also something else happened. A business which is very popular in Latvian sports started developing and manufacturing reusable face masks. The enterprise “Rita” started manufacturing special polystyrol cloth face masks through which it is much easier to breathe than with cotton face masks. They started developing around 5000 face masks a week but could pause other product manufacturing and make the same amount in just one day if needed (Latvijas sportā leģendārs zīmols sāk ražot atkārtoti lietojamās sejas maskas 2020).

In **Sweden**, one of the biggest highlights of decisions was an enterprise that switched its production to help the fight against covid.

The company named “Camfil,” located in Sweden, “has provided hospitals and healthcare facilities with air filtration and ventilation solutions for operating theatres, laboratories, reception rooms, intensive care units and pharmacies” for many years. Due to the pandemic and a lack of facemasks in the country, they also started a new production line - facemask production. “The goal is to provide Region Stockholm with 100 000 CamProtect respiratory protection masks per week initially. Camfil hopes to be able to provide the respiratory protection masks to other regions in Sweden in the near future” (Camfil starts making CamProtect face masks in Sweden 2020).

### **Meaning-Making**

Meaning-making is about how the decisions are communicated. Since the main decisions are made by the government the public expects information about what they should do. “We define meaning making as the attempt to reduce public and political uncertainty and inspire confidence in crisis leaders by formulating and imposing a convincing narrative” (Boin et al. 2017, 79).

While most of the private business sectors made decisions to work from home till further governmental decisions, some of the private business sectors had to keep running like before the pandemic and faced a new crisis.

**The huge demand for goods delivery.** The traditional weekend shopping at the mall was impossible and turned into online shopping. This meant that more people were staying at home and ordering everything from the internet worldwide. Delivery business companies such as Omniva and DPD faced a huge demand for goods delivery to homes all around the respective countries. This meant that they couldn't deliver everything on time due to the fact that workers in sorting centres or couriers were still getting infected by the virus and had to take sick leave. As a result, the deliveries were delayed and shortages of staff occurred.

Similar problems occurred in other sectors such as in manufacturing companies where the shortage of workers caused businesses to slow down. In order to keep the business running, the business owners had to raise the prices of products. These decisions provoked another crisis which was skyrocketing prices of goods.

#### *How are actions and decisions communicated?*

During the pandemic, private businesses were divided into digital organizations and non-digital organizations. For digital organizations such as IT, telecommunications, etc. the main idea was clear - work from home as much as possible. Meanwhile, non-digital organizations had to come up with the most effective and safest way to continue the business.

**“Gaining powerful insights on the effects of the pandemic as a non-digital organization”.** “Non-digital organizations will have neither the time, nor the resources to rapidly rebuild their IT infrastructure, but organizations that are able to **adapt to the way of thinking** have the most **powerful short-run lever** in their pocket” (Bakker et al. n.d.).

First step, asking the right questions. “The art of asking the right questions is severely underestimated. Often we simply tend to receive a confirmation of our own assumptions and not truly seek for information. During “normal” times we want someone’s (expert) opinion in order to take a shortcut with no need for our own research. That is not how questioning in insight-driven organizations works. Most companies have all the necessary data and information available, even though the degree of effort to retrieve or the quality can differ” (Bakker et al. n.d.). Our advice:

- **“Be precise.** The question should not lead people to interpretations. For example: “How does Corona affect our company?” This could mean anything from customer behavior to way of working” (Bakker et al. n.d.).
- **“Have a measurable answer.** For example: “How scared are our customers?” If being scared is not quantified by some sort of customer sentiment insights there will be no strictly factual answer to this question” (Bakker et al. n.d.).
- **“Dig deeper.** There might be not one right question but a question that will cause follow-up questions including the notorious “So what?”. Use



brainstorming and mind-mapping techniques to get to the heart of your question” (Bakker et al. n.d.).

Next step, Gather the right information. “A fully developed insight-driven organization follows a clear (analytics) vision and applies state of the art technology. This includes a coherent business logic across all systems, tools and interfaces, cloud services, IoT and AI. There is total transparency at the touch of a button enabled by a professional unit of data analysts. Managers and the board receive real time information visualized in user-friendly dashboards individualized for their specific role. If you compare high-end insight-driven organizations to the remaining 99% of companies, it becomes obvious that insight generation requires a lot more than just collecting data” (Bakker et al. n.d.). Our advice:

- **“Communicate clearly** about what data and information is expected and in which format. Imagine asking your accounting department for the pending invoices. There are million different ways in which format the required information will be sent back. From scanned documents to system exports, it can be anything. This problem multiplies by the departments or employees providing data. Since the answer for many of your questions probably require more than one data source, the compatibility needs to be assured where interfaces and an overarching data strategy is missing” (Bakker et al. n.d.).
- **“Prepare your employees** across all departments and ensure that there is universal understanding. Once the required data is gathered, there must be support by employees with skills in data preparation and visualization – ideally supported by “purple people”. Talent can be spread broadly across an organization without being noticed. Ask early for support to identify the right people. Include external information sources (e.g. COVID-19 infection rate changes from publically available records) and consider additional advice from data specialists with a strong track record in gathering useful data and information across business silos and functions” (Bakker et al. n.d.).

The third step is to make sure the right actions are being taken.

*Are these messages successful in upholding trust, legitimacy and credibility?*

In crisis situations, the general messages contribute to having many unsolvable or unanswerable questions from the audience, especially regarding the pandemic. Conflict could even break out in the audience itself and split it in half. That is what happened in some BSR countries such as Latvia. The society split into two parts- the anti-vaxxers and vaccinated people. In Latvia, significant parts of the population were anti-vaxxers with the roots of this movement coming from abroad, namely Russia. It was a very highlighted problem in Latvia because it was once a part of the Soviet Union meaning that some elderly people living in Latvia are still watching and listening to news from Russia, which is so-called “propaganda”.

Meanwhile, enterprises had to apply the given messages and information in their company. Surely there will be deniers, but most of the people in Latvia and other BSR countries trust their employer and its actions more than the government. This is because the employer is already providing his employees with a salary, a

safe workplace, lunch and other necessary benefits. As a result, people trust the actions of their employers more than the government's actions.

Of course, this is not true in all business sectors. For example, in restaurants, the employees will still leave their jobs due to the human factor which is seeking for new opportunities in a business area which will be more flexible and stable during the pandemic crisis.

### Terminating / Ending

The pandemic Covid-19 was and still is a long-burning and also long-shadow crisis; it arrived suddenly, spread intensely, and now is still an ongoing crisis even 2 years after the first wave. The vaccines were not the end of the crisis like everyone thought.

The chosen period of this case study gives a perspective on a crisis and how several private businesses made it through it.

#### *When is the crisis over and for whom?*

Regarding the private business sector, there was a different meaning of "end of crisis" for each business sector in the Baltic Sea region.

The **tourism and travel sector** was able to get back on track after the vaccination certificates were invented and the government announced its "green pass" and, as a result, people who had it were able to travel abroad without covid testing. But they also were very dependent on other countries regulations and decisions.

The **service sector** is still not able to function as it did before the pandemic. The employees and customers must use face masks indoors, but the customer demand is getting back to normal and consideration about going online only for some services would not be bad at all for the future.

The **manufacturing** industry sector was able to keep running during the pandemic, but the skyrocketing price crisis left the biggest impact on them. It is still an ongoing crisis until it becomes the new normal for customers and consumers.

For the **transport and logistics sector**, the crisis was over when the huge demand for goods delivery slowed down. It also slowed down since people were able to go shopping by themselves again, but again only the ones with valid vaccination certificates. (Until 2022 1<sup>st</sup> of March when the "green pass" was cancelled).

**Food and catering sector.** This sector was very regulated by the governments and their decisions. The crisis for them was over when places like big shopping centres cancelled the "Green Pass". This meant that even catering companies located in big shopping malls were getting not only customers with valid vaccination certificates but also those without them. This decision was made in March 2022 in Latvia.

#### *When and how can these different actors go back to their new/normal activities?*

Instead of ending the crisis, the Covid pandemic has produced the "new normal" everywhere and for everyone. The so-called "new normal" is also present in

debates around climate change, but the pandemic has left a big impact on how we live our lives further.

Some argue that the new attitudes and behaviours that the pandemic forced us to adopt are now so ingrained, there's no going back. Others see these new behaviours as temporary adjustments to a one-off shock and predict a wholesale reversion to type once it's over.

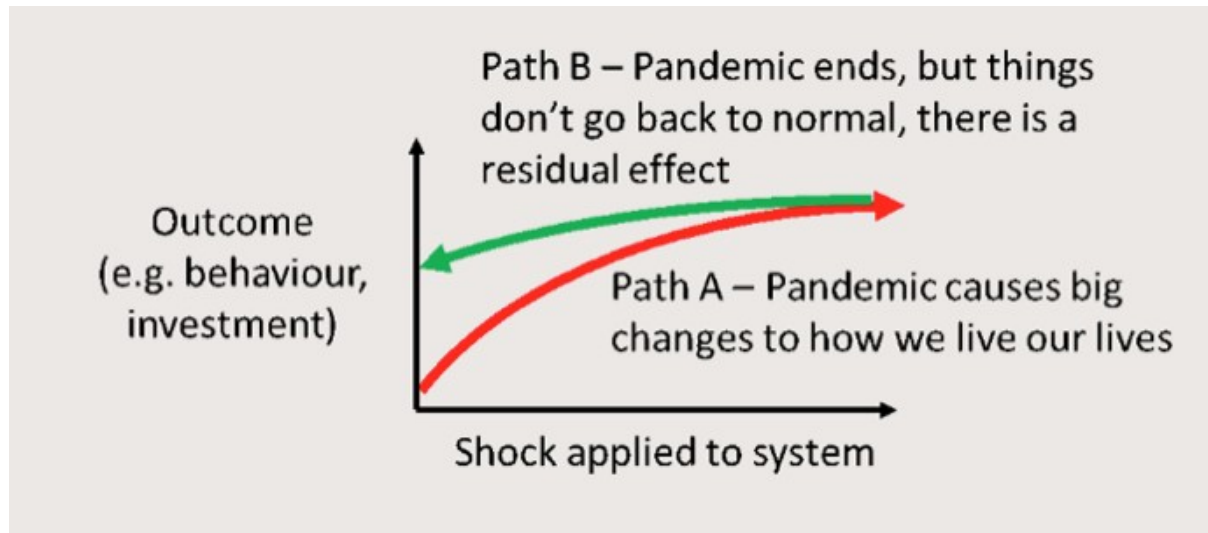


Figure 2. What happened during the pandemic (Birkinshaw 2021)

This figure visually explains the situation of what happened during the pandemic. The crisis applied shock to everyone which, as a result, made a new normal with either big or residual effects.

This can be very well seen in some private business sectors. For example, catering and restaurants now are on path B, they offer meals at their place if a person has a valid vaccination certificate or orders takeaway.

There are several reasons why things might not go back to normal for private businesses.

**Structural adjustments.** “In today’s economy, the risks of structural hysteresis are clear. If retailers, hospitality and travel companies are allowed to go bankrupt, the rebuilding costs will be huge and the impact on communities will be long-lasting” (Birkinshaw 2021).

Interestingly, platform businesses like Uber, Deliveroo (Wolt in BSR countries) and Airbnb are much more resilient. “They have been widely criticised for not providing job security to their workers but their low fixed-cost business model makes them highly resilient to an external shock, because they can flex their capacity up and down at a moment’s notice” (Birkinshaw 2021).

**Changes in consumer behaviour.** “Of course these changes are part of the broader digital revolution that has been underway for twenty years, and it is rightly argued that the pandemic accelerated the adoption of new behaviours around purchase and consumption. But it’s worth underlining that the impetus for these new behaviours came mostly from the supply-side of the market” (Birkinshaw 2021).

**Changes in workplace behaviour.** “The wholesale shift to virtual working for formerly office-based employees was no less dramatic, and was also driven by necessity rather than expectation or demand. We now have a good understanding of how effective this huge social experiment has been. Most of us are at least as productive as before, our ability to get things done, especially tasks that can be easily subdivided, has improved, and opportunities for online learning are plentiful. On the other hand, creativity and collaboration are being stifled, resolving tricky personnel issues is more difficult, and the opportunities for professional development – for example taking on challenging new assignments – are fewer than before” (Birkinshaw 2021).

**Government rules and regulations.** “[H]ow will government rules and regulations change things post-pandemic? As already noted, the government’s first economic (rather than health-related) task was keeping the whole system from collapse, and as soon as that is resolved, their next task will be to find ways to pay for their interventions – which will mean higher taxes and tighter public spending for years to come” (Birkinshaw 2021).

### Learning and reforming

At the end of this crisis period one can truly separate which private businesses were the winners of the pandemic, and which were the losers.

In BSR countries (Latvia, Sweden, Finland) the private business sectors of winners and losers are roughly the same.

The “winners” or so-called gainers of the pandemic period are:

- Information technology businesses
- Logistics companies
- E-commerce businesses

Some private businesses became “winners” of the pandemic and gained growth for their businesses. That is because they didn't suffer from government decisions regarding social distancing etc. They either had an ability to adapt fast or they were already adapted for crisis situations. The pandemic also gave these businesses a boost in their growth. The best example that we see are e-commerce businesses. Before the pandemic, only few people were ordering clothes, shoes and other necessary things from the internet, but when the pandemic hit, people were almost forced to only use e-commerce for their weekend shopping without even going out of the house. A similar situation applies to “IT” businesses.

Lots of regular factories, administration, marketing and other parts had to switch to remote work and in order to have the necessary database and IT platform for each employee at home, enterprises had to develop their own IT infrastructure. Some had to buy additional IT platforms specially designed for their enterprise. In the end, regular enterprises were forced to use IT businesses that made IT platforms by buying their services to ensure their own business continuity.

Logistics companies also became one of the winners mostly due to the restrictions and lockdowns. Before the pandemic, most people preferred going to actual shops to buy products there. Or using an e-commerce business to order

online and pick it up by themselves. Now, after the pandemic hit, especially during the first wave, people were forced to follow restrictions and, this time, ordered products directly home or to pick-up points in their town. Self-pick-up from the main shop was either impossible or limited. For example, when only people with valid certificates were able to enter big shopping centres and go to actual stores located inside the shopping centres.

The “losers” or the businesses which had a hard time during the pandemic are:

- Private event organisers
- Theatres, Cinemas
- Traveling agencies

These are the businesses that were highly impacted by the pandemic and the governmental restrictions. As a result, they had to temporarily close down and delay for an unknown time.

All these three business types had similar difficulties. The first pandemic wave and subsequent restrictions forced the closing of theatres, and cinemas, and made it impossible to host private events such as concerts, night clubs. Also, travelling was forbidden due to most countries having borders and airports closed for an unknown time to stop the spreading of the pandemic.

This meant that these businesses couldn't keep working, they had no way of adapting since made their profit from entertaining a mass of people. Private event organisers switched to online events, but this only worked for a few. For events such as concerts, it was impossible to adapt to online concerts, plus some would still prefer live concerts. In contrast, if an event was some type of learning course, it was possible to switch to an online video course and still gain some profit.

The businesses which had a hard time but still managed to get through by slowly adapting are:

- Manufacturing
- Catering

As mentioned before, the manufacturing sector had to implement IT platforms for their employees who were working remotely. Meanwhile, at the enterprise factory section, they already had applied all the necessary safety criteria regarding social distancing and facemask use.

Catering was a little bit of a different story. They had to find a way to work. Firstly, they switched to only takeaways. This meant that people could place orders by calling and come pick them up to avoid social gathering exposure. Some catering businesses allowed a number of people to enter indoors and order meals, but still only in plastic bags for takeaway. In other words, the catering businesses were the ones that felt like the government thought of the most and had different ways to continue their business running through the pandemic.

### *Lessons learned and implemented?*

From some private businesses, we can learn things such as resilience and stability during a crisis.

It is practically impossible, for example, for tourism agencies to learn and implement methods of working like in the sector of information technology.

Each private business sector has its own way of functioning and making profits, its either services or producing goods and that is sometimes one of the key factors why some shared practices can't be implemented in every business model.

## Concluding discussion and Future Challenges

The objective of this analysis has been to investigate the Covid-19 pandemic through the analytical toolkit of the five leadership tasks and especially from a private business point of view. This analysis is based on the theoretical background of societal security and crisis management and the understanding that it is society's responsibility to be able to prevent and respond to unexpected events of high consequence.

To sum up, by using the analytical toolkit and five leadership tasks, it becomes easier to acknowledge vulnerable groups, sectors and functions and prioritize them in societal security. Furthermore, by implementing a structured way of thinking about the five makings of this framework contributes to a more trusted information-sharing environment, and better decision-making, communications and rebuilding.

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# Youth and the pandemic

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## Introduction

Throughout the years there have been many discussions regarding the topic of societal security. One aspect of societal security is the health and safety of people, whether it's the regular worker or a company's director, we all deserve to have a healthy environment to live in.

In recent years, more specifically since the end of 2019 when the first case of Covid-19 was discovered, we have seen that managing a crisis is very important. The virus spread rapidly and has caused over a million deaths worldwide and this number continues to grow day by day even though the vaccine has been around since late 2020.

The following case study researches how the youth has perceived and dealt with the pandemic given that schools and universities were the first to close once the pandemic broke loose in the Baltic Sea Region. The case study focuses on three countries - Latvia, Sweden and Finland - and compares the three in how the students of these countries have coped with the virus and what has been done to stabilize the situation.

### What is a Crisis?

When we talk about a crisis, we usually mean that something bad is to befall a person, group, organization, culture, society, or, when we think really big, the world at large. Something must be done, urgently, to make sure that this threat will not materialize (Boin et al. 2017).

According to the crisis definition presented in the book "Politics of Crisis Management: Public Leadership under Pressure" by Boin et al. (2017), an event can be defined as a crisis if an actor perceives the following three elements: time pressure, a great deal of uncertainty and core values at the stake. It is important to highlight the subjective element of this definition since not all actors may perceive the same situation in the same way.

Thus one needs to start by asking questions like who are the stakeholders, and what core values are at stake? In other words - for whom is this crisis and why? How much time is available? What are the uncertainties in the situation? What is happening?

- The first element in determining if an event is a crisis is to determine if core values are at stake. Thus, one must first identify who the stakeholders are, what values they have and if they perceive their core values are being threatened.
- Who are the stakeholders?
- What are the core values at stake for them? Human health and lives? Human rights and democratic freedoms? Environmental interests? Property and material goods? The credibility of the legal system and rule of law?

Are there value conflicts and trade-offs?

The next factor in determining if an event is a crisis is to determine if there is significant time pressure over and beyond what is considered to be an acceptable amount of time.

- How much time is available? Do the stakeholders have enough time to collect information, make the necessary decisions and act?
- Do the stakeholders' partners, whom they typically cooperate with, have the same concept of time? Or are they operating with different time parameters?

If there is indeed time pressure, crisis managers and leaders will need to determine how much time they need and if it is possible to buy more time (and at what cost?). Furthermore, they will need to determine if their current actions will affect more long-term issues (for example, protecting jobs or property rights vs protecting longer-term environmental concerns).

The final factor in determining if an event is a crisis is to determine the amount of uncertainty and if that degree is manageable. A crisis is defined by a heightened degree of uncertainty which is over and beyond normal degrees of uncertainty.

- Do the stakeholders know what is actually happening and what or who is instigating the events?
- Do the stakeholders know how the course of events will evolve?

When faced with increased uncertainty, crisis managers and leaders may need to call in experts or employ countermeasures to reduce some of the uncertainty. Likewise, considering all potential developments of the current scenario (best, most likely and worst case) may also help to conceptualize how the current situation could develop or unfold. Cognitive shortcuts (for example historical analogies) can be helpful but they can also be detrimental since every crisis is unique.

### Pandemic as a Threat to Societal Security

A global pandemic is a threat to societal security for several reasons. One of the reasons being the fact that the virus is a threat to the stakeholders, meaning their core values, which mostly are safety, health and security, are at risk causing a deep sense of crisis - in this situation, it is the threat of death and serious illness.

Time pressure regarding the pandemic is also a threat to societal security because quick choices have to be made to maximally decrease the risk of the pandemic spreading. The Covid-19 global pandemic is a good example because preventive measures had to be taken as quickly as possible so that the virus could not spread further but, unfortunately, we can now see what an impact lack of time management has caused all over the world.

Another reason is the issue of uncertainty and the lack of accurate information about the virus, how it is spread, and how it can be treated. We constantly are seeking answers to questions like "How did it happen?"; "What's going to happen next?"; "Will the situation get worse?" etc. Because there can be so much conflicting information regarding the pandemic, we can see a huge amount of unintentional and intentional disinformation, spreading more and more

uncertainty among the general public. Since the Covid-19 outbreak, conflicting information has been spread worldwide and consequently lead to different strategies for dealing with it. Furthermore, the pandemic has been politically exploited and has been used for the purposes of misinformation and disinformation. One of the most serious challenges is that the ability to defend against the negative effects of a pandemic largely depends on the mood, attitudes and behaviour of civilian communities, which, in turn, largely depend on the effectiveness of defending against disinformation. It is notable to mention that a possible lack of trust in the information policy of the authorities can make it difficult to fight the pandemic which, as a consequence, affects economic and societal security and thus national security (Sługocki and Sowa 2021).

## Summary of the course of events and the key stakeholders

### Case selection

The Covid-19 global pandemic acts as a central case of this report and a starting point for our analytical and theoretical toolkit. With the crisis diagnosis and the pandemic's threat to societal security in mind, the specific case of "Youth during the pandemic" was selected to be the object of this study.

Firstly, in Europe, there are over a million students from non-Europe countries and over 17 million local students (based on 2018 statistics) (Tertiary education statistics n.d.) and also tens of millions of primary and secondary education students making this a large category impacted by the pandemic.

Secondly, students are significantly affected because the circumstances surrounding the Covid-19 pandemic have increased their stress and anxiety due to some key factors:

1. remote learning - taking away the important classroom environment, taking away the possibility to express emotions, read body language and communicate;
2. working while studying or problems finding a job - not having enough time for studying and the closing of specific sectors like fast food restaurants and clothes shops, that mostly hire students and young people;
3. significant decrease in social contact with friends and family as well as restrictions on free-time
4. and social activities;
5. lack of help from teachers/professors due to the fact that a single professor/teacher can have tens or even hundreds of students and there simply isn't enough time to respond to each student individually;
6. "remote school" environments (which typically were home environments) that are not suited or conducive to learning since many people may be studying and working from the same space drawing upon the same resources (computer, Internet, working space, and so on);

7. challenge of being restricted to the same area all the time, without the possibility to meet new people or have a change of environment.

Lastly, there has been a large degree of uncertainty for today's youth regarding their future opportunities due to the pandemic. Will their remote studies be deemed to be of the same quality as those on-site? Will there be opportunities to gain work experience? Will people be willing to hire someone who has never had work experience (but who wanted to work but could not because of the pandemic)? Will there be jobs after graduation? Will there be housing when it is time to move out on their own?

In summary, we can see that the pandemic includes the three key components of a crisis: Time pressure, core values at stake, and a great deal of uncertainty. Furthermore, it provides practical examples of how the consequences of a pandemic have severe impacts on critical societal functions and values. It should be understood as a significant threat to our societal security and a threat to the future of our youth.

In this case, the author will look at the progression of the Covid-19 global pandemic in three different European countries (Latvia, Sweden and Finland) during the time period from January 1, 2020 to December 31, 2021, and measures taken to prevent and control the further spread of the virus, noting the key differences of crisis management.

### A summary of the critical course of events of the pandemic

First wave of the pandemic - Minimize spreading and the number of deaths because of little knowledge about the virus, no treatment or vaccine, closing of borders and schools and shops, social distancing, wearing masks, closing on-site courses, and business, transition to remote-learning and working (overall or each country specifically).

Second wave of the pandemic - vaccines produced but not sure how effective they are (and if any reactions or serious side effects) and if everyone can and will want to get vaccinated (overall or each country specifically).

The creation of a vaccine and vaccination of the youth (but youth not prioritized, especially early on), later question if booster shots and if vaccines are effective against new mutations.

## Methodological & theoretical framework

### Definition of youth

#### *Definition of youth by the CBSS members*

<b>Denmark</b>	The youth policy article (2008) does not explicitly define youth but refers to the incorporation of EU Youth Programmes where youth is defined as between 15-29 years.
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<b>Estonia</b>	The Estonian Youth Work Act (2010) defines youth as between 7 and 26 years of age. This is the same range of age used in the 2006-2013 Youth Work Strategy
<b>EU</b>	Most EU programmes define youth as between 15 and 29 years old
<b>Finland</b>	Finland's Youth Act (2006) and youth decree (2006) define youth as those under 29 years of age.
<b>Germany</b>	Germany's Social Code—Volume 8 (1991) on child and youth welfare services defines a young person as between 14 and 26 years old. The Federal Child and Youth Plan (KJP) allows projects to include young persons from 12 up to 26 years of age.
<b>Iceland</b>	The Icelandic Youth Act (2007) covers youth activities for individuals between 6-25 years of age.
<b>Latvia</b>	The national youth policy (2009) of Latvia defines youth as between 13-25 years.
<b>Lithuania</b>	The youth policy law (2003) of Lithuania defines youth as between 14-29 years.
<b>Norway</b>	There is no legal classification of youth, however, according to the Youth Policy in Norway (2004), the Ministry of Children and Family Affairs note that youth “might be viewed as the period between the ages of 12 and 29”.
<b>Poland</b>	Poland's National Youth Strategy (2003) defines youth as aged 15-25, however it makes use of data from the Central Statistical Office that defines youth as aged 15-24.
<b>Russia</b>	The Federal Agency for <i>Youth</i> Affairs describes <i>youth</i> as between 15-29. According to a <i>Youth</i> Policy Briefing (2009)

<b>Sweden</b>	The Youth Law (2004) of Sweden defines youth as between 13-25 years.
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Source: Respective country factsheets from youthpolicy.org (Country factsheets n.d.).

### *Definition of Youth by the Baltic Sea Youth Platform*

The Baltic Sea Youth Platform partnership acknowledges the variety of definitions of young people in the Baltic Sea Region. The CBSS members and partner organisations of the CBSS use different concepts to define youth. This is a common dilemma when addressing youth in general.

Therefore, the BSYP is using a flexible concept of defining youth and adapts its definition to funders and co-organisers. In general, youth addressed by the BSYP is between 18-29 years old. The reason for not addressing young people below the age of 18 is that it is connected to a heavy workload and a higher degree of responsibility. Such effort can only be made if there are resources available to ensure that the organisers can adequately take care of minors.

It is planned to develop concepts to include young people below the age of 18 in the work of the BSYP, e.g., by making it possible for them to join the Working Groups. Such concepts will be developed in cooperation with the Children At Risk unit in the CBSS Secretariat and using other available resources - such as SALTO youth participation guidelines - to ensure all relevant child protection policies are considered.

### *UN Definition of Youth*

#### *Who is the Youth?*

“There is no universally agreed international definition of the youth age group. For statistical purposes, however, the United Nations—without prejudice to any other definitions made by Member States—defines ‘youth’ as those persons between the ages of 15 and 24 years. This definition, which arose in the context of preparations for the International Youth Year (1985) (see A/36/215), was endorsed by the General Assembly in its resolution 36/28 of 1981. All UN statistics on youth are based on this definition, as is reflected in the annual yearbooks of statistics published by the UN system on demography, education, employment and health.

This statistically oriented definition of youth, in turn, entails that children are considered those persons under the age of 14. Worthy of note, however, is that Article 1 of the United Nations Convention on the Rights of the Child defines ‘children’ as persons up to the age of 18. At the time, it was hoped that the Convention would provide protection and rights to as large an age-group as possible, especially as there was no similar document on the rights of youth.

Many countries also draw the line on youth with regard to the age at which a person is given equal treatment under the law—often referred to as the ‘age of majority.’ This age is commonly 18 in many countries; so that once a person attains this age, he or she is considered to be an adult. Nonetheless, the operational definition and nuances of the term ‘youth’ vary from country to



country, depending on relative sociocultural, institutional, economic and political factors” (United Nations n.d.).

#### State of the World’s Youth

“Today, there are 1.2 billion young people aged 15 to 24 years, accounting for 16 per cent of the global population. By 2030—the target date for the Sustainable Development Goals (SDGs) that make up the 2030 Agenda—the number of youth is projected to have grown by 7 per cent, to nearly 1.3 billion” (United Nations n.d.).

“According to the main scenario of EUROPOP2019 — the latest round of Eurostat population projections — by 2080 the number of children and young people in the EU-27 is projected to be 121.2 million, which is 20.8 million less than in 2019. As the EU-27 total population is projected to keep growing through to 2026, reaching a peak of 449.3 million, the share of children and young people in the total population is projected to decrease from 31.8 % in 2019 to 28.6 % in 2052. From 2052, the share of children and young people is projected to increase marginally through until 2080 (without returning to anywhere near the current share)” (Being young in Europe today - demographic trends n.d.).

#### Why it is important to consider the youth’s perspective:

The youth are our future crisis managers and leaders. In addition, today’s “youth are increasingly demanding more just, equitable and progressive opportunities and solutions in their societies, the need to address the multifaceted challenges faced by young people (such as access to education, health, employment and gender equality) have become more pressing than ever.

Youth can be a positive force for development when provided with the knowledge and opportunities they need to thrive. In particular, young people should acquire the education and skills needed to contribute to a productive economy; and they need access to a job market that can absorb them into the labour force” (United Nations n.d.).

#### Learning more about the situation of young people around the world

“The United Nations youth agenda is guided by the World Programme of Action for Youth. The Programme of Action covers fifteen youth priority areas and contains proposals for action in each of these areas. Adopted by the General Assembly in 1995, it provides a policy framework and practical guidelines for national action and international support to improve the situation of young people around the world. [Learn more about the Programme of Action](#)” (United Nations n.d.).

### Diagnosing the crisis

In order to perceive the pandemic as a crisis, there need to be a few key components: time pressure, a great deal of uncertainty and stakeholder core values at stake.

If we are speaking about **time pressure**, quick choices had to be made to maximally decrease the risk of the pandemic spreading. The Covid-19 global pandemic is a good example because preventive measures had to be taken as quickly as possible so that the virus could not spread. However, since we hadn’t experienced a similar crisis for many years, the decision-making part was stretched and the virus had already spread around the world, including the

countries included in this case (Latvia, Sweden, Finland). Time pressure put a lot of pressure on youth too, because many lost jobs and had trouble getting used to remote learning.

The pandemic also carries a **great deal of uncertainty**. If speaking specifically about youth, it is hard to predict what will happen the next day due to the virus constantly mutating and even harder to predict what will happen in the following years. At the start of the pandemic, the International Labour Organisation (ILO) predicted a global loss of 305 million full-time jobs by July 2020. Now this number is over 400 million. The crisis is worse than expected and young people are some of the hardest hit (Mburu and Diness 2020).

As for the **core values**, the Covid-19 pandemic is not only dangerous to human health, which is the first core value in this case but also dangerous to other actors and their core values which changed during the period of quarantine. The core values changed due to the chain reaction of the pandemic. Governments reacted rapidly by announcing the quarantine to ensure people's safety, but they didn't have enough time to ensure other actors and core values were not dramatically affected. As a result, the pandemic crisis turned into a new kind of crisis and set new core values for different stakeholders.

Firstly, the pandemic affected public health and safety. Hospitals were overwhelmed and to prevent total healthcare sector collapse the quarantine was announced.

Secondly, after a few weeks in quarantine, the pandemic started to affect the next core value – working industry and the global economy. The working industry had to switch to completely remote workspaces, but for some industries, it was impossible or not effective to keep business running. In an especially risky position were practical job workers like vendors, technicians etc., because of the constant exposure to possibly infected people and not having the possibility to work remotely.

Meanwhile, other core values were affected – education and mental health. Students and schools had to completely switch to online learning which was not so effective. Not all students were able to switch and not all families had the possibility to use computers (tablets) and to connect to the Internet. It requires a lot of motivation for students to learn when they are at home, a different working environment than at school or university. Also, schools were not ready to work online and teachers neither had the necessary skills for remote working, nor the necessary equipment. The same applies to office workers. For some, it was a win-win situation, but for others, it made work inefficient and caused mental health problems.

Studies have “shown strong evidence for a negative effect of COVID-19 restrictions on children’s physical activity behavior. Physical activity has decreased especially with higher age of children and with a lower socioeconomic background. Thus, the COVID-19 pandemic has worsened the trend of inactivity which was alarming even before the pandemic” (Rossi, Behme, and Breuer 2021, 8).

## Establishing a timeline

### *Five leadership tasks/analytic toolkit*

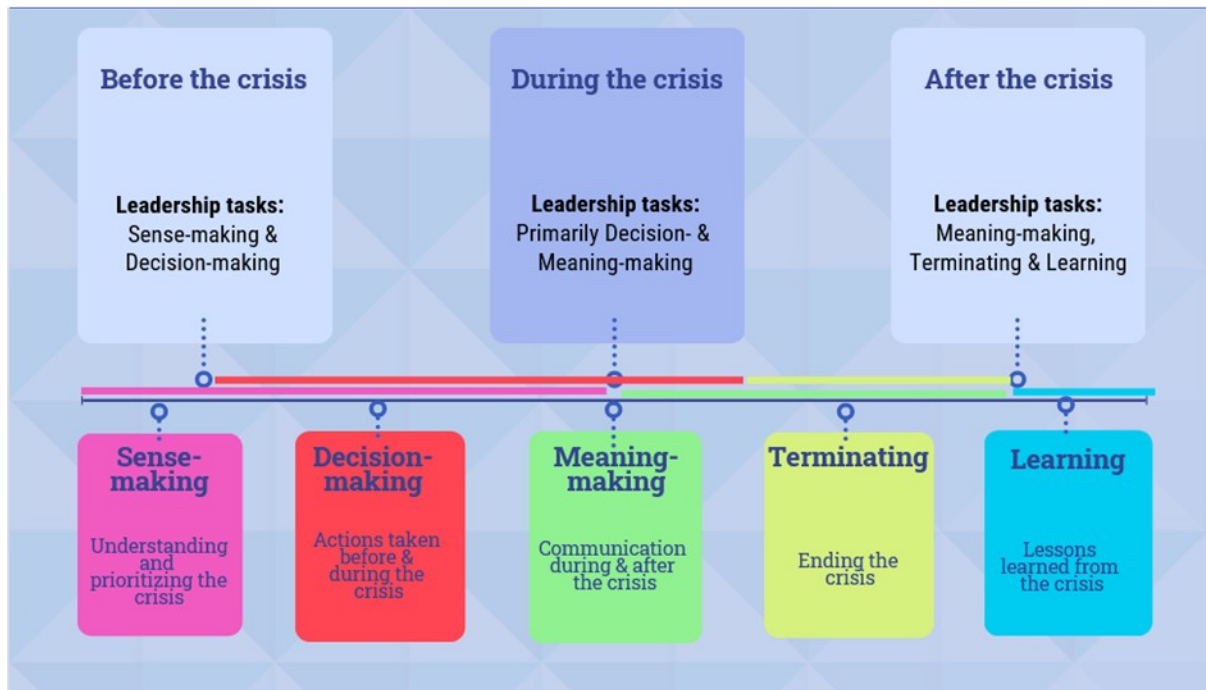


Figure 1. “Five leadership tasks” Developed by WannaCry Case Study.

Figure 1 shows that these tasks all represent different stages of the crisis as it unfolds, burns, and ends. The first task, sense-making, includes the process before and early stages of a crisis, where the key actors collect information and try to make sense of the crisis. The second task, decision-making, emphasizes the preparations, coordination, and implementation of essential decisions to manage the situation. Thirdly, meaning-making highlights what messages are being communicated about the situation, how the crisis is narrated and transferred to the public and other leaders. Fourthly, termination is when the crisis eventually comes to an end, either naturally or by force. Lastly, learning and reforming, where time should be spent observing failures and successes to identify what needs to be rebuilt and reconstructed, to manage the following situation even better, and strengthen resilience.

## Analysis

### Sense-making

#### *Why is specifically youth impacted by the pandemic?*

Key factors:

- Those just about to enter the labour market after finishing their education have struggled to find employment in the context of limited vacancies during the pandemic - meaning there is not enough funding for young

people because adults have already filled their spots and if a business has to decide whether to keep a specialist or teach a specialist, the answer is clear;

- Young people tend to work in sectors that are most affected by lockdowns and social distancing like food services, clothes stores and similar. Although the food service sector's situation is getting better;
- Temporary contracts, uncertainty regarding employment status;
- Mental well-being;
- Apprenticeships are hard to find.



Source: [Eurostat](#).

Figure 2 Monthly unemployment rates for the less than 25 years old in the EU-27, Dec. 2019-June 2021, Eurostat (European Parliament, Directorate General for Internal Policies of the Union. 2021, 19)

“Reflecting lockdown and containment periods, employment as well as unemployment developed in waves for both youth and adults. The EU-27 youth unemployment rate for the age group 15-24 started to increase from 15 % in March 2020 and reached a peak of 18.5 % in August 2020. It then declined again to 17 % by June 2021. Youth unemployment **has been decreasing** in the second quarter of 2021 but it is **still higher than before the onset of the crisis**” (European Parliament, Directorate General for Internal Policies of the Union. 2021, 17).

Core values for youth:

- Mental well-being and social contact with family and friends
- Getting on the „right path“; being a part of the community and contributing to society, staying out of criminality
- Becoming independent - establishing long-long friendships and networks as well as determining career choices and “potential life partner”;

- Work/life balance;
- Competitiveness;
- Financial stability;
- Education.

### Decision-making

Decision-making regarding youth employment during the pandemic (See European Parliament, Directorate General for Internal Policies of the Union. 2021, tbl. 1):

- Targeting youth policy measures at a national level:
  1. Providing youth strategies to guide cross-sectoral and employment policies;
  2. Providing emergency and additional income support measures for young people;
  3. Hiring subsidies to promote the employment of young people;
  4. Supporting work-based learning opportunities and apprenticeships;
  5. Strengthening employment services for young people;
  6. Expanding mental health services, funding and support for young people.
- EU funding for youth employment, education and training
  1. “Direct hiring subsidies including wage subsidies, recruitment bonuses for new hires and temporary contributions to social protection coverage to facilitate the acquisition of work experience and/or entry into first, quality jobs for young people” (European Parliament, Directorate General for Internal Policies of the Union. 2021, 50);
  2. “Direct subsidies for apprentices in SMEs including remuneration, recruitment bonuses and temporary social contributions coverage, as well as trainers' wages and/or their social contributions to stabilize and increase the supply of quality and effective apprenticeships” (European Parliament, Directorate General for Internal Policies of the Union. 2021, 50).
- What decisions (regarding priorities, funding, policies, etc.) shaped or deeply influenced the course of the case?
  1. The closing of food services, clothes stores etc.;
  2. Universities and higher education institutes did not take into consideration that a part of education was remote during the pandemic and, thus, affected results. Same criteria for university admission as pre-pandemic;

3. Targeting youth policy measures;
  4. EU funding for youth employment.
- Who has the responsibility, mandate, and legitimacy/public trust to make the necessary decisions?
    1. Ministry of Health;
    2. Government;
    3. Ministry of Education;
    4. EU;
    5. People with educational and law experience to understand youth perspectives
  - How do crisis makers ensure a decision-making process so they can maintain public trust, legitimacy and credibility among our citizens, strategic partners and others?
    1. Use of experts and science: Have some prognosis for the future, make decisions that can actually be fulfilled;
    2. Check the credibility and background of people responsible for decision-making
  - How do we create an inclusive, forgiving and secure atmosphere conducive to conducting an open and constructive dialogue by drawing upon and utilizing common ground and differences?
    1. Have decision-makers who can think more objectively than subjectively;
    2. Be more understanding, not force thoughts;
    3. Learn from other countries - especially regarding the pandemic;
    4. In-depth analysis of what can and what can't be afforded to make the situation better

### Meaning-making

Meaning making:

- Engaging in framing;
- Using crisis rituals;
- Masking a crisis.

*How are actions and decisions communicated? To whom? Via what channels/actors?*

Most of the actions can be communicated through the media, although this gives space for misinformation and false facts (especially with vaccines), also the sphere of influence (mostly misinformation). To fix this problem. “In this crisis leaders can draw on a wealth of research, precedent, and experience to build organizational resilience through an extended period of uncertainty, and even turn a crisis into a catalyst for positive change. Superior crisis communicators tend to do five things well” (Mendy, Stewart, and Akin 2020):

1. *“Give people what they need, when they need it.* People’s information needs evolve in a crisis. So should a good communicator’s messaging. Different forms of information can help listeners to stay safe, cope mentally, and connect to a deeper sense of purpose and stability.”
2. *“Communicate clearly, simply, frequently.* A crisis limits people’s capacity to absorb information in the early days. Focus on keeping listeners safe and healthy. Then repeat, repeat, repeat.”
3. *“Choose candor over charisma.* Trust is never more important than in a crisis. Be honest about where things stand, don’t be afraid to show vulnerability, and maintain transparency to build loyalty and lead more effectively.”
4. *“Revitalize resilience.* As the health crisis metastasizes into an economic crisis, accentuate the positive and strengthen communal bonds to restore confidence.”
5. *“Distill meaning from chaos.* The crisis will end. Help people make sense of all that has happened. Establish a clear vision, or mantra, for how the organization and its people will emerge.”

Information is usually brought to the public through a third party. There is a different information climate now with the internet since many people have become direct information providers via social media (also increased risk for lying and misinformation).

*Are these messages successful in upholding trust, legitimacy and credibility?*

“Policy makers and their PR professionals understand that management of media reporting is pivotal to their communications strategies, but at the same time they are often at a loss in doing just that. Journalists may be willing to swallow the treatment they get and publish what information is provided by policy makers, but only as long as they have either no time or opportunity to do something else, or feel that the access and information given to them produces stories that are likely to satisfy their editors and audiences” (Boin et al. 2005, 87–88).

- Messages can uphold trust, legitimacy and credibility if the media and journalists do not alternate the information that is given by policymakers so that people have a clear understanding of the actual, and not a subjective, problem.
- Don’t lie or make promises you can’t keep. If you don’t know or have all of the information, say that but also explain when and how you will attempt to fill in those information gaps.

*What messages are being communicated by other actors? Are they helpful or are they malicious?*

- Fake news sites;
- Conspiracy theorists and people with small-to-none base of facts;
- Regular journalists: “Journalists and media must feel that the access and information given to them produces stories that are likely to satisfy their editors and audiences. When they feel this is not the case, at least some of them will start digging for context and background. By doing so, journalists shape, at least partly, the story, which complicates the policy makers’ ability to dominate the meaning-making process.” (Boin et al. 2005 ?).

*What efforts are being made to combat the spreading of misinformation?*

- Special organizations for uncovering fake news (Latvia has Re Baltica (a non-profit organization), Europe has East Stratcom Task Force (European Union East strategic communications operation group);
- Focus on delivering fact-based information;
- Clickbait control;
- Not allowing propaganda;
- Controlling the media;
- The ability to report fake news on social media platforms (Facebook, Instagram, Snapchat, Twitter).

Interesting Articles:

- (Mendy, Stewart, and Akin 2020)
- (Bakker et al. n.d.)
- (Philip Morris International 2021)
- (Christina Tudor 2021)

### **Ending a crisis**

When do the youth perceive that the pandemic is over? When does the healthcare sector perceive that the pandemic is over? It is still overwhelmed even if there are fewer Covid patients because it now has to deal with all sick people that did not get treatment over the past two years (cancer, surgeries and so on).

When does the government perceive that the pandemic is over?

When do the businesses perceive that the pandemic is over? When shops reopened.

### *The “New-Normal”*

The Covid pandemic has been a kind of game changer and has developed a “new normal”. Today people are used to wearing masks, getting vaccinated and getting booster shots, lockdowns, social distancing, testing before travels and so on. Many of these were considered extreme and unnecessary as well as a fringe



on personal liberties, but today many more people have accepted them and understand the value they have had in fighting Covid. The so-called "new normal" is also heard from climate change, but the pandemic has left a big impact on how we live our lives further.

Some argue that the new attitudes and behaviours that the pandemic forced us to adopt are now so ingrained that there is no going back. Others see these new behaviours as temporary adjustments to a one-off shock and predict a wholesale reversion to type once it's over.

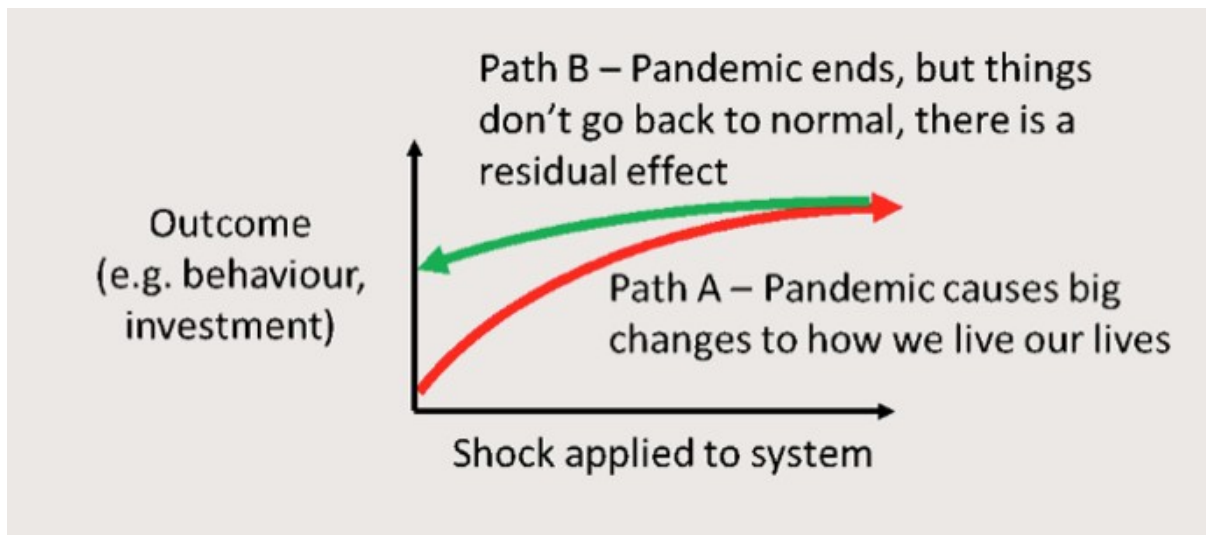


Figure 3. What happened during the pandemic (Birkinshaw 2021)

Figure 3 visually explains the situation of what happened during the pandemic. The crisis applied shock to everyone which as a result made a new normal with either big or residual effects.

Another thing that will probably come with the new normal is vaccines. We know that there is going to be some need for regular vaccinations. But it is likely going to look a lot like the flu, with different strains and needs for regular boosters to prevent illness from coming back. Also, vaccines remain one of the best tools we have regarding fighting the pandemic. Only a few years have passed since the beginning of the pandemic and we can already see its effectiveness in reduced hospitalizations, death and severe illness. And they also seem to contribute to decreasing the spread of the disease. All of this put together, we can see a pattern that vaccinations are our fastest route back to the new normal.

When will youth say "We are back on a regular track"?

*At what point can different actors/stakeholders say that the crisis and/or conflict has ended?*

End - It depends on the actor you are asking. The health sector still is dealing with a large number of patients since they are trying to catch up with the things they had to put aside in order to deal with the acute phase of the pandemic.

Businesses and companies may feel that things are getting back to normal, although they have had to change their business activities. Yet the travel and tourism sector as well as the food services sector (restaurants) still are experiencing an extreme shortage of staff. So, it is important to consider what each individual actor perceives as the “end”.

- If we’re talking about youth: opening of public places, having the possibility to study/learn without any restrictions. For youth it’s more about freedom and accessibility than health;
- Job market stabilization, overall economic situation stabilization;
- Allowing sports activities;
- For young people who missed years of education due to the pandemic the crisis will not be over because they will transform from a pandemic crisis to a personal crisis due to all missed years of education. In such cases, students should be given the option to retake these missed years and have the opportunity to get a degree. Of course, there will be debates, mostly financial, regarding this topic, but it is a necessity that all students that wish to learn have an opportunity.

*When and how can these different actors/stakeholders go back to their new/normal activities?*

- The future is unpredictable;
- The process of learning will be a lot different than it was before the pandemic;
- As for different interests - probably when the pandemic will be eradicated or everyone will be vaccinated;
- Increase in obesity;
- Students who had a rough time during the pandemic will suffer the most.

Answers that young people should be asking themselves:

- “What is it that I can do now to make the situation better?”
- “What does the world need right now?”
- “What am I good at? And how can the public benefit from me?”

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# **Youth, Security and Trust: A Creeping Crisis**

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## Introduction

Children and youth are the future. They will soon become the next generation of employees, employers, decision makers as well as parents with the responsibility of raising the next generation. Furthermore, they will most likely be the ones who should take care of us, the older generation. Concerning societal security, youth's perceptions and needs are important to take into consideration. Furthermore, the youth play a crucial part in creating and maintaining security. Thus, governments should not minimize or overlook the significant role the youth have in societal security.

Consequently, if the youth have a low degree of public trust in the government and its institutions, this will have serious implications for the youth and their personal security as well as for the country and societal security at large. In the short-term, if the public does not trust the authorities, it is very difficult to communicate with them, especially in acute situations and crises when communication is crucial. In the long-term, if the youth lose trust in the government, society, and the democratic principles upon which they lay, there is a great risk that the youth will become disengaged and socially alienated. In turn, this will reduce social cohesion and contribute to other negative short-term and long-term consequences that will be felt by the entire society for years to come.

In fact this is already happening now, but it is happening in the background, lingering slowly but growing in intensity. So even if this issue is not considered a crisis at this point in time, it has the potential to become one. These types of crises are referred as creeping crises.

Boin, Ekengren and Rhinard define a creeping crisis as “a threat to widely shared societal values or life-sustaining systems that evolves over time and space, is foreshadowed by precursor events, subject to varying degrees of political and/or societal attention, and impartially or insufficiently addressed by authorities” (Boin, et.al., 2021, pp. 3).

This case study discusses why the issue of youth, security, and trust is a creeping crisis as well as some of the potential consequences this may have on individuals, local services, municipal authorities, government agencies, and societies as a whole in the Baltic Sea region and beyond. This case study utilizes a crisis diagnostic tool and as well as an analytical tool for addressing crisis management tasks. Both of these tools serve to assist those who are tasked with dealing with such issues, helping them consider the various needs, interests and priorities of different stakeholders as well as identify some of the potential short-term and long-term consequences.

This case study discusses youth's security concerns and the issue of trust as well as the question “How the failure to address youth's security concerns is a creeping societal security crisis.” The case study begins by presenting the theoretical considerations, including crisis diagnosis, the strategic crisis management tasks, the concept of security and concluding with the concept of trust and why it is important.

After the section on theoretical considerations, the authors explain why this issue was selected and how it connects with other research done within the NEEDS project. Thereafter, the various stakeholders that are included in this study are presented.

Then drawing upon the theoretical considerations, concrete examples are given illustrating the various stakeholders' short-term and long-term concerns, interests and priorities.

The case study ends with a concluding discussion on the current dilemmas, future challenges, and suggestions for moving forward to address these.

## Theoretical Considerations

### 1. Crisis diagnosis

The crisis definition used here is based on the one used in the book "[Politics of Crisis Management](#)" (edited by Arjen Boin, Paul 't Hart, Eric Stern, and Bengt Sundelius, 2005 and 2017). It states that a crisis composes a threat to core values, creates a sense of urgency, and is highly uncertain as to their origin and consequences. According to this definition, a situation is a crisis when central actors perceive that:

- Fundamental/core values are threatened,
- There is limited time to act, and
- The situation is marked by uncertainty.

Since actors prioritize values and perceive things differently, this crisis definition highlights the actor-centered perspective. Based on the three components, the following questions are used to guide the crisis diagnosis; that it is a situation is being perceived as a crisis for whom and why:

- Who is being affected by this situation and in what ways? Do they feel that some of their core values are at stake?
- How much time is available to act? How quickly will our actions give results?
- What are the significant uncertainties in the situation? What is happening? Do we know what will happen in the short-term and long-term?

#### 1.1. Uncertainty

The first criteria in the crisis definition used in this case study (Boin et al., 2005 and 2017) is that an actor perceives uncertainty. Thus, it is necessary to take stock of how different actors are perceiving the key uncertainties associated with the situation and how they can be reduced.

This approach forces those tasked with dealing with a difficult situation to utilize the current information, expand it by taking inventory of many different voices and concerns, and formulate potential prognoses and outcomes. This type of



thinking can encourage a more proactive response, rather than a reactive one proactive.

”Second, comparison of the scenarios can help policymakers to identify critical variables, which can be monitored closely for indications of how and in which direction the crisis is developing. Thirdly, recognition of and preparation for the worst case is almost always good politics. The general public and journalists alike tend to be more critical of complacency or negligence in the face of a previously uncertain threat which subsequently occurs than of vigilant overreaction (which is generally forgiven if perceived to have been in good faith). Among the illustrations of the latter are the “Y2K bug” – which proved ultimately to be rather expensive but not particularly controversial – and many post-9/11 terror alarms in the United States. The precautionary principle (better safe than sorry) is relatively easy to defend in today’s risk society” (Boin et al., 2005: p. 151-2).

### *1.2 Core values at stake*

Even if some groups have similar core values, they may perceive them as threatened in different ways and at different times.

Some examples of core values include:

- Human lives, casualties, injuries
- Short-term and long-term mental and physical health
- Public health: access to health care including treatment and preventative medication (vaccines, antibiotics, etc.) as well as appropriate equipment and materials,
- Personal and public safety (fire, accidents, traffic, etc.)
- Economic stability: employment, well-educated and skilled workers, economic propensity, access to resources (food, clean water, raw materials, energy)
- Ecological security and stability
- Social cohesion in society
- Social inclusion, feeling like a meaningful part of society
- Civil liberties: democratic principles (right to vote and participate in public debate), human rights (freedom of speech, movement, identity, civil status), free from discrimination, and self-determination
- Critical infrastructure (telecommunications, energy, roads and transportation, hospitals, water works)
- National security, national integrity, national sovereignty, military and armed forces, diplomacy
- Freedom of speech and freedom of the press
- Freedom of movement
- Education
- Hope for the future
- Governance, government structures, legislation
- Trust in state institutions and authorities

- Law enforcement, police, judicial sector (courts)
- Access to information and technology
- Access to education and gainful employment
- Safe and secure communities with law-abiding citizens and little or no criminal activities
- National security as well as citizens who are able and willing to protect the nation's security and sovereignty

Being able to identify the different stakeholders' so-called "core values" and how they feel they are at stake will help determine a course of action and making difficult choices in priorities that are balanced and calculated.

"Sometimes policymakers rush to develop options for action without taking the time to think hard and deliberate vigorously on the nature of the problem facing them. Unbalanced response strategies can easily be the result. Crises commonly demand hard choices; dilemmas and value conflict arise frequently. Generally speaking, the capacity of decision makers to formulate strategies well adapted to the situation and which protect the values they cherish most dearly will be increased if they engage in this kind of active value-probing" (Boin et al., 2005: p. 151).

### *1.3 Time pressure, including creeping crisis*

The third criteria of the crisis definition used in this case study when is an actor perceives urgency or time pressure, whether the time frame is measured in minutes, hours, days, weeks, months, or years. How much time is available (or can be "bought") to deal with this situation?

Many problems need to be dealt with now, before they can quickly escalate and turn into much larger crises in the near future. In other cases, it is about setting in motion certain developments in order to redirect trends that may be harder to change or deal with later. Likewise, many strategies, policies, and legislation need time to be put into place since their effect will not be visible for years to come.

Sometimes there is no immediate sense of urgency or time pressure, but the seeds and threats of a crisis (declining public trust, instability in the economic and education system, potential social problems such as polarization and radicalization as well as climate change) are slowly growing and gaining momentum in the background. These are often defined as creeping crises, since they are lurking behind the scene since other more "pressing" issues have gained attention and resources.

#### *When time pressure is not exactly what it seems - Creeping crises*

Boin, Ekengren and Rhinard discuss crisis from the practical and theoretical point of view and they define the creeping crisis as: "a threat to widely shared societal values or life-sustaining systems that evolves over time and space, is foreshadowed by precursor events, subject to varying degrees of political and/or societal attention, and impartially or insufficiently addressed by authorities." (Boin, et.al., 2021, pp. 3). So despite the fact that a situation may not be deemed

crucial at the time, especially when there are other “more pressing” issues to deal with, it has the potential to have a negative effect on large parts of society in near or more distant future. One important aspect of their definition is the fact that authorities and their involvement (more rightfully so, their lack of involvement) in addressing the threat or issue.

Furthermore, Boin, Ekengren and Rhinard present four interlinked dynamics, when defining creeping crisis:

- “the mergence and gradual development of threat potential, owing to interacting conditions over time and space;
- the foreshadowing of the threat through precursor events;
- the shifting nature of threat attention, amongst societal groups and public officials;
- the partial or insufficient response to the threat” (Boin, et.al., 2021, pp. 5).

One valuable lesson for practitioners and students alike is the fact that detecting a creeping crisis is quite challenging because of the long incubation periods that are intertwined with complex human and ecological systems. Thus, it is necessary to monitor trends, map out different perspectives and knowledge from a number of actors, cooperate with diverse partners, and entertain some worst-case scenarios.

Likewise, there is a balancing act since being too proactive and eager can in fact be counterproductive, but being late may mean the problem has swelled and preventative or response measures may no longer be effective.

The authors argue that creeping crises cannot be managed as regular crises and that they require special expertise and continuous cooperation with various institutions and stakeholders that represent different perspectives.

## 2. Strategic crisis management tasks

In the book "Politics of Crisis Management," the authors present a number of strategic crisis management tasks that need to be done in order to deal with a crisis. We call them "the six makings" and they can be used as an analytical tool for deepening one's understanding of a crisis and how it is being perceived by different actors. The "six makings" include the following crisis management tasks: sense-making, decision-making, meaning-making, ending, learning and reforming, and to a lesser extent the issue of preparing.

### 2.1 Sense-making

How to make sense of the situation at hand and the unfolding events

- Who is being affected by this situation and in what ways?
- How are different groups perceiving this situation? (e.g. minority groups, societal security professions and sectors)
- What information do we have? What information do we lack? What information do we need and who can we get it from?

- What core values are at stake (gender equality, human lives, health, economy, human rights, environment, national security/sovereignty)?
- What are our interests? Priorities? What do we not prioritize? What are those with whom we should and need to cooperate with in managing this situation?
- Is this situation acute or is it burning slowly in the background? (i.e, climate change, organized crime)
- What kinds of dilemmas are you facing?

### *2.2 Ending*

- At what point can we say that the crisis and/or conflict is over for us? For our partners? For others? (gender analysis and perspective here)
- When and how can we go back to our new/normal activities?
- What kind of analysis do we need to do about the current state?

### *2.3 Decision-making*

- Who has the responsibility, mandate, and legitimacy/public trust to make the necessary decisions?
- How do we ensure a decision-making process so we can maintain public trust, legitimacy and credibility among our citizens, strategic partners and others?
- How do we create an inclusive, forgiving and secure atmosphere conducive to conducting an open and constructive dialogue by drawing upon and utilizing common ground and differences?
- What are the potential consequences of the various alternatives we have for coping with the situation?
- What will the short-term and long-term effects be of those alternatives?
- How should these decisions be implemented? Coordinated?

### *2.4 Meaning-making*

- How do we want to frame the situation? What are our main messages?
- How can and should we communicate our actions and decisions? To whom? Via what channels/actors?
- In what way do we need to communicate in order to uphold trust, legitimacy and credibility?
- What messages are being communicated by other actors? Are they helpful for us or are they malicious? Do we need to formulate a number of common key messages and what should they be?
- How can we combat efforts to spread misinformation?

### *2.5 Learning and reforming*

- When should we start the evaluation process and who should conduct it?
- How do we ensure an impartial and inclusive evaluation process?

- What mistakes did we make along the way? Were we able to correct these errors during our crisis management or do we need to reform our organization/system/structure?
- What things did we do right that we should continue with moving forward?
- Should some individual or organization be held accountable for these errors or good practices and why?
- How can we utilize research to improve our activities/organization/system/processes?
- What needs to be reformed, rebuild and re-construct, and how?

### 2.6 Preparing

- Drawing upon on lessons identified, learned and implemented, what kinds of strategies, policies, legislation, structures, measures and so on can and should be considered for strengthening resilience in order to be better prepared to mitigate/deter future crises?

## 3. Concepts of security

### 3.1 Concept of societal security

For working purposes, the NEEDS project defines Societal Security as follows:

- Aims to secure and maintain critical societal values, functions and services (including trust, communication, critical infrastructure, health and medical, financial and economic, governance and civic services, law and order, education, democracy and human rights, national sovereignty, and environment) by focusing efforts on identifying, eliminating and reducing risks, threats, and vulnerabilities, and by promoting meaningful and resilient processes, decisions, strategies, structures, policies and measures.
- Is a responsibility of the individual as well as community and civic groups, national/regional/local governing organizations and authorities, and businesses and companies.
- Is not only local or national in origin, scope, or breadth; it demands transnational and cross-sectoral institutionalized cooperation, despite differences.

This broad working definition is purposefully inclusive and allows for much variation, while all of its individual elements are open to interpretation. In spite of its extensiveness, the definition functions as the widest common denominator for the concept of societal security. Typically, the variety of higher education programs include many but not always all of its elements.

The project NEEDS definition of societal security in part is defined as security and maintaining critical societal values, functions and services, which includes trust. Nevertheless, public trust is bringing together the society that may influence the harmonized development and create safer environment. Furthermore, taking in

account the transnational approach and cooperation, the public trust in authorities facilitates better cooperation possibilities for various countries.

### *3.2 Concepts of personal security and human rights*

The concept of security is different for different people as well as very personal and subjective. Personal security is most likely not perceived exactly the same by others, even those who share the same sex, age, profession, or nationality. The need for access, quality and quantity of food, water, shelter, education, health, and mobility vary from person to person. For example, city planning (e.g., how parks, buildings, roads and sidewalks are constructed) and public transportation also affect aspects of personal security depending on what degree of access, protection, and support they have in relation to your needs.

“Security of the person is a basic entitlement guaranteed by the Universal Declaration of Human Rights, adopted by the United Nations in 1948. It is also a human right explicitly defined and guaranteed by the European Convention on Human Rights, the Constitution of Canada, the Constitution of South Africa and other laws around the world” (Wikipedia, “personal security”).

“All 193 member states of the United Nations have ratified at least one of the nine binding treaties influenced by the Declaration, with the vast majority ratifying four or more. While there is a wide consensus that the declaration itself is non-binding and not part of customary international law, there is also a consensus that many of its provisions are binding and have passed into customary international law, although courts in some nations have been more restrictive on its legal effect” (Wikipedia, “personal security”).

“The Declaration consists of the following:

- The preamble sets out the historical and social causes that led to the necessity of drafting the Declaration.
- Articles 1–2 establish the basic concepts of dignity, liberty, and equality.
- Articles 3–5 establish other individual rights, such as the right to life and the prohibition of slavery and torture.
- Articles 6–11 refer to the fundamental legality of human rights with specific remedies cited for their defence when violated.
- Articles 12–17 set forth the rights of the individual towards the community, including freedom of movement and residence within each state, the right of property and the right to a nationality.
- Articles 18–21 sanction the so-called "constitutional liberties" and spiritual, public, and political freedoms, such as freedom of thought, opinion, expression, religion and conscience, word, peaceful association of the individual, and receiving and imparting information and ideas through any media.
- Articles 22–27 sanction an individual's economic, social and cultural rights, including healthcare. It upholds an expansive right to an adequate standard of living, and makes special mention of care given to those in motherhood or childhood.
- Articles 28–30 establish the general means of exercising these rights, the areas in which the rights of the individual cannot be applied, the duty of

the individual to society, and the prohibition of the use of rights in contravention of the purposes of the United Nations Organization (Wikipedia, “Universal Declaration of Human Rights security”).

Societal security efforts focus on personal security and on providing protection-based services for supporting democratic principles and human rights. Yet in a conflict or crisis, personal security can be violated or completely taken away. Thus, it is important for those tasked with ensuring and maintaining societal security have the ability to identify, assess, and analyze different personal security needs in order to make sense of an evolving situation and in turn make sound and sustainable priorities and decisions. When determining which path to take (i.e., decisions, priorities, strategies, etc.), one needs to consider the various personal security perspectives as well as the possible dilemmas and consequences of different actions. In short, personal security is understanding and being able to treat others as they themselves would like to be treated.

#### 4. Concept of public trust and why it is important

In 2013 the Organisation for Economic Co-operation and Development (OECD) published the report “Trust in government, policy effectiveness and the governance agenda” which provides many strong arguments on why public trust is important. In the OECD 2013 report (p 21), the definition of trust is explained as:

*[A] subjective phenomenon, reflected in the ‘eyes of the beholder’ that matters especially to the extent that it shapes behaviour. Trust in government represents confidence of citizens in the actions of a ‘government to do what is right and perceived fair’ (Easton, 1965). It depends on the congruence between citizens’ preferences – their interpretation of what is right and fair and what is unfair – and the perceived actual functioning of government (Bouckaert and van de Walle, 2003). As citizens’ preferences are diverse, they use a multitude of different criteria to evaluate government actions/performance. What is considered right and fair by one individual may not be considered so by another. In order to analyse what influences trust in government, the preferences of citizens need to be compared to their perceptions of the functioning of government. As it is not the actual performance of government but its perceived performance that matters for trust in government, the drivers of perceptions besides governmental performance need to be identified as well.*

*At a broad level, trust in government builds on two main components: 1) social trust, that represents citizens’ confidence in their social community; and 2) political trust, when citizens appraise government and its institutions. Political trust includes both macro-level trust, which is diffuse and system based, and institution-based trust. Civic engagement in the community and interpersonal trust have been shown to contribute to overall social trust (Putnam, 2000).*

The OECD 2013 report (p 21-23) also explains why trust is important for societies as a whole, and for governments in particular:

*Trust in government has been identified as one of the most important foundations upon which the legitimacy and sustainability of political systems are built. Trust is essential for social cohesion and well-being as it affects governments' ability to govern and enables them to act without having to resort to coercion. Consequently, it is an efficient means of lowering transaction costs in any social, economic and political relationship (Fukuyama, 1995). A high level of trust in government might increase the efficiency and effectiveness of government operations.*

*Core levels of trust in government are necessary for the fair and effective functioning of government institutions – such as adherence to the rule of law, or the delivery of basic public services and the provision of infrastructure. The rule of law and independent judiciary are particularly important as their proper functioning is a key driver of trust in government, as established in several studies (Knack and Zak, 2003; Johnston, Krahn and Harrison, 2006; Blind, 2007)..*

*Trust in government institutions at the same time influences individual behaviour in ways that could support desired policy outcomes. This may range from rather narrowly defined policies and programmes (such as participation in vaccination campaigns) to broader policy reforms (e.g. environmental regulation or pension reform). Trust is important because many public programmes create the opportunity for free riding and opportunistic behaviour. Trust could reduce the risk of such behaviour to the extent that people are prepared to sacrifice some immediate benefits if they have positive expectations of the longer-term outcome of public policies, either at a personal level (pensions) or by contributing to the common good (redistribution of income through taxation).*

*Trust in government may help governments to implement structural reforms with long term benefits...*

*Trust in government could improve compliance with rules and regulations and reduce the cost of enforcement. Rules and regulations are never perfect or complete enough to eliminate abuse. Their effectiveness depends on the extent to which people see them as fair and legitimate enough to outweigh the benefits of non-compliance. This is particularly important for regulations where the gap between the cost of compliance and personal benefits is large and where control is more difficult. Taxation is an example of the first, while traffic regulations are an example of the second. Trust in the regulator can lead to higher voluntary compliance (Murphy, 2004).*

*Trust in government institutions could help to increase confidence in the economy...*

*Trust in government seems to be especially critical in crisis situations, such as natural disasters, economic crisis or political unrest which focuses attention on the core functions of public governance. The capacity of governments to manage crises and to*



*implement successful exit strategies is often a condition for their survival and for their re-election. In the aftermath of major disasters, lack of trust may hamper emergency and recovery procedures causing great harm to society and damaging government's capacity to act.*

Furthermore, the dilemma of creating and maintaining trust is also discussed in the OECD 2013 report (p 23):

*While trust takes time to be established, it can be lost quickly. It is not sufficient to discuss the impact of trust in government on the performance of government, the economy and society, it is also necessary to describe what might happen if there is an increasing distrust in government. This might lead to less willingness on the part of citizens (and businesses) to obey the law, to make sacrifices during crises or to pay taxes. This could raise costs for government – resulting in declining efficiency – or erode revenues. Declining trust in government might also make it more difficult to attract and retain talent to work for government institutions*

In addition, the OECD 2013 report (p 28) presents some of the drivers of trust in government drawing upon the research of Bouckaert (2012) who argues “that trust in government can be analysed at three levels. At the macro-level, trust relates to political institutions and the functioning of democracy. At the meso-level, trust relates to policy making – the ability of governments to manage economic and social issues, and to generate positive expectations for future well-being. Finally, at the micro-level, trust refers to the impact of government on people’s daily lives through service delivery.”

“Bouckaert’s taxonomy is especially useful for two reasons. First, because it suggests that trust is not just something that happens to governments but something that governments can influence through their actions and policies. Second, because it suggests that when it comes to influencing trust, it is not only the what of public policies that matters, but also the how, the for whom and the with whom. Consequently, not only the final results but the processes used to attain them are also important for the citizens and business.”

## Case Study

### 5. Presentation of the case study and why it was chosen

The NEEDS project partners sent out a survey to practitioners and experts throughout the Baltic Sea region and asked them what kind of research they felt was important and was needed for their work. Based on this input, the project selected four topics: Covid pandemic, cyber and information security, climate change, and youth’s security concerns and the issue of trust. This case study addresses the last issue, although each of the other case studies also have considered youth perspectives. Some of the findings from those case studies are highlighted here.

More specifically, during the NEEDS project Intensive Study Program in Porkkala (Finland) that took place in May 2022, the participating university students from the Baltic Sea region worked together with educators, practitioners and experts and discussed the topic of youth and security. Their concerns, thoughts, and reflections have been used throughout this case study.

## 6. Presentation of stakeholders and why they were chosen

In order to illustrate how youth's security concerns and the issue of trust impact the entire society, a number of stakeholders have been selected for this case study. Their different needs, interests and priorities will be highlighted. In addition, they are compared and contrasted to one another in order to identify some of the key strategic dilemmas.

The stakeholders represent different levels (individual, local, municipal, and national) as well as different sectors (economic, education, judicial and law enforcement, public services, governance). Furthermore, the impact and potential implications for Baltic Sea region are discussed when relevant.

A. Youth & their families

B. Educational system

C. Work market

D. Health, social, fire and rescue services as well as law enforcement (judicial & police services)

E. Central government (and country as a whole)

## 7. Crisis diagnosis – For whom is youth and security a crisis for and why?

### A. Youth & their families

Some of the issues of uncertainty regarding whether or not and to what extent youth would be able to:

- complete their education
- secure long-term employment and gain a meaningful income
- have enough money to be able to move out and buy their own place to live
- socialize with friends
- find a partner/spouse and build a family
- voice their opinions and concerns so that they are heard and understood.
- hope for the future

Some of the core values at stake:

- Professional training and career
- Economic independence
- Social independence

- Social and physical well-being
- Producing next generation of children

Some aspects of time pressure worth considering:

- Eager to complete education, start career and earning own money
- Core network of friends established as youth when there is more “free time” and fewer obligations
- Risk of becoming alienated from society if not studying or contributing to work market
- Limitations regarding reproduction cycle

### B. Educational system

Some of the issues of uncertainty regarding whether or not and to what extent:

- Students will be able to complete their education on time and if not how will that affect the next group of students
- There are enough resources (staff, rooms, learning materials and computers, money, and so on) for students who have not completed their studies as well as for the new students coming in
- There are current or potentially upcoming problems in the classroom since students may be on different levels and have different needs
- The education system will be able to quickly and properly prepare students for the needs of the work market. Will students be able to secure jobs? Will employers be able to find workers?

Some of the core values at stake:

- Securing sufficient resources for conducting educational services for all students and be able to address their various needs
- Educating the next generation and ensuring they are ready for adulthood (independent, employment, social skills, and well-educated and engaged citizens)

Some aspects of time pressure worth considering:

- Acute lack of resources for current and incoming students; too many students in system at same time
- Are there currently enough teachers and staff to support all of the students, and whether there is time to educate and recruit more staff
- Examination of students since additional funding is often provided after students successfully complete their educational programs

### C. Work market

Some of the issues of uncertainty regarding whether or not and to what extent:

- There are enough well-trained and prepared workers to employ.

- The work market can maintain the current working staff since there is an acute shortage of educated and well-trained workers so there is a high demand for them.
- If there is not enough well-educated and trained staff, how will this affect activities and production?
- What if there is high unemployment and people are not consuming at the same levels so there is less demand for certain services and products? Will companies have to lay off people, close shop or change their activities?

Some of the core values at stake:

- Securing stable group of well-educated and trained workers
- Low unemployment rates so there is less turn-over of staff
- Steady flow of services and products available for customers' needs and interests
- Customers who are able and willing to buy the available products and pay for the available services
- Ability to continue to invest in innovation and develop new and better tools, methods, products and services (many of which are used in particular by youth)
- That the economy is in balance and productive, which in turn produces revenues for financing infrastructure and public services.

Some aspects of time pressure worth considering:

- It takes time to ensure workers have appropriate education and training
- Any disruptions in supply chains can have negative impact on core activities so a lack of supplies in one part of the world can dramatically affect operations in another part of the world

#### D. Health, social, fire and rescue services as well as law enforcement (judicial & police services)

Some of the issues of uncertainty regarding whether or not and to what extent:

- Are the current resources sufficient for addressing the needs and concerns of the youth?
- Are the youth putting themselves and others in greater risk of getting harmed?
- Do they understand the potential problems at hand and will they be able to find measures and policies for addressing them?

Some of the core values at stake:

- Ensuring that all members of society receive services that keep them safe and healthy and ensuring that everyone in society is treated correctly and justly.

- Maintaining enough resources (materials and people) to provide a good standard and quality of services.
- Social cohesion since polarized and dysfunctional societies often lead to distrust in government authorities and services which consequently lead to less willingness to obey laws and follow rules and recommendations (e.g., getting vaccinated).
- Legitimacy and public trust in the work they do and the foundation upon which it stands since compliance of rules and regulations reduce the cost of enforcement.
- Law enforcement, fire and rescue services, and health care providers share the core values that youth stay safe and secure both physically and mentally. Yet law enforcement may put more emphasis on the effect the (in)security of youth may have on the society at large in terms of a stable and harmonic community with little or no criminal activities. If criminal activities become widespread, law enforcement may have serious problems protecting the integrity of the judicial and legal system as well national sovereignty. For fire and rescue services, protecting human health and lives are often more immediately threatened by safety risks such as fires or accidents. Health care providers may be concerned with the immediate as well as the long-term effects of unsafe and unhealthy habits and environments for youth which will follow them throughout their lives (obesity, heart problems, vision and hearing problems, mental health issues, etc.). In addition, health care providers are aware of the need to provide services to all members of society; the young as well as the old.

Some aspects of time pressure worth considering:

- If these concerns and issues are not addressed quickly, they have the potential to spread to other parts of society. For example, high-school drop-outs will not find jobs and will need social assistance. Youth who feel alienated may turn to radical extreme groups in search for attention and “meaning.”
- Often measures and policies need time to be drafted, implemented and take effect. Thus, those measures and policies made today may not have any real visible effect for a few weeks, months or even years to come.

#### E. Government and country as a whole

Some of the issues of uncertainty regarding whether or not and to what extent:

- How will the concerns and needs of the youth affect the country at large?
- Who is responsible for addressing these concerns and how should they be addressed?
- What data is needed and how can trends and warning signs be identified and who is responsible for collecting and analyzing this data? How can these data be used to create effective measures, programs and policies?
- Will these problems affect other areas, such as the economy, cohesion, and national security?

- Will there be long-term negative consequences; for example, will today's youth become independent and responsible members of the country? Will some of today's youth be able and willing to do the difficult work of running a country?
- Are foreign countries (which are not clearly allies) taking advantage of people who distrust the government to push forward their own interests? For example, are they supporting youth to question election results, government recommendations to get vaccinated, or the country's cooperation with the EU? Will the citizens actually defend the country and its government if attacked by a foreign actor?

Some of the core values at stake:

- Maintaining public trust in government institutions and the functions and services they provide
- Attracting and retaining well-educated and competent people who would like to work for the government
- National economy: Are the national resources being wisely used? Are there a lack of resources? In that case, how is it affecting the national interests?
- National cohesion: Do the citizens feel content or are they dissatisfied and demonstrating? Are there polarizing trends in society that threaten to divide the country socially, politically, economically?
- National security: Are citizens contributing to supporting the national interests? Are the citizens ready to defend the country?

Time pressure

- Political trust takes time to be established and anchored, but it can be quickly lost, especially for politically elected officials and the politics they try to pursue when in office. Furthermore, the government needs political trust to be able to govern and act without using coercion, which in turn can contribute to more mistrust or dissatisfaction of the citizens.
- Ensure that the national budget will be sufficient for covering all of the national expenses, despite the fact increased need for government support and the fact there are less revenues coming in due to unemployment and lower consumption.

## 8. Strategic crisis management tasks

### 8.1 Sense-making

In sense-making, information needs to be collected, processed and used to understand what is going on as well as image and predict potential developments. In addition, different voices and perspectives need to be considered so that one can develop a better overall picture of what is happening and what could potentially happen as well as how different groups of people and stakeholders are being affected by the unfolding events.

At the time of writing this case study (2023), it appears as if we are at the tail-end of the **Covid pandemic**. No matter where we stand, the pandemic has already hit everyone and every aspect of our societies over and beyond anything we could have imagined.... and the long-term effects are still unfolding. The world economy and work market are still unstable. Inflation and shortages are still on the rise, and many businesses have had to shut down. The healthcare sector is still witnessing a lack of resources and employees (due to being overworked during the pandemic and have moved onto other better paying jobs). These are not helped by the fact that they still trying to catch up after many activities (examinations, treatments, and so on) were forced to be put on hold when priority was given to Covid patients.

The pandemic has affected youth in many ways. Their physical (e.g., decrease in physical activity and fewer preventative check-ups) and mental well-being (e.g., social isolation and anxiety) were negatively affected. Their education was disrupted and many are still trying to catch up. Without proper education, it is difficult to secure a job. Perhaps another unexpected effect on the youth (boys and young men in particular) is the fact that some lost trust in the society and fell prey to disinformation and conspiracy theories which consequently lead to social alienation.

In many countries and parts of the world, we see an increase in **extremism and polarization**, which increase the risk of social alienation, integration problems, parallel societies, and organized crime. All of these negatively impact many stakeholders, in particular youth who are less experienced and thus more susceptible to disinformation, “brainwashing,” and being recruited into organized crime and extremist organizations. Furthermore, these contribute to eroding trust between individuals as well as in public authorities and society in general. Social services and the education system are often on the front line and the first ones called in to help youth who have “gone astray” since many drop out of school when they lose faith in society and no longer think that an education will help them secure a future. Consequently, there will be fewer educated and well-trained people in the work market.

Information and education are important elements in maintaining and supporting trust. Consequently, information bubbles, the lack of critical thinking, and the lack of reliable and diverse sources can contribute to the vicious cycle of losing public trust.

Public trust may also be at danger when institutions and communities do not adequately protect the needs and rights of young people. In fact, some adults may not serve as good examples for young people on how to treat each other with respect and consideration.

**Digitalization** is sweeping throughout the Baltic Sea region at a higher rate than in many other parts of the world. Consequently, there are signs that young people are becoming increasingly dependent on social media and the youth are more often victims of cyber bullying and sexual abuse. The fact that the digital world does not respect any human-made borders creates a number of judicial and law enforcement challenges. The healthcare sector is also concerned over the fact that the youth suffer mental health problems due to excessive and negative digital activity and that the youth are less physically active and in worse physical shape.

**Climate change** is rapidly and dramatically affecting people in the Baltic Sea region and around the world. A new normal is being created with consistently higher temperatures, increased precipitation and humidity, higher sea levels, unpredictable weather patterns (heat waves, wild fires, flashfloods, storm bursts, extreme snowfalls etc.), merger of “traditional” seasons, and depleted resources. These will affect city planning, public health, food security, the quality of drinking water, and the stability of the ecosystems.

Cascading effects of the rapidly changing environment (depletion, degradation, and disruption) will lead to a scarcity of a wide variety of resources (arable land for agriculture, land for homes and businesses, food products, clean drinking water, water for irrigation, energy, clean air, and so on).

The global economic system is tightly interlinked, relying on global supply chains, so even minor disruptions can have dramatic changes and expose unexpected inter-dependencies. This will result in difficulties in adapting quick enough to the new conditions and to a lowering of living standard, resulting in increased urbanization and migration. Consequently, this will trigger conflicts over resources.

In turn, these will also contribute to public disorder (demonstrations & increased crime), social unrest, a lack of social cohesion (alienated and disenfranchised groups of people, opening the window for polarization and radicalization), and lack of trust in public institutions tasked with dealing with such issues. Organized criminal networks will attempt to utilize the new situation to secure power over key resources.

Regional and global political and social instability also run the risk of directly and indirectly affecting the Baltic Sea region.

The youth are inheriting a major global crisis that threatens the human race. They will be the ones tasked with trying to deal with the magnitude of negative consequences at the same time that they will be dramatically affected them. Thus, many are anxious and scared, and are losing hope for the future. Likewise, many have lost confidence and trust in the current generation of leaders and their ability to deal with the situation.

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One effective way of making sense of a situation is to identify the stakeholders’ different needs, interests and priorities. This will help deepen the understanding of how a situation is affecting different groups or people in the short-term and long-term. In addition, it can also help to identify when there are conflict of interests or strategic dilemmas. This input can and should be considered in decision-making in the effort to make educated and well-informed decisions that consider numerous perspectives and potential consequences.

### *8.2 Decision-making*

In decision-making, there are not only formal decisions need to be considered but informal ones as well. Furthermore, in terms of decision-making, not making a decision is indirectly making a decision. In order to improve the quality of the decisions being made, doing a crisis diagnosis and referring to sense-making



provide valuable input into understanding how different groups perceive the situation as well as their core values, needs, interests and priorities. In addition, decision-makers need to have a team of colleagues as well as a wide network of experts, interest groups and others who can help them fill in the gaps of understanding and consider the potential strategic dilemmas and conflict of interests. Here, the voices of the youth are important to consider, especially in matters that directly affect them. The fact that the number of youth councils is increasing and that they are called upon to provide input bear witness to significance.

During the **Covid pandemic**, there were many discussions about who actually had the responsibility, mandate, and legitimacy/public trust to make the necessary decisions since many different government, local and municipal, private and community organizations were involved. Another consideration was whether or not the decisions made had the backing of the public, especially those that meant making personal sacrifices (social distancing, wearing masks, remote working). For example, the issue of vaccination became the core of many conspiracy theories. Here there was clearly a gender difference whereas more women and girls got vaccinated and fewer men and boys did.

During the pandemic, there were concerns about how the decisions would be coordinated and implemented across society. More importantly, the short-term as well as the long-term consequences of decisions were often weighed against each other; for instance, decisions to go to remote learning for younger students. What great of a risk did young people have of becoming deathly sick of the virus that motivated them staying at home? Would these students still get a proper education despite the fact they were not physically at school? What could the other potential negative consequences be, such as mental health issues?

Trust is one of the fundamental elements in being able to make and implement decisions. Thus, it is essential that those tasked with making decisions make efforts to map out how their decisions will affect various groups and how (sense-making) as well as communicate why such decisions were made at that time and monitor how their messages are being received (meaning-making).

### *8.3 Meaning-making*

Meaning-making is about framing and crafting key messages that reflect how the situation is being perceived by the actor at hand.

For example, during the Covid pandemic, many actors clearly framed it as a public health crisis, rightfully so. But private business also perceived it as a significant disturbance to economic activities and others as an opportunity to accelerate digitalization and remote work.

So if we revisit the main issue of this case study, which is youth's concerns in societal security, we can see that this issue was integrated into some of the meaning-making during a number of crises; for instance regarding whether or not to switch over to remote learning. The key messaging was that in addition to immediately protecting lives, the education and mental well-being of young people in the short-term needed to also be considered in order to avoid long-term problems.

Meaning-making may be a challenging task during a crisis, but it is important that messages are crafted explaining why certain decisions or strategies were taken (and consequently why others were not). Meaning making is also about sharing one's key messages in a meaningful way so that it is (well) received by the target group(s). Thus, it is necessary to tailor the message for the target audience, taking into the consideration the format (images, language, etc.) and channel (social media, traditional media, etc.)

Here are some of the thoughts and reflections from the NEEDS ISP students when they were tasked with discussing youth and security and the task of meaning making:

- Communication can be done perhaps through social media where possible and it can have a very powerful impact, i.e., the start of the Arab spring. Personal stories and testimonies about concerns can significantly change public opinion and increase awareness about societal security.
- In general, staying calm and showing concern and empathy are important for maintaining and cultivating trust and credibility. Also being honest and transparent are important; for legitimacy, for example, leaders need to be able to admit if they do not know something or if something is outside their area of expertise. In addition, if there is no answer to a certain question or concern at that very moment, then they should follow up and try to find the correct information.
- It is also important to be aware that other actors' messages may be helpful or malicious. Sense-making (taking an inventory of others' needs, interests and priorities) will help identify some of this in advance. Nevertheless, one also needs to see how well their messaging is being interpreted and received, and then adjust or correct as needed.

#### *8.4 Ending*

When to declare a crisis as ended is not always self-evident. Crises are always subject to opinions and discussion when it comes to establish which core values are at stake and for whom. But the most intuitive response to this question is evidently at the point when core values are no longer perceived to be at stake anymore. Perhaps this is easy when speaking of a physical short-term crisis such as a fire. It's easy to understand when it has been put out and the flames are no longer there. But when it comes to climate crisis we are still expecting more consequences and even if we were to stop fueling the crisis right now, tipping points has already been passed so that many of the negative consequences have not yet been revealed or understood and consequently these will need to be mitigated long into the future. So it is easy to get stuck in a debate over the narrative and whether or not measures taken actually have an impact, which can decrease the willingness to act unified.

Regarding the global pandemic, for many the crisis is not over yet; for example, the health care sector is still struggling to catch up and many young people fell behind in their studies due to remote learning and closed schools. For others, the

global pandemic has created a new normal since there has been a paradigm shift, meaning that some people think of a “before Covid” and “after Covid.” For instance, many educational institutes now regularly utilize remote learning tools in addition to more conventional forms of teaching even if students have come back to on-site learning.

In order to be able to deal with the creeping crisis for societal security that has arisen due to failure to address youth’s concerns, each stakeholder needs to consider how, when and where it will consider that it is no longer a crisis.

So for the youth & their families, this may mean when there is no longer such systematic and strong uncertainty regarding whether or not and to what extent they would be able to complete their education, secure long-term employment and gain a meaningful income, have enough money to be able to move out and buy their own place to live, socialize with friends, find a partner/spouse and build a family, and have hope for the future. In this regard, many of their core values were no longer be at stake: professional training and career path, economic independence, social independence, social and physical well-being, and producing next generation of children. Lastly, there will no longer be the same sense of time pressure regarding completing their education, starting career, earning their own money, establishing a solid core network of friends, finding a life partner, or starting a family. Consequently, there will a much lower risk of youth becoming alienated from society.

One way of determining if a crisis is over for a certain actor, is to revisit the initial crisis diagnosis and to re-assess the aspects of uncertainty, time pressure and core values at stake. In this case, we look back on the earlier analysis made of the four stakeholder groups.

#### A. Youth & their families

The issue of uncertainty is more manageable or has totally disappeared regarding whether or not and to what extent they would be able to:

- complete their education
- secure long-term employment and gain a meaningful income
- have enough money to be able to move out and buy their own place to live
- socialize with friends
- find a partner/spouse and build a family
- hope for the future

The core values are no longer at stake to the same degree regarding:

- Professional training and career
- Economic independence
- Social independence
- Social and physical well-being
- Producing next generation of children

There is less or no time pressure regarding:

- Eager to complete education, start career and earning own money
- Core network of friends established as youth when there is more “free time” and fewer obligations
- Risk of becoming alienated from society if not studying or contributing to work market
- Limitations regarding reproduction cycle

### B. Educational system

The issue of uncertainty is more manageable or has totally disappeared regarding:

- If students are able to complete their education on time and consequently not negatively affect the next group of students
- If there are enough resources (staff, rooms, learning materials and computers, money, and so on) for students who have not completed their studies as well as for the new students coming in
- Radically different levels and different needs of students.
- If the education system can quickly and properly prepare students for the needs of the work market? If students are able to secure jobs? If employers are able to find workers?

The core values are no longer at stake to the same degree regarding:

- Securing sufficient resources for conducting educational services for all students and be able to address their various needs
- Educating the next generation and ensuring they are ready for adulthood (independent, employment, social skills, and well-educated and engaged citizens)

There is less or no time pressure regarding:

- Acute lack of resources for current and incoming students; too many students in system at same time
- Examination of students since additional funding is often provided after students successfully complete their educational programs

### C. Work market

The issue of uncertainty is more manageable or has totally disappeared regarding:

- Are there enough well-trained and prepared workers to employ?
- Can we maintain the working staff we have?
- If there are not, how will this affect activities and production?
- What if there is high unemployment and people are not consuming at the same levels?

The core values are no longer at stake to the same degree regarding:

- Secure stable group of well-trained workers
- Low unemployment rates so there is less turn-over of staff
- Steady flow of services and products available for customers
- Customers buy the available products and pay for the available services
- Innovation and developing new tools, products and services (many of which are used in particular by youth)

There is less or no time pressure regarding:

- It takes time to ensure workers have appropriate education and training
- Any disruptions in supply chains can have negative impact on core activities so a lack of supplies in one part of the world can dramatically affect operations in another part of the world

**D. Health, social, fire and rescue services as well as law enforcement (judicial & police services)**

The issue of uncertainty is more manageable or has totally disappeared regarding:

- Are the current resources sufficient for addressing the needs and concerns of the youth?
- Are the youth putting themselves and others in greater risk of getting harmed?
- Do we understand the potential problems at hand and will we be able to find measures and policies for addressing them?

The core values are no longer at stake to the same degree regarding

- Ensuring that all members of society receive services that keep them safe and healthy as well as treated justly.
- Enough resources (materials and people) to maintain a good quality of services.
- Social cohesion
- Public trust in the work they do

There is less or no time pressure regarding:

- If these concerns and issues are not addressed quickly, they have the potential to spread to other parts of society. For example, high-school drop-outs will not find jobs and will need social assistance. Youth who feel alienated may turn to radical extreme groups in search for attention and “meaning.”
- Often measures and policies need time to be drafted, implemented and have affect. Thus, those made today may not have any real visible effect for a few weeks, months or even years to come.

### E. Government and country as a whole

The issue of uncertainty is more manageable or has totally disappeared regarding:

- How will the concerns and needs of the youth affect the country at large?
- Will these problems affect other areas, such as the economy, cohesion, and national security?
- Will there be long-term negative consequences for example, will today's youth become independent and responsible members of the country?

The core values are no longer at stake to the same degree regarding

- Maintaining public trust in government institutions
- National economy: Are the national resources being wisely used? Are there a lack of resources? In that case, how is it affecting the national interests?
- National cohesion: Do the citizens feel content or are they dissatisfied and demonstrating? Are there polarizing trends in society that threaten to divide the country socially, politically, economically?
- National security: Are citizens contributing to supporting the national interests? Are the citizens ready to defend the country?

There is less or no time pressure regarding:

- that the national budget will be sufficient for covering all of the national expenses, despite the fact increased need for government support and the fact there are less revenues coming in due to unemployment and lower consumption.

Just as the three crisis criteria can be used to determine if an actor perceives a situation as a crisis, these three criteria can be used in the same fashion for determining when that actor no longer perceives the situation as a crisis.

### *8.5 Learning and reforming*

Even if every crisis is different than those crises of the past, one can utilize history and errors of the past as a starting point. The fact that we live in a global world with a huge amount of data and access to information also provides a good foundation for sharing lessons learned and identifying trend and good practices.

Another aspect worth highlighting is the need to actively seek out different voices and opinions (sense-making) in order to better understand the nature of the situation at hand and how it is impacting groups differently short-term as well as long-term. One way of doing this is for law enforcement and government agencies to bridge contact with community and religious groups, fostering understanding and nurturing trust, in order to identify potential problems in an early stage (such as discrimination, polarization, radicalization, and the occurrence of parallel societies).

The lessons from this creeping crisis should be identified and used to strengthen societal security for youth, which in turn will also strengthen societal security for other members of society. One key lesson is understanding how important the issue of trust is for an entire society and for the security for its members. Another is the importance that education (schools, teachers, and so on) plays in supporting young people into adulthood and the work market so they can reach their potential as independent and educated members of society.

Some political measures that can be taken include:

- Involving more youth in democratic processes
- Creating fair and effective policies and legislation that youth can stand behind,
- Allocating appropriate resources for identifying and addressing youth related issues
- Making efforts to establish common ground for resolving common issues of concern and for maintaining social stability
- Developing strategies to support healthy and safe life choices, reducing the risk of youth to turn to crime or radical organizations

Additionally, mutually beneficial interaction between research and practitioners should be encouraged in order to facilitate the effective incorporation of research questions, project results and dialogue with young people into national systems and regional capacity-building efforts. Likewise, the findings and results of research-based projects on virtual, psychological and physical safety and security of young people should be shared with policymakers and practitioners with the aim of improving their everyday work.

A greater presence of various stakeholders on social media (especially the new platforms that are trending amongst youth, and that are specifically targeted to youth) would ensure better contact with youth and exposure to the issues they are discussing and concerned about. Researchers, practitioners, and others working to promote societal security should acknowledge their responsibility to improve the security of young people (who will someday take over their work as researchers, practitioners and leaders) and actively consider the impact their current work and decisions have on young people, and society at large, in the short and long-term.

Additional suggestions for increasing the involvement and empowerment of youth include:

- Encourage youth to make decisions that will positively affect them and their security (for example, getting a good education so they can later secure a good profession/job).
- Institutionalize a youth perspective into decision-making and create forums where youth are invited to attend and share their opinions and concerns as well as help in the actual implementation of the proposed solutions.
- Support young people to express their needs, interests and priorities.
- Organize more workshops and study programs for young people
- Provide youth with better access to preventative and comprehensive support for mental health.

### 8.6 Preparing

Drawing upon the lessons identified above, concrete preventative measures can be formulated in order to minimize and mitigate the negative long-term effects of the creeping crisis regarding youth and security.

Strengthening youth participation in societal security issues and allocating more resources to youth activities are two ways of addressing the task of preparing. Today's youth will become the future's adults, some of which will be our leaders. By fostering engagement, a deeper understanding and commitment to such issues is an investment in the future.

Examples of concrete measures that can be made in the BSR to improve youth and security include:

- Providing youth with tools and knowledge to critically assess the overwhelming amount of information and disinformation they are exposed to.
- Allocating more resources (people and financial resources) to identifying and addressing the youth's concerns and needs so that they feel "seen" and appreciated as members of the community. This includes everything from police and community outreach programs, education, healthcare services, social and extra-curricular activities (sports, scouts, cultural activities), safe meeting places where youth can hang out, and so on. Public trust increases when people feel that "the social contract" is being upheld and that everyone is valued and has a place at the decision table.
- Increasing awareness and understanding for mental illness (anxiety, depression, stress and trauma) and emphasizing no tolerance for bullying.
- Putting into place monitoring and "early warning" measures by surveying youth's opinions and concerns and how well these issues are being addressed in order to identify potential problems in an early stage and to allocate preventative resources.
- Restoring faith in the political system by being more transparent and making efforts to use resources more effectively and wisely.
- Increasing formal and informal youth involvement in the society so that it is mainstreamed into all activities and decisions.
- Ensuring that good quality, relevant and up-to-date education is accessible to all youth and that it is tailored to different abilities and needs, and that it stimulates the interest and curiosity of youth.
- Encouraging discussions and work across national borders and sectors in order to utilize good practices and identify synergies for cooperation. International youth camps can be used to increase societal security awareness, teach new practical skills as well as strengthen a BSR common identity. This NEEDS Erasmus+ project is one such good example.
- Utilizing new technology (e.g., mobile apps) as well as more traditional means (e.g., board games, books, comic strips, cartoons) to promote safety and security awareness and to provide a forum for sharing concerns and needs.



One concrete example of a project that is working to improve preparedness in youth and security is the “PA Secure Kids Project: Including Youth in Discussions and Decision-making.” The project aims to strengthen the sustainability and impact of child participation mechanisms in decision-making processes at both national and local levels with a specific focus on decisions and action to build safe and secure societies, including resilience and the ability to prevent, prepare, respond, and adapt to different types of hazards and emergencies. The PA Secure Kids project specifically focuses on the development of child participation mechanisms, tools and strategic guidance, and capacity-building of relevant actors about child participation in DRR activities, as well as targets children, both as beneficiaries of the action and as key actors in the project through training and awareness raising activities.

## 9. Conclusions: Current dilemmas, future challenges, and suggestions for moving forward

The section provides a concluding discussion on the current dilemmas, future challenges, and suggestions for moving forward to address these.

The issue of youth, security and public trust are the foundation of a well-functioning safe and secure society, and there are many different things that can in one way or another jeopardize those, exacerbating existing or triggering new crises. As illustrated in this case study, there are already several stakeholders that are considered about these issues, despite the fact that they work with different issues and perhaps have different core values, some of which are competing with those of others.

Youth rely upon the rest of society to provide them with the proper services and resources so they can grow and develop physically, mentally, economically, and socially. This is how public trust is built. Thus, when youth feel that their needs, concerns and interests have not been addressed then their public trust significantly declines. This drop in public trust can have serious consequences for society at large and societal security in particular. When individuals feel that they are not “taken care” or are regarded as part of society, they often turn to places where these needs can be met, such as deviate, radical or criminal environments.

By not including youth’s concerns, needs and interests in conversations regarding societal security runs the risk of creating less effective decisions and policies. Furthermore, there is the risk that the youth feel alienated and become disengaged if they are not included in matters that affect them. Public trust is built on inclusion and communication, and public trust is the glue that keeps a society together.

In conclusion, it is important to keep in mind when discussing the issue of youth, security and public trust that we the people can influence the course of events and the future of the next generations. Youth representatives can be encouraged to become more active, take part in various activities, educate themselves, but practitioner and decision makers must listen to the youth, because their perspectives and concerns are valid and are important pieces in understanding the societal security puzzle. Furthermore, it is crucial that youth perspectives and

concerns are considered and woven into the current decisions and policies that are made now since those will have long-term consequences for today's youth. Consequently, it is important to collect as much information and perspectives as possible to ensure that well-informed and educated decisions and policies are made that promote a safer and more secure future.

Moving forward, more proactive and swift action should be taken to address the issues concerning youth, security and public trust, whether it be in including youth in the consultation and decision-making process, funding research efforts to deepen our understanding of these complex issues and to anticipate new trends, creating new laws or policies, providing additional funds to preventative measures and identified problem areas, or simply ensuring that today's youth are content with their life situation and feel safe, secure and a part of society as well as have trust in society's institutions and services.

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