RESILIENCE
REFERENCE CURRICULUM

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NATO Headquarters Brussels, January 2025

Foreword

"Resilience underpins our efforts to safeguard our nations, societies and shared values."

NATO 2022 Strategic Concept

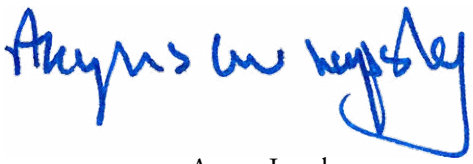
The Euro-Atlantic area is no longer at peace. After 75 years, NATO remains strong. Our success has always rested on our ability to deter and defend against all the threats and challenges we face - and we have to recognize that these have increased dramatically in recent years.

As a result, the need for national and collective resilience as an essential enabler of credible deterrence and defence is more critical than it has been in decades.

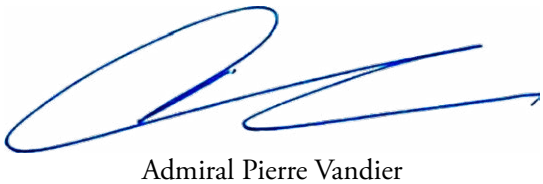
While NATO and Allies are implementing a series of extensive and forward-looking decisions to strengthen their resilience, a mindset paradigm shift is also taking place. One that positions preparedness for crisis and readiness to support military operations at the heart of our efforts to defend the Alliance.

All of this requires a whole-of-government approach, supported by our broader society, with education and awareness acting as key agents of transformation. The Resilience Reference Curriculum constitutes an important guiding framework for developing courses, study programmes and trainings on the topic of resilience for defence education purposes.

We take this opportunity to express our deep gratitude to all the experts who contributed to drafting this comprehensive document. Their work will benefit Allies' and NATO partners' professional defence education institutions as well as the broader resilience community that is engaged in building a shared culture of resilience among civil and military stakeholders. At NATO, we see these efforts not just as a desirable goal, but as a prerequisite for successfully meeting the complex challenges ahead of us.



Angus Lapsley
Assistant Secretary General
Defence Policy and Planning Division



Admiral Pierre Vandier
Supreme Allied Commander Transformation
Allied Command Transformation

How to use the Resilience Reference Curriculum

About this document

The Resilience Reference Curriculum (RRC) is designed to address "resilience" and its role in the contemporary world of uncertainties, disruptions, interdependence, and technological breakthroughs. Understanding and educating members of the defence and security sector on the concept of resilience is in high demand. Because resilience has different meanings and interpretations in different contexts it is challenging to develop a homogeneous framework that would fit all actors on all levels of governance. Therefore, the purpose of the RRC is to provide every interested stakeholder (military, civilian, public, or private) with a comprehensive package of information necessary to:

a) Understand the concept of resilience and assess threats to it in their own contexts (Theme 1);
b) Understand whole-of-government and whole-of-society approaches to resilience and analyse physical and psychological elements and variables that resilience depends on (Theme 1, Theme 2, Theme 3); and
c) Learn how to develop, implement, and assess resilience strategies in specific contexts (Theme 4).

The RRC provides a guiding framework for developing courses, study programmes, and training sessions on the topic of resilience for military and civilian audiences in defence and security educational institutions. It should be viewed as a practical resource that can serve as a guiding foundation for instructors and trainers to develop and enhance their course plans and syllabi and adapt them to their specific contexts and classroom environments. The RRC aims to help educators, trainers, and students develop an appreciation of the broad spectrum of issues related to various aspects of resilience that are relevant to defence and security contexts.

This curriculum includes vignettes, which are practical real-life examples that illustrate and reinforce the principal concepts of each lesson. Each vignette represents a short extract from a broader case study that can help instructors develop specific lessons within the larger content of the RRC. Some vignettes are used multiple times to underscore connections and interdependencies between various components of resilience. Each vignette includes references for further in-depth analysis of the case study presented in it.

Based on the RRC, the instructors should be able to design courses that will enable the students to:

1) Differentiate and assess resilience on individual, organisational, community, society, national, and multinational levels.
2) Evaluate physical and psychological aspects of resilience and analyse their effects on national security.
3) Apply resilience concepts in various defence and security contexts, by considering a whole-of-government and whole-of-society approaches and particularly highlighting civil-military interdependencies and interconnections between all instruments of national power.
4) Operationalise the concept of resilience as a continuous and dynamic process by developing, implementing, and assessing strategies aimed at improving resilience in specific contexts.

Key questions to consider while developing curricula based on this RRC:

1) When and why is resilience required for an actor at any level within defence and security sectors?
2) What are the components and measurable levels of resilience?
3) What are the factors that support an actor's ability to be resilient and what factors could diminish the resilience of an actor?
4) What is the role of government (both civilian and military components), private sector and civil society in developing societal resilience?
5) What actions are necessary to operationalise resilience?
6) How can an actor's capacity to be resilient be increased/expanded?

The structure of the RRC

The RRC starts with an extensive introduction to the concept of resilience by providing an executive summary of the curriculum content. It is crucial that the users of the RRC develop a holistic understanding of the multiplicity of important resilience-related aspects

before exposing themselves to the nuanced dissection of the concept spread across the four chapters of the document referred to as "themes". Theme 1 elaborates on the concept of resilience in the context of defence and security and provides users with conceptual frameworks for analysing levels, elements, variables and successive stages of resilience. This theme also discusses threats to resilience and the ways of assessing those threats on various levels. Theme 2 describes the whole-of-government approach to resilience and demonstrates the interdependencies between resilience and various instruments of national power. It provides learners with tools to analyse the importance of close coordination and cooperation between government agencies, and explores multinational aspects of resilience. Theme 3 introduces the concept of societal resilience and highlights the indispensable role of civil society and the private sector for resilience in the contemporary strategic environment. Theme 3 focuses on the whole-of-society approach to building societal resilience, which includes governmental authorities, the private sector and civil society. The theme explores why and how societal resilience, as an indispensable part of national resilience, is crucial for national endurance, and how to cultivate resilience within society at individual, community, organisation, and society levels. Theme 4 is aimed at helping users operationalise and apply the concept of resilience by describing ways to develop, implement, and assess resilience across various levels and in various contexts. Each lesson contains core and supplementary readings that show interdisciplinary approaches to resilience meant to further enhance understanding of resilience.

MV Vega awaits its departure from the Port of Rotterdam, Netherlands, Oct. 15. Defense Logistics Agency Energy facilitated inspection and movement of 30 tanks intended for fuel storage at Ebola treatment units to the port. Photo by Chuck Berry

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U.S. Army photo by Spc. Caleb Scibbe. Spc. Caleb Summers and Lithuanian Defense Forces personnel package COVID test samples at Siauliai AB, Lithuania during Swift Response 21, a U.S. Army Europe and Africa-directed exercise led by the U.S. Immediate Response Force. This year, the DEFENDER-Europe 21-linked exercise involved more than 7,000 troops from 12 countries. COVID mitigation activities like these were designed to protect troop health and safety, and ensure compliance with Host Nation requirements. Photo by Eleanor Prohaska

Introduction to the Concept of Resilience

1) **Importance of Resilience in the Contemporary Security Environment**

In the contemporary security environment, the boundaries between conventional and unconventional conflicts are blurred and the application of non-military instruments of power by various state and non-state actors has become the norm. Unexpected threats such as terrorism, cyber-attacks, and other tools of warfare, in addition to natural disasters like floods, fires and pandemics, put unprecedented pressure on every country and organisation worldwide. Since not all disruptions and attacks can be predicted and/or attributed to specific actors, the application of traditional deterrence and defence mechanisms have become increasingly difficult. In many cases, this is often due to the absence of long-term orientation in anticipating threats and lack of resources hindering preparations for all hypothetical threats and risks. Therefore, to effectively prepare for and recover from various challenges and threats, an increasing number of actors are searching for defence and security solutions through the concept of resilience.

2) **Resilience in the Context of Defence and Security**

Various studies have defined resilience in many ways and scholars from different disciplines, such as engineering, mental health, climate change, etc., have emphasised specific components of resilience based on the relevance to their own area of expertise (Bourbeau, 2013; Aradau, 2014; Chandler, 2019). However, researchers and experts from the defence and security sphere have not yet agreed on a universally accepted theoretical framework that would explain what the application of the concept of resilience means for national and international security. Nevertheless, to adjust defence strategies to the challenges of the contemporary security environment, many states, non-state actors, and multinational organisations have integrated the concept of resilience in their strategic concepts and doctrines.

Since the specific elements of resilience and their correlation to national security considerations have not been thoroughly researched, it is difficult to measure the effectiveness of defence strategies that rely on the concept of resilience. One of the main challenges of applying resilience in a national security context is that even those countries that rely on the concept of resilience and apply comprehensive defence policies are primarily focused on responding to conventional threats. However, it is imperative to develop a full understanding of how declared policies for boosting resilience address both military and non-military threats in established defence strategies.

3) **Defining Resilience**

As the concept of resilience is rather new to security policy, the term is often mixed with related concepts such as resistance and preparedness and sometimes confused with some broader nation-state approaches such as whole-of-government, whole-of-society, or total defence. There are many, often conflicting, terms describing resilience from different perspectives. Among complicated and multi-layered definitions developed by states and international organisations, there are few specifically related to national security. For example, the British doctrine provides a detailed definition of resilience: "the ability of the community, services, areas or infrastructure to defect, prevent, and, if necessary, to withstand, handle and recover from disruptive challenges" (Cabinet Office, Civil Protection Lexicon Version 2013). The US definition is quite similar: "the ability to adapt to changing conditions and withstand and rapidly recover from disruption due to emergencies" (The White House, 2011).

NATO, as a multinational security organisation, integrates its understanding of resilience in more traditional security policy concepts like deterrence and defence. Allies define resilience as the "capacity to prepare for, resist, respond to, and quickly recover from strategic shocks and disruptions, and ensure the continuity of the Alliance's activities" (NATO Strategic Concept, Paragraph 26, 2022). NATO clearly outlines that resilience is a key factor in the process of coping with modern security threats and encourages each member country "to be resilient to resist and recover from a major shock such as a natural disaster, failure of critical infrastructure, or a hybrid or armed attack". NATO stresses the importance of reducing vulnerabilities for building robust resilience through synchronising civil preparedness and military capacity. In Article 3 of the Washington treaty, NATO, as a collective defence organisation stresses the importance of cooperation for effective resilience through self-help and mutual aid.

The concept of resilience is used in many different contexts in the contemporary world, including business, politics, security, and even physical and social sciences. Resilience is ultimately a theoretical construct that can be understood in different ways, rather than something that has an objective existence of its own. As a result, governments, international organisations, and academic authorities use a wide range of different definitions that differ in some respects, reflecting their own individual goals and priorities. However, in general, all these definitions refer to the ability of subjects – whether individuals, organisations, governments, societies, or alliances – to persist, cope with adversity, adapt to anticipated or unexpected shocks, and even transform themselves in response to emerging challenges. In the wider sense, resilience therefore can be defined as a dynamic process that involves embracing challenge and working with it, rather than preventing it altogether.

4) **How Resilience Works**

Resilience is frequently described as a dynamic adjustment process that changes according to contextual modifications. In this respect, it differs in emphasis from other concepts that are familiar to security professionals, such as defence, resistance, or preparedness. However, deriving from the need to operationalise the concept of resilience and ensure its effective applicability in the security landscape, the role of resilience as key enabler for deterrence and defence, is often emphasised. For example, NATO's 2022 Strategic Concept[1] calls for the Alliance to pursue a more robust, integrated and coherent approach to building national and Alliance-wide resilience against military and non-military threats and challenges to provide for continuity of government, the delivery of essential services to Allied populations and civil support to Allied armed forces. In a defence and security context resilience can be understood as a continuous process of associating resoluteness, adaptability, and transformation conceptualised in the following three features:

1) Opposition and resistance to external shocks and the return to the former or improved state.
2) Adaptation to a new situation involving adjustment, negotiation, and compromise.
3) Transformation to creatively respond to new challenges and thrive in the face of adversity.

Different approaches to resilience are defined by the degree of emphasis and ratio of the three features. For example, a reactive approach to resilience focuses more on strengthening the status quo and resisting change to achieve maximum stability and consistancy of existing systems. In contrast, proactive approaches lean towards accepting the inevitability of change and the creation of a system that can transform while absorbing the shocks and adapting to new conditions. Resilience is a highly contextual concept that consists of equalising variables, which change according to different cultures, values, political systems, security environments, and availability of resources at specific points in time. Therefore, it is critical to understand a framework for operationalising resilience of a particular person, group or system vis-a-vis a particular shock or stimuli.

5) **Framework for Understanding Resilience**

The absence of clear definitions and universal features makes resilience a highly individualised concept that has to be tailor-made for each actor. Regardless of the exact definition used, for purposes of analysis, it is often more relevant to focus on the variables that constitute resilience. Only the analysis of those tangible variables can lead to the understanding of various stages of the process that constitutes resilience. To this end, it is imperative to define variables and elements that affect the various physical and psychological components of resilience on all measurable levels: individual, community, organisational, national and multinational. The main body of academic literature describes the effective application of resilience as resting on understanding and managing interdependencies between instruments of power and their effects on both components of resilience on all levels.

5.1 Levels of Resilience: Literature on resilience refers to five measurable levels of resilience - individual, community, organisational, national, and multinational. Individual resilience is a key issue in buffering negative psychological consequences of major adversities. Community resilience is referred to as the interaction between individuals and their community that pertains to the ability of individuals to obtain help from their community, and the community's ability to provide assistance to individuals

1 NATO 2022 Strategic Concept https://www.nato.int/nato_static_fl2014/assets/pdf/2022/6/pdf/290622-strategic-concept.pdf

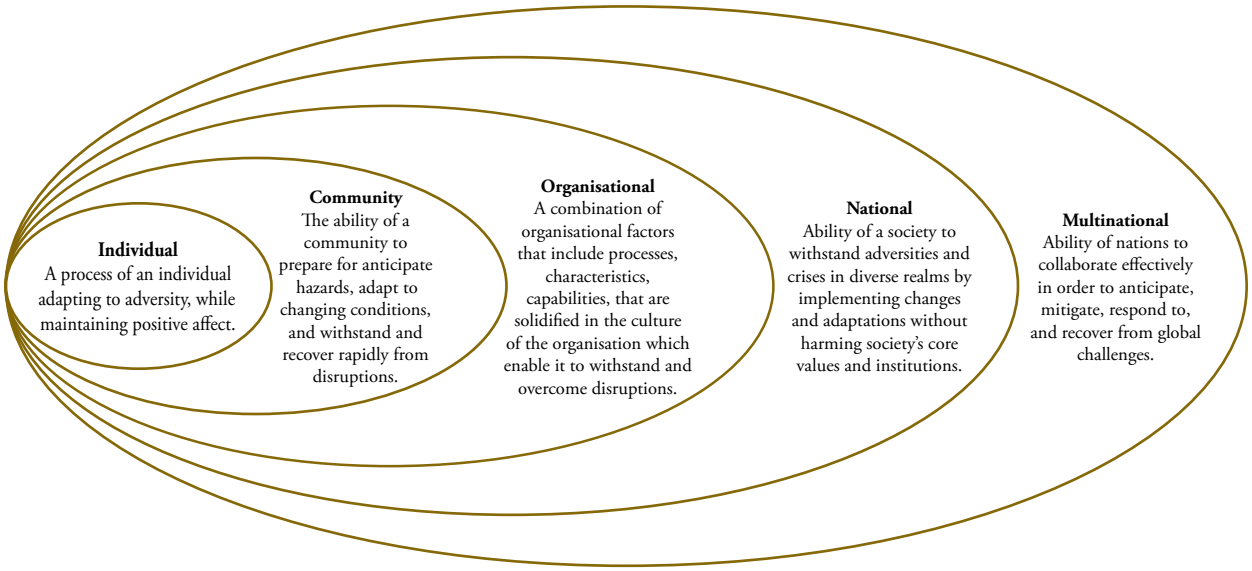

Figure 1: Five Levels of Resilience

and provide for their needs. The organisational level refers to the organised and structured ability of various interest groups and entities to manage resilience. National resilience is the most complex and complicated level that can be explained as a process in which all three sectors — governmental, civil society, and private — are engaged in achieving national defence and security goals. Finally, multinational level of resilience refer to cross-border interrelations between various stakeholders in the international arena (see Figure 1 above)

5.2 Elements of Resilience: Managing modern multi-domain and comprehensive threats requires the concerted use of all available instruments of national power, including Diplomatic, Military, Informational, Economic, Financial, Intelligence, Law Enforcement (e.g., DIMEFIL), etc. Currently available and new concepts require coordination and cooperation of those involved at national and international levels.

Physical elements of reliance are material and instrumental variables such as instruments of power (e.g., DIMEFIL), critical infrastructure, resources, networks, structures, or even how a group or institution is organised in terms of relationships, mechanisms, and decision-making systems. For example, NATO considers those physical aspects of resilience to be necessary to assure the continuity of government and critical government services. This could include the ability to make decisions, communicate them, and enforce them in a crisis. More specifically, at the 2016 Warsaw Summit, NATO made a commitment to enhance national and collective resilience and civil preparedness through seven baseline requirements:

1) Assured Continuity of Government and Critical Government Services: ensuring effective coordination of other requirements and managing interdependencies and nexus among them.
2) Ability to deal effectively with uncontrolled movement of people, and to de-conflict these movements from NATO's military deployments.
3) Resilient food and water resources: ensuring these supplies are safe from disruption or sabotage.
4) Ability to deal with mass casualties and disruptive health crisis: ensuring civilian health systems can cope and sufficient medical supplies are stocked and secure.
5) Resilient energy supplies: ensuring a continued supply of energy and having back-up plans to manage disruptions.
6) Resilient transport systems: ensuring that NATO forces can move across Alliance territory rapidly and that civilian services can rely on transportation networks, even in a crisis.
7) Resilient civil communications systems: ensuring that telecommunications and cyber networks function with sufficient back-up capacity, even during crisis conditions.

Managing interdependencies among instruments of power in relation to resilience on a national level requires a complex coordination and cooperation among all state institutions and agencies. One of the approaches intended for synchronised action is the whole-of-government approach:

1) Cross-government coordination: share analysis and strategic planning
2) Interagency cooperation: coordinated and integrated implementation across all relevant security sector departments and agencies
3) Comprehensive approach: employing all instruments of national power (e.g., DIMEFIL)

Synchronising resilience-related processes within the international system, across countries, can be very complex and will entail various degrees of international cooperation:

1) International organisations and political blocks: rules, norms, and international law
2) Regional organisations and regional blocks: share experience; training, exercises, and education
3) Regional cooperation
4) Strategic partnerships

Another element of resilience features psychological and emotional dimensions, such as determination and will to fight, civic/national duty (patriotism), self-reliance/awareness, and social cohesion. The studies referring to resilience as a wider societal phenomenon and investigating national resilience (Chemtob, 2005) or social resilience (Cacioppo, Reis, & Zautra, 2011) identify four social components of resilience (Ben-Dor et al., 2002): patriotism, optimism, social integration, and trust in political and public institutions. Notably, some studies refer to national resilience and societal resilience interchangeably; however, it is important to note that societal resilience is only a component of national resilience.

For example, NATO refers[2] to the information domain as one of the most important aspects of societal resilience. It emphasises that actively countering hostile information activities, which can lead to social division, undermining trust in institutions, and weakening knowledge bases, increases communities' ability to recover from challenges and external manipulation. Today, the emergence of cyberspace as a new operational domain has also heavily affected operations in energy, transportation, telecommunications, and other sectors traditionally related to physical infrastructure. As the digital economy is taking over many strategically important sectors, critical infrastructure is also changing its shape. Furthermore, in the contemporary world, the majority of critical infrastructure and vital services are located in the private sector. These strategic fields include energy and water supply, banking and the financial sector, food safety, chemical and military industries, medical sector and others. Consequently, integrating civil society and private sectors into national resilience efforts has become an urgent necessity. The most common approach to organising societal resilience is a whole-of-nation/society approach, which entails wide inclusion of all layers of society in effective civil preparedness and civil defence activities:

1) Inclusive process: media, civil society, academia, other experts
2) Public-Private-Partnerships (PPP): protection of critical infrastructure, e.g., energy, transportation, banks, medical sector, etc.

A resilient defence ecosystem not only withstands adversities but dynamically evolves, ensuring continuous operation and swift recovery. Technologies serve as the linchpin in this resilience paradigm, defining modern battlefields and wielding decisive influence in armed conflicts. The essence of resilience in defence technologies lies in the triple nexus of cross-sector cooperation among public, private, and civil society stakeholders, each playing an indispensable role in crafting robust solutions for today's security challenges.

5.3. Successive Stages: To operationalise such a complex concept, it is important to understand how to develop, implement, and assess resilience on all five levels. On an operational level, resilience is executed in four successive stages: anticipating, managing, adapting, recovering (see Figure 2 below)[3]. As resilience varies and differs depending on the variables and contexts it is applied in, those four stages are also indicative and can be interpreted

2 NATO's approach to counter information threats. https://www.nato.int/cps/en/natohq/topics_219728.htm

3 Chambers, R., & Baker, S. (n.d.). Retrospective sustainability and resilience: Lessons for the future. Semantic Scholar. https://www.semanticscholar.org/paper/Retrospective-sustainability-and-resilience-%3A-for-Chambers-Baker/a2c0c6323929b47dd8289f654c1bd7e7f93962a7

differently on different levels and in different environments. For example, when considering societal resilience, it is important to consider not only the adaptation and evolution stages but also its transformative capacity. In this case, as a new societal quality emerges after a disruption, resilience is not only about "bouncing back" to the pre-adversity condition, but also about learning from the crisis and "bouncing forward" to an improved state. On the organisational level, emphasis lies on anticipating and absorbing adversity while a top priority for the societal level is to survive and prosper in the face of incremental change and sudden disruptions. This includes an organisation's ability to define a regulatory and organisational context that supports the whole of government, the whole of society, and international cooperation-based approaches.

There are three primary components for managing resilience in response to an event, regardless of whether it had been expected or unexpected:

1) Before the event: anticipate (observing, identifying, preparing)
2) During the event: manage (accepting, enduring, withstanding, implementing)
3) After the event: adapt and recover (adjusting, developing reflection and learning, changing)

Execution of resilience (Developing, Implementing, and Assessing) is addressed in Theme 4.

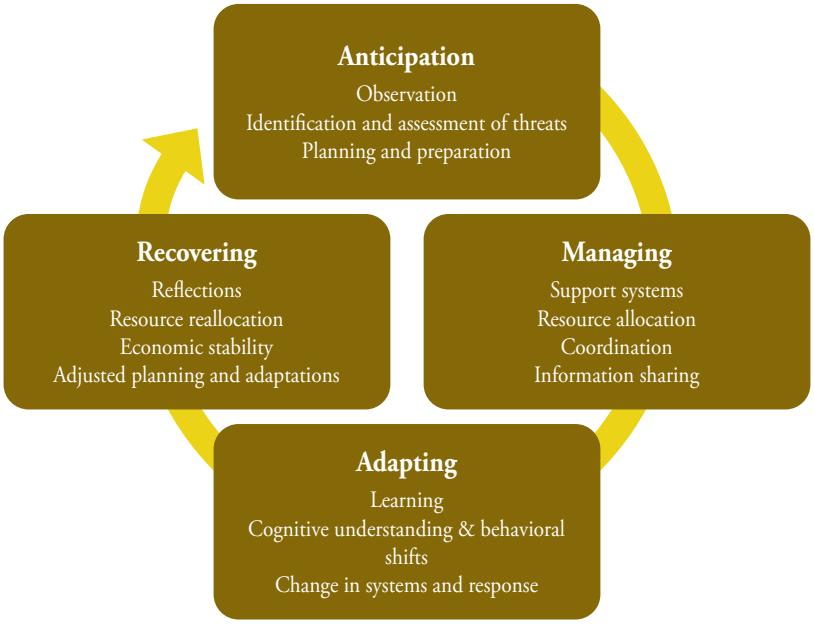

Figure 2: Four successive stages of the resilience process

A participant of Shared Resilience 2012 loads a casualty into an ambulance during a collapsed building scenario here, June 4, 2012. More than 500 military members from nine nations are participating in SR12, the annual U.S. Joint Chiefs of Staff sponsored exercise, May 28 - June 8. The goals of the exercise are to strengthen interoperability, facilitate training in crisis response and disaster management, and validate the readiness of deployable military medical and humanitarian assistance teams. The exercise, in the spirit of partnership for peace, directly supports U.S. European Command's theater cooperation efforts and strategy for active security with European countries. Photo by Staff Sgt. Tabitha Lee

On June 5, 2012, Bosnia and Herzegovina military firefighters react to a simulated wildfire during Shared Resilience 2012, which is an annual U.S. Joint Chiefs of Staff-sponsored exercise, May 28 - June 8. The goals of the exercise are to strengthen interoperability, facilitate training in crisis response and disaster management, and validate the readiness of deployable military medical and humanitarian assistance teams. The exercise, in the spirit of partnership for peace, directly supports U.S. European Command's theatre cooperation efforts and strategy for active security with European countries. Photo by Sgt. Edwin M. Bridges

Theme 1: What is Resilience: Fundamentals of Resilience

Aim

This theme is designed to clarify the concept of resilience within the realm of defence and security.

Goal

The fundamental goal of this theme is to introduce learners to the foundational aspects of resilience at its various levels, stages, and threats. It seeks to provide learners with a clear understanding of the central components of resilience, including the ability to withstand and recover from various shocks and stresses. By completing this theme, learners will have a solid grasp of both the essential principles of resilience and of how they relate to different security environments.

Learning Objectives

Learners will be able to:

1) Understand resilience as an evolving concept with varying definitions that demonstrate elements of commonality and differences of emphasis.
2) Understand the levels of resilience, its temporal dimensions in relation to a crisis, and the factors that promote resilience.
3) Identify and describe different types of threats to resilience, including natural disasters, economic downturns, political instability, and armed conflict.
4) Explain how resilience is an aspect of defence and security planning that can be operationalised through measurement and decision-making.

Module 1.1: Introduction to the Concept of Resilience

Description

The goal of this module is to introduce the concept of resilience to learners, and to understand it as an evolving idea that can be defined in different ways, both within and outside the defence and security sector. In addition, this module allows learners to grasp how resilience is distinct from other aspects of defence and security. Furthermore, this module will expose learners to the levels, elements, processes, and variables of resilience. At its core, resilience is not a fixed or static attribute, but rather a dynamic and adaptive process that involves interactions between many different stakeholders. This understanding can help guide the development of policies and strategies to promote resilience and address global threats and challenges.

Learning Objectives

Learners will be able to:

1) Demonstrate comprehension of the importance of resilience within the context of current defence and security issues.
2) Analyse and compare various definitions of resilience developed by authors within and outside the defence and security sector.
3) Recognise that resilience is a pervasive process that involves multiple aspects and considerations.

Lesson 1.1.1: Definitions and Terminology

Description

For many years, various professions have employed the concept of "resilience", adapting it to their specific needs. For example, as explained in the Introduction to this curriculum, British doctrine defines resilience in terms of the ability to detect, prevent, and recover from disruptive challenges. Similarly, U.S. government definitions focus on the ability to adapt to changing conditions and rapidly recover from disruptions. On the other hand, NATO, as a multinational security organisation, integrates its understanding of resilience in more traditional security policy concepts like deterrence and defence. It thus defines resilience in terms of allowing the continuity of the Alliance's activities.

While definitions may vary depending on the discipline and subject matter, there are common elements. Resilience is often described as an ability or process, rather than a feature or characteristic. To be resilient, a system (whether it be an individual, group, society, etc.) must be able to persist and cope with both anticipated and unanticipated shocks, as well as adapt to changing situations. Some definitions also emphasise the element of transformation, fully embracing the concept of change.

Although the concept of resilience has only recently emerged in security policy debates, it is still developing and lacks a universally agreed upon definition. However, it may be useful to view resilience as resting on different pillars with a common foundation.

Learning Objectives

Learners will be able to:

1) Evaluate how incorporating perspectives from different academic disciplines can enhance the security policy discourse on resilience.
2) Create novel and innovative ideas regarding resilience by engaging in critical thinking.
3) Synthesise a comprehensive definition of resilience that incorporates various perspectives and elements.

Issues for Consideration in Designing the Lesson

1) The purpose of a definition is to aid in understanding a subject and influence perceptions on that subject; there is no inherent right or wrong definition.

2) Definitions can direct focus by emphasising certain aspects while neglecting others, resulting in blind spots.

Potential Questions

1) What are some different definitions of resilience, and what is the focus of each? What are the benefits and limitations of each definition?
2) How can definitions of resilience from diverse academic fields and subjects contribute to a comprehensive understanding of resilience in security policy?

Learning Methods/Assessment

1) In addition to lectures and seminars, teaching methods may include exploratory learning, such as encouraging learners to creatively design their own definitions of resilience and participate in group discussions.

Core Readings

1) NATO. (2021). NATO topics: Deterrence and Defence. Retrieved June 2021, from https://www.nato.int/cps/en/natohq/topics_133127.htm
2) United Nations Development Program. (2021). UN Resilience Guidance. Retrieved September 2021, from https://unsdg.un.org/sites/default/files/2021-09/UN-Resilience-Guidance-Final-Sept.pdf
3) Walsh-Dilley, M., & Wolford, W. (2015). (Un) Defining resilience: Subjective understandings of 'resilience' from the field. *Resilience*, 3(3), 173-182. https://doi.org/10.1080/21693293.2015.1072310

Importance of a Common Understanding

An emergency situation brings together individuals belonging to many different organisations, representing different organisational cultures, including different usage of language, understanding and definitions.

In the aftermath of a natural disaster, such as a hurricane or earthquake, it is critical to have a clear and consistent understanding of resilience to effectively assess and address the disaster's impact on communities and infrastructure. Clear definitions and terminology for resilience can help to guide the allocation of resources and the development of policies to address the impact of the disaster, as well as to facilitate coordination and collaboration among different organisations and stakeholders involved in the response. Without clear definitions and terminology, there may be confusion and inconsistency in the response to the disaster, leading to delays and inefficiencies in the recovery process.

Reference

Laakso, K., & Palomäki, J. (2013). The importance of a common understanding in emergency management. Technological Forecasting and Social Change, 80(9), 1703 -1713. https://doi.org/https://doi.org/10.1016/j.techfore.2012.12.012

Lesson 1.1.2: Levels of Resilience

Description

Resilience works on many different levels. As outlined in Figure 1 in the Introduction to the curriculum, there are five different levels of resilience: individual, community, organisational, national, and multinational. Each level of resilience is interconnected and interdependent. For example, individual resilience can contribute to community resilience, which in turn can contribute to national resilience. This lesson will enable learners to understand how the different levels of resilience are crucial for developing effective strategies and policies to enhance resilience in different security environments. Since resilience is an ongoing process, building resilience at all levels is important for ensuring that societies can withstand and recover from disruptive events. This requires a coordinated effort between individuals, communities, and governments to identify vulnerabilities, develop plans, and allocate resources to build resilience. Nevertheless, this lesson will showcase how, depending on the local context, the different levels of resilience will vary in importance.

Learning Objectives

Learners will be able to:

1) Explain the levels of resilience and how they are interconnected.
2) Assess how the different levels relate to their local contexts.
3) Evaluate various strategies and policies for enhancing resilience across the levels.

Issues for Consideration in Designing the Lesson

1) Not all levels of resilience identified here may be applicable in every context.
2) Efforts to enhance resilience may not be distributed equally across all levels.
3) Other levels or methods of analysis, such as instruments of national power, may be more appropriate depending on the circumstances.

Potential Questions

1) How do different societies and communities vary in their levels of resilience, and what factors contribute to these differences?
2) What are some effective strategies for enhancing resilience at different levels, and how can they be implemented?
3) How can resilience be measured and evaluated at different levels, and what are some key indicators of resilience?

Learning Methods/Assessment

1) The teaching delivery may involve subject matter expert (SME) lectures, seminars, or site visits.
2) Assessment of learners may be based on their participation and engagement in joint reading exercises, discussions, and briefs.

Core Readings

1) Fjäder, C. (2014). The nation-state, national security, and resilience in the age of globalization. *Resilience*, 2(2), 114-129. https://doi.org/10.1080/21693293.2014.914771
2) Kaufmann, M. (2013). Emergent self-organisation in emergencies: Resilience rationales in interconnected societies. *Resilience*, 1(1), 53-68. https://doi.org/10.1080/21693293.2013.765742
3) Wigell, M., et al. (2022). Nordic resilience: Strengthening cooperation on security of supply and crisis preparedness. *Finnish Institute of International Affairs* (FIIA), FIIA Report 70. Retrieved from https://www.fiia.fi/en/publication/nordic-resilience
4) Wigell, M., Mikkola, H., & Juntunen, T. (2021). Best practices in the whole-of-society approach in countering hybrid threats. Study for the INGE Committee, European Parliament.

2011 Japan Earthquake and Tsunami

A real-world example of where different levels of resilience were used is the response to the 2011 earthquake and tsunami in Japan. The disaster, which caused widespread damage and loss of life, tested resilience across all levels. At the individual and community level, resilience was demonstrated by the ability of many people to adapt and cope with the stress and trauma of the disaster. They showed remarkable resilience in the face of the earthquake and tsunami, working together to help each other and rebuild their lives in the aftermath of the disaster. Nationally, the government and other organisations showed resilience through their

ability to develop policies and strategies to address the disaster's impact on the country. The response to the earthquake and tsunami highlighted the importance of effective emergency management and disaster relief, the need for long-term planning and investment in infrastructure and other critical systems to promote resilience. Overall, the response to the earthquake and tsunami in Japan is an example of the importance of resilience at multiple levels, and the need for a coordinated and integrated approach to resilience that involves collaboration between individuals, communities, and governments.

Reference

Takemoto, S., Shibuya, N., & Sakado, K. (2021, March 17). Learning from Megadisasters: A decade of lessons from the Great East Japan earthquake. World Bank. https://www.worldbank.org/en/news/feature/2021/03/11/learning-from-megadisasters-a-decade-of-lessons-from-the-great-east-japan-earthquake-drmhubtokyo

Lesson 1.1.3: Physical and Psychological Elements of Resilience

Description

This lesson builds on themes identified in Lesson 1.1.2 above. In addition to the various levels at which resilience occurs, resilience has both physical and psychological elements that are crucial for a society to withstand and recover from various adverse events and shocks. Physical elements of resilience include the ability to maintain physical infrastructure and resources, such as transportation systems, communication networks, and healthcare facilities. Psychological elements of resilience include the ability to cope with and recover from emotional and mental challenges. This can include factors such as having a positive outlook, being able to regulate emotions, having a strong support system, and being able to adapt to changing circumstances. Both physical and psychological elements of resilience are interconnected and can influence each other. For example, physical infrastructure can impact mental health, and vice versa. Governments possess a remarkable capacity to influence psychological resilience in the population. They can rapidly undermine trust and psychological resilience through ineffective crisis management or lack of transparency. By contrast, the process of fostering and nurturing trust and psychological resilience is much more intricate and time-consuming. This lesson will examine why it is essential for a society to develop both physical and psychological resilience to effectively cope with and recover from various threats and explain how they are related to the levels identified in Lesson 1.1.2.

Learning Objectives

Learners will be able to:

1) Describe the physical and psychological elements of resilience and how they are interconnected.
2) Identify examples of how physical and psychological elements of resilience can be applied to real-world scenarios, such as coping with a natural disaster or armed conflict.
3) Analyse the impact of physical and psychological elements of resilience on individuals and communities.

Issues for Consideration in Designing the Lesson

1) Competing priorities and levels of funding may hinder resilience efforts.

2) The physical and psychological elements of resilience may vary or be unevenly represented depending on the local context.

Potential Questions

1) How do physical and psychological elements of resilience interact with each other, and how can they be integrated into broader resilience strategies?
2) How can physical and psychological elements of resilience be used to promote social cohesion and collective action in times of crisis?
3) What are some potential challenges or barriers to enhancing physical and psychological elements of resilience, and how can they be overcome?

Learning Methods/Assessment

1) The teaching delivery may involve lectures, seminars, or directed study.
2) Assessment of learners may be based on their participation and engagement in joint reading exercises, discussions, and briefs.

Core Readings

1) Hobfoll, S. E., Watson, P., Bell, C. C., Bryant, R. A., Brymer, M. J., Friedman, M. J., & Ursano, R. J. (2007). Five essential elements of immediate and mid-term mass trauma intervention: Empirical evidence. *Psychiatry*, 70(4), 283-315. https://doi.org/10.1521/psyc.2007.70.4.283
2) Norris, F. H., Stevens, S. P., Pfefferbaum, B., Wyche, K. F., & Pfefferbaum, R. L. (2008). Community resilience as a metaphor, theory, set of capacities, and strategy for disaster readiness. *American Journal of Community Psychology*, 41(1-2), 127-150. https://doi.org/10.1007/s10464-007-9156-6
3) Rehak, D., Senovsky, P., Hromada, M., & Lovecek, T. (2019). Complex approach to assessing resilience of critical infrastructure elements. *International Journal of Critical Infrastructure Protection*, 25, 125–138. https://doi.org/10.1016/j.ijcip.2019.03.003
4) United Nations Office for Disaster Risk Reduction. (2015). Sendai framework for disaster risk reduction 2015-2030. Retrieved March 2015, from https://www.undrr.org/publication/sendai-framework-disaster-risk-reduction-2015-2030

Fall of the Afghan Government 2021

One example of the lack of physical and psychological resilience is the fall of the Afghan government and the takeover of power by the Taliban in 2021. While the Afghan government never managed to provide the physical elements of resilience in large parts of the country throughout the entire period of international involvement in Afghanistan, it was the lack of the psychological elements of resilience that led to the dissolution of the Afghan National Army (ANA) and ultimately to the fall of the government. The rapid disintegration and collapse of the ANA can be attributed to a combination of psychological factors that undermined the ANA's ability to function as a cohesive and effective fighting force, despite their superiority to the Taliban in terms of equipment and capabilities.

Key psychological factors that characterised the disintegration of the ANA was a pervasive sense of demoralisation and disillusionment among soldiers. The lack of motivation, will, confidence, and cohesion within ANA's ranks, resulted in its inability to effectively resist the Taliban's advance. Years of engagement in a protracted and seemingly endless conflict against a resilient insurgency had eroded morale and motivation among ANA troops. Many soldiers felt abandoned by their government, their own military leadership, and international allies, leading to a loss of confidence in their mission and leadership. This weakened morale diminished the ANA's will to fight and defend against the Taliban offensive, ultimately contributing to its collapse.

Reference

Sopko, J. F., & Young, D. H. (2023, March 2). The Factors Leading to the Collapse of the Afghan Government and its Security Forces. Special Inspector General for Afghanistan Reconstruction. https://www.sigar.mil/pdf/speeches/SIGAR_John_Sopko_David_Young_Berlin_Speech_2023-03-02.pdf

Lesson 1.1.4: Interdependencies of Resilience

Description

In addition to the levels, physical and psychological variables, there are several other variables that contribute to resilience. These include access to resources, cultural and social factors, and the political system. Access to essential resources like food, water, energy, and healthcare is crucial for resilience. Insufficient access to these resources can result in social unrest, instability, and conflict. In addition, cultural factors such as a value system, collective memory as well as social factors including trust and community engagement, all contribute to resilience. Strong social networks and community ties can help individuals and communities cope with and recover from disasters. Further, the political system and governance structures are key variables in resilience. As discussed in Lesson 1.1.3, governments have the power to significantly impact the resilience process. Effective governance, transparency, and accountability can help build trust in institutions and promote social stability. In contrast, corruption and ineffective governance can erode trust and undermine resilience. As explored in Lesson 3.3.2, one way how governments can foster resilience is via civic education. National governments can thus take a variety of approaches to convey preparedness instructions to their populations, including through government websites, media communication campaigns, and courses and trainings taught at schools or administered by NGOs.

Learning Objectives

Learners will be able to:

1) Explain the importance of resources, such as food, water, energy, and healthcare for resilience, and identify examples of inadequate resource access leading to social unrest and instability.
2) Describe the role of culture in promoting societal resilience, including the importance of social cohesion, trust, and community engagement, and provide examples of how strong social networks and community ties can help individuals and communities cope with disasters.
3) Analyse the impact of the political system and governance structures on societal resilience, including the role of effective governance, transparency, and accountability in building trust in institutions and promoting social stability, and the negative effects of corruption and ineffective governance on resilience.

Issues for Consideration in Designing the Lesson

1) The variables of resilience can vary depending on the local context. For example, the availability and accessibility of resources may be different in urban versus rural areas, or in developed versus developing countries.
2) Access to resources and social networks may be influenced by factors such as race, class, gender, and age.
3) The impact of each variable on resilience may not be equally distributed. For example, access to resources could be more important than effective governance or vice versa.

Potential Questions

1) What is the role of culture in promoting societal resilience? How do social cohesion, trust, and community engagement contribute to resilience?
2) How can critical thinking and problem-solving skills be applied to promote resilience? What strategies can be used to build resilience in vulnerable communities?

Learning Methods/Assessment

1) The teaching delivery may involve lectures, seminars, or directed study.
2) Assessment of learners may be based on their participation and engagement in joint reading exercises, discussions, and briefs.

Core Readings

1) Aldrich, D. P., & Meyer, M. A. (2015). Social capital and community resilience. *American Behavioural Scientist*, 59(2), 254-269. https://journals.sagepub.com/doi/full/10.1177/0002764214550299
2) Brinkley, D. (2006). The great deluge: Hurricane Katrina, New Orleans, and the Mississippi Gulf Coast. HarperCollins.
3) Cutter, S. L., Barnes, L., Berry, M., Burton, C., Evans, E., Tate, E., & Webb, J. (2008). A place-based model for understanding community resilience to natural disasters. *Global Environmental Change*, 18(4), 598-606. https://www.sciencedirect.com/science/article/abs/pii/S0959378008000666

Flint Water Crisis

The water crisis in Flint, Michigan began in 2014 when the city switched its water source from Lake Huron to the Flint River. However, the Flint River water was not properly treated, which caused lead from old pipes to drain into the water supply. Lead is a toxic metal that can cause serious health problems, especially in children. Residents began to complain about the water's taste, smell, and appearance. The crisis gained national attention when a local paediatrician conducted a study that showed elevated lead levels in children's blood. This led to a public health emergency, with residents being advised not to drink or use tap water. The National Guard was called in to distribute bottled water and filters to residents. This vignette shows the importance of interdependencies between essential resources and broader resilience.

Reference

Kennedy, M. (2016, April 20). Lead-laced water in Flint: A step-by-step look at the makings of a crisis. NPR. https://www.npr.org/sections/thetwo-way/2016/04/20/465545378/lead-laced-water-in-flint-a-step-by-step-look-at-the-makings-of-a-crisis

Lesson 1.1.5: Process of Resilience: Successive Stages

Description

As outlined in Figure 2 of the Introduction to this curriculum, resilience involves successive stages that enable a society to anticipate, manage, adapt, and recover from various shocks and stresses. All these stages are interconnected and require ongoing attention and investment to ensure that a society is resilient and able to withstand and recover from various stressors. This lesson will explore how by anticipating, managing, adapting, and recovering, a society can enhance its resilience and better prepare for future challenges and uncertainties. By going through the various stages of the process, this lesson will focus on how activities such as identification of threats (anticipation), coordination of resilience efforts (managing), behavioural shifts (adapting), and adjusting planning (recovering) promote resilience.

Learning Objectives

Learners will be able to:

1) Explain the processes of resilience and how it relates to the ability of communities to withstand and recover from shocks and stresses.
2) Analyse case studies of communities that have demonstrated resilience in the face of adversity and identify the key factors that contributed to their success.
3) Evaluate the effectiveness of different strategies for building resilience and make recommendations for how communities can better prepare for future challenges.
4) Develop a plan for building resilience in a specific community by considering the unique social, economic, and environmental factors that may impact its ability to withstand and recover from shocks and stresses.

Issues for Consideration in Designing the Lesson

1) The types of resilience threats that need to be anticipated and planned for may differ depending on local contexts.
2) Responses to resilience threats may not necessarily be equally distributed between offensive and defensive measures.
3) The relevant agencies may not equally absorb the lessons learned from a resilience challenge.

Potential Questions

1) How can a community assess its vulnerabilities and strengths in the face of various resilience challenges?
2) How can communities learn from past experiences and use that knowledge to build resilience?
3) What are some examples of innovative approaches to building resilience?

Learning Methods/Assessment

1) The teaching delivery may involve lectures, seminars, planning exercises, and seminar wargames.
2) Assessment of learners may be based on their written assessments, class participation, and engagement in planning exercises and briefs.

Core Readings

1) Juntunen, T., & Hyvönen, A.-E. (2014). Resilience, security, and the politics of processes. *Resilience*, 2(3), 195-209. https://doi.org/10.1080/21693293.2014.948323
2) Tierney, K. (2012). Disaster governance: Social, political, and economic dimensions. *Annual Review of Environment and Resources*, 37, 341-363. Retrieved from https://doi.org/10.1146/annurev-environ-020911-095618

Winter floods in the UK 2013-14

During the winter of 2013-14, the UK had its wettest winter in over 250 years, leading to widespread flooding affecting many parts of the country. The UK's response to this disaster demonstrated the four stages of societal resilience: anticipating, managing, adapting, and recovering. The UK has a long history of flooding, and the country has invested heavily in flood risk management. Before the 2013-14 winter floods, the UK established an extensive flood forecasting and warning system, including river level sensors, weather radars, and a public alert system. In the immediate aftermath of the floods, the UK's government and emergency services quickly mobilised to manage the crisis. The government activated the National Flood Response Plan, and the Environment Agency deployed temporary flood defences and pumps to protect homes and infrastructure.

As the scale of the flooding became apparent, the UK adapted its response to address the evolving situation. For example, the government established the Flood Recovery Fund to provide financial assistance to affected communities, and the Environment Agency revised its flood risk management plans to better address the challenges posed by extreme weather events. In the years following the floods, the UK has continued to invest in flood resilience, including the development of new flood defence infrastructure and improvements to flood forecasting and warning systems. The 2013-14 UK floods are thus an example of the ongoing iterative process of resilience and its stages.

Reference

House of Commons. (2014, June 11). Winter Floods 2013-14 - First Report of Session 2014–15. https://publications.parliament.uk/pa/cm201415/cmselect/cmenvfru/240/24002.htm

Module 1.2: Threats to Resilience

Description

The module aims to equip learners with an understanding of potential threats to resilience, including internal, external, transnational, and global aspects. The curriculum covers the nature, diversity, forms, scope, interrelationships, and dynamics of these threats, and teaches learners how to integrate them into comprehensive assessments. This module will introduce learners to the contemporary security environment and expose them to different types of threats and challenges to modern day resilience. Example threats that could be discussed include cyber-attacks, natural disasters, terrorist attacks, or a combination of different hybrid attack components.

It is important to note that resilience is not solely based on known or anticipated threats or actors. While strategic foresight and preparedness are crucial for resilience planning, it is impossible to account for all current and future threats due to their evolving nature. Technological advancements, changes in adversaries' tactics, techniques, and procedures (TTPs), or environmental changes can alter threat landscapes. Therefore, resilience must be flexible and adaptable, always evolving to meet both expected and unexpected challenges in an enduring and indefinite process that can never be completed.

The curriculum covers fundamental threats applicable to most societal and state systems, while acknowledging that threat perceptions vary based on socio-cultural factors, historical experiences, and economic contexts. Resilience also varies in its management and capacity to handle disruptions across individual and systemic levels over time.

Learning Objectives

Learners will be able to:

1) Recognise the internal and external threats to resilience.
2) Discuss existing and emerging global and transnational threats to resilience.
3) Compare and contrast methods to assess threats to resilience.
4) Identify tools that are appropriate for assessing threats across all the levels of resilience.

Lesson 1.2.1: Why Resilience? Contemporary Security Environment: Variety of Security Threats and Challenges

Description

Actors in the 21st century should expand their approach to security by including greater emphasis on the concept of resilience. The traditional categories of conflict and peace are becoming less useful for analysing situations as both the "grey zone" in between these two extremes as the spectrum of conflict expands. The extensive use of "grey zone" measures by various actors to advance their interests suggests several developments that have implications for security policy. Structures and concepts that were designed based on older conceptions of security, such as deterrence and defence, may struggle to address emerging challenges affecting all of society. The use of interdependencies and connectivity as a weapon undermines the foundations of international system norms. Furthermore, it is important to remember that resilience is not just about defensive and reactive processes. Actors may use instruments of power in an offensive manner to influence other actors and shape their environment according to their own interest. Such measures can target resilience efforts by other actors.

Learning Objectives

Learners will be able to:

1) Demonstrate comprehension of the contemporary security environment, to include non-traditional security challenges.
2) Analyse the limitations of traditional security policy concepts, such as defence and deterrence, in addressing current security challenges, and evaluate how these concepts relate to resilience.
3) Evaluate how actors may use "grey zone" measures to undermine resilience efforts.

Issues for Consideration in Designing the Lesson

1) The security policy environment will be determined by local conditions and requirements.
2) The norms, rules, and institutions that have historically helped to address security concerns may vary in their effectiveness.
3) Non-traditional challenges, such as climate change and migration may be difficult to address with traditional security policy tools and concepts.

Potential Questions

1) How would you describe the security policy environment in your country? What are the major challenges?
2) How can traditional concepts like preparedness, deterrence, and defence be integrated into a comprehensive understanding of resilience?

Learning Methods/Assessment

1) The teaching delivery may involve lectures, seminars, or directed study.
2) Assessment of learners may be based on their participation and engagement in joint reading exercises, discussions, and in-class presentations.

Core Readings

1) Humbert, Clemence & Jonathan Joseph. 2019. "Introduction: The Politics of Resilience: Problematizing Current Approaches", *Resilience*, 7:3, 215-223, DOI:10.1080/21693293.2019.1613738
2) Leonard, Mark. (2021). The Age of Unpeace: How Connectivity Causes Conflict. London: Penguin Books.
3) Weissmann, M., Nilsson, N., Thunholm, P., & Palmertz, B. (2021). Hybrid warfare: Security and Asymmetric Conflict in International Relations. I.B. Tauris.

Cyberattacks on Estonia 2007

Beginning on 27 April 2007, a series of cyberattacks targeted websites of Estonian organisations including the parliament, banks, ministries, newspapers, and broadcasters. The attacks occurred amid the country's disagreements with Russia about the relocation of the Bronze Solider of Tallinn, a Soviet-era grave marker. Most of the attacks were so-called distributed denial of service attacks (DDoS) that ranged from individual users to extensive botnets typically used for spam distribution. As a result of the cyberattacks, Estonian citizens experienced sporadic outages of cash machines and online banking services. In addition, government employees were unable to communicate with each other via email, and newspapers and broadcasters were unable to publish news articles.

The 2007 cyberattacks on Estonia serve as an example of the complexity of the contemporary security environment and the challenges of attributing "grey zone" methods, such as cyberattacks.

References

McGuinness, D. (2017, April 27). How a cyber-attack transformed Estonia. BBC News. https://www.bbc.com/news/39655415

NATO. (2024). Cyber Defence. https://www.nato.int/cps/en/natohq/topics_78170.htm#evolution

Resilience Reference Curriculum Writing Team Workshop, Vienna, February 2024.

Lesson 1.2.2: Internal Threats to Resilience

Description

This lesson examines the internal threats to resilience that stem from within a system. These threats can be categorised as either system-inherent or actor-based, including state and non-state actors, meaning that they are intentionally directed at a particular system's resilience. System-inherent threats arise from deficiencies in the resilience variables and elements, which can be exploited by internal or external actors. Different types of actors may have similar objectives but use different means to achieve them due to the different capabilities of state and non-state actors. Examples of system-inherent threats include inequality, insecurity, lack of trust, polarisation, and poor infrastructure. Actor-based threats, on the other hand, aim to take advantage of these deficiencies or create them in an attempt to cause divisions and foster tensions. Examples of actor-based threats to resilience could include corruption, political extremism, and organised crime. However, that needs to be paired with recognition that domestic issues are commonly politicised by domestic actors for their own ends, and the spectre of "disinformation" can be used to stifle valid political and social views. Disinformation campaigns, especially Russian, are effective because they identify genuine grievances and vulnerabilities in democratic societies and turn them into pressure points by amplifying existing problems (not creating them). It is important to clarify that internal threats rarely work in isolation. Internal or external actors can create, exploit, or worsen these vulnerabilities, as illustrated in the vignette for this lesson. Additionally, as outlined in Lesson 1.2.4, transnational or global systems can influence these vulnerabilities as well. However, threats can also have a stabilising effect on systems by leading to improvement in resilience as soon as vulnerabilities are addressed.

To effectively address internal threats to resilience, a comprehensive approach is necessary. This approach should result in fostering social cohesion through steps such as promoting good governance, reducing inequality, creating a sense of security, building trust, and investing in physical infrastructure. This lesson explores the nature and diversity of threats to resilience from within a state or societal system to support learners in assessing internal threats and challenges, leading to improvements in resilience and systems better equipped to face future challenges and uncertainties.

Learning Objectives

Learners will be able to:

1) Recall the different types of internal threats to resilience.
2) Explain how internal threats to resilience can impact the foundations of social cohesion, collective action, and the ability to withstand and recover from various shocks and stresses.
3) Identify examples of internal threats to resilience in real-world scenarios and propose strategies for addressing them.
4) Evaluate the impact of internal threats to resilience on different levels, from the individual to the national and international levels, and make recommendations for improvement.

Issues for Consideration in Designing the Lesson

1) Internal threats may vary depending on local contexts.
2) State structures, procedures and resources are different and structured differently.
3) Perception of threats can vary significantly depending on the socio-cultural background of societies, groups, and individuals, and the current political, economic, or social situation.
4) The vulnerabilities and threats discussed in this context are primarily associated with state structures and western practices. However, they may also be applicable, to a certain extent, to societies with different concepts of rule or statehood.
5) Within a system, it can be challenging to recognise an event, shock, or change as a threat. This is because such recognition must always be negotiated within the system, and different actors and opinions may oppose each other. This can lead to polarisation and fragmentation, further complicating the perception of threats.

Potential Questions

1) What are some of the root causes and consequences of internal threats to resilience?
2) What are some strategies for addressing system-inherent vulnerabilities and promoting resilience?

Learning Methods/Assessment

1) Teaching delivery could involve lectures from subject matter experts (SMEs) and academics.
2) Seminar discussion could focus on threats and vulnerabilities, as well as opportunities for actors to exploit them.
3) As part of their assessment, learners could also create a threat assessment for internal threats, either individually or in groups.

Core Readings

1) Bourbeau, P. (2015). Resilience and international politics: Premises, debates, and agenda. *International Studies Review*, 17(3), 374–395.
2) Cutter, S. L., Barnes, L., Berry, M., Burton, C., Evans, E., Tate, E., & Webb, J. (2008). A place-based model for understanding community resilience to natural disasters. *Global Environmental Change*, 18(4), 598-606.)
3) Ingram, H. J. (2022). Anti-democratic malign influence in the time of COVID-19. In A. Farhadi & A. Masys (Eds.), The great power competition, Volume 2 (pp. 113-133). Springer, Cham.
4) Transparency International. (2024). Corruption perceptions index. Retrieved from https://www.transparency.org/en/cpi/2022

The Case of Lisa F.

In January 2016, a 13-year-old Russian-German girl named Lisa F. was reported missing in Berlin. It was alleged that three unknown men of "foreign" origin had abducted and raped her. However, the police later discovered that the story was fabricated. Russian media claimed that refugees were responsible for the alleged abduction and that German authorities were denying the crime and not pursuing it. When the alleged rape was exposed as a lie, the Russian state news network Russia Today (RT) labelled the correction of the facts as "anti-Russian propaganda." Initial reports led to far-right and extremist organisations holding demonstrations in Berlin, Bavaria, and Baden-Württemberg. At least one attack on a home for asylum seekers in Berlin-Marzahn was linked to this story. Internal actors also used the situation to criticise the government's policies towards migrants and refugees.

This vignette highlights the collaboration between internal and external actors in pursuit of shared malicious objectives.

Reference

Janda, J. (2016b). The Lisa Case STRATCOM lessons for European States. *Federal Academy for Security Policy*. Security Policy Working Paper, 11. https://www.baks.bund.de/sites/baks010/files/working_paper_2016_11.pdf

Lesson 1.2.3: External Threats to Resilience

Description

The focus of this lesson is on external threats to resilience that originate beyond the borders of a system and are typically actor-based. These threats, which can be either kinetic or non-kinetic, may take the form of single events, short- or long-term measures, and can target systems such as individuals, groups, states, or larger entities like regional alliances or international organisations. These threats can be carried out by both state and non-state actors and can have cascading effects impacting various systems or actors. External actors may use various means across all available instruments of power to threaten resilience, including information and psychological operations, unconventional warfare, cyber operations, exploitation of dependencies, lawfare, terrorist attacks, and military operations. In addition, external actors may try to create, exacerbate, or exploit inherent vulnerabilities in other systems and thus disrupt the process of building resilience. To achieve their ends, they may also cooperate with actors from within the targeted system.

This lesson will explore why it is essential to be aware of these external threats and to develop effective strategies and policies to enhance resilience and protect national security.

Learning Objectives

Learners will be able to:

1) Recall the different types of external threats to resilience, including conflict, cyber-attacks, economic sanctions, and natural disasters.
2) Explain how external threats to resilience can impact social cohesion, collective action, and the ability to withstand and recover from various shocks and stresses.
3) Identify examples of external threats to societal resilience in real-world scenarios and propose strategies for addressing them.
4) Evaluate the impact of external threats to resilience on different levels, from the individual to the national and international levels, and make recommendations for improvement.

Issues for Consideration in Designing the Lesson

1) External threats can vary depending on a state's geographical location and position in the international system and may be perceived differently over time.
2) As systems and actors become more interconnected and interdependent, the distinction between external and internal security, and therefore threats may become less clear.

Potential Questions

1) What external threats or actors to your society, state, or system can you identify?
2) What other sources of external threats are there that may not be included here?

Learning Methods/Assessment

1) Delivery of teaching could involve lectures from subject matter experts (SMEs) and academics. Seminar discussion could focus on threats and vulnerabilities, as well as opportunities for actors to exploit them.
2) Learners could also create a threat assessment for external threats individually or in groups, as part of their assessment.

Core Readings

1) Bentzen, N. (2020). COVID-19 foreign influence campaigns: Europe and the global battle of narratives. EPRS: European Parliamentary Research Service. Retrieved from https://policycommons.net/artifacts/1337203/covid-19-foreign-influence-campaigns/1944880/
2) Masakowski, Y. R., & Blatny, J. M. (2023). Mitigating and responding to cognitive warfare. NATO Science and Technical Organisation. Retrieved from https://apps.dtic.mil/sti/trecms/pdf/AD1200226.pdf
3) Mumford, A., & Carlucci, P. (2023). Hybrid warfare: The continuation of ambiguity by other means. *European Journal of International Security*, 8(2), 192-206.
4) Wither, J. K. (2020). Defining hybrid warfare. Retrieved from https://www.marshallcenter.org/sites/default/files/files/2020-05/pC_V10N1_en_Wither.pdf

See vignette in Lesson 2.1.3 on Cognitive Warfare and Election Interference.

Reference

Posard, M., Reininger, H., & Helmus, T. C. (2021). Countering Foreign Interference in US Elections (p. 68). RAND Corporation.

Lesson 1.2.4: Global and Transnational Threats to Resilience

Description

Transnational and global threats to resilience encompass a broad spectrum of challenges, from natural disasters to long-term changes in the global climate. These threats can affect all levels of resilience, as outlined in Figure 1 of the Introduction to the curriculum. These threats can be actor-based, or they can be system-inherent risks triggered by the structures of the international system or natural/environmental factors. Global and transnational threats to resilience may include transnational organised crime, corporate influence on political decision-making, terrorism, weaponisation of dependencies, climate change, uncontrolled migration, pandemics, hybrid warfare, nuclear proliferation, intellectual property crime, cybercrime, and lawfare.

The purpose of this lesson is to introduce learners to the dimensions, diversity, and dynamics of global and transnational threats to resilience across all levels. It is important to note that the threats discussed in this lesson are only a summary and thus represent possible worldwide threats.

Learning Objectives

Learners will be able to:

1) Identify the main transnational and global threats to resilience in relation to your own nation, region, or worldwide.
2) Explain the nature, diversity, forms, scope, interrelationships, and dynamics of global and transnational threats to resilience.
3) Analyse the impact of global and transnational threats on state and national policies.
4) Develop strategies to address global and transnational threats to resilience in their own nation or region.

Issues for Consideration in Designing the Lesson

1) The transnational and global nature of threats will vary depending on location.
2) The mechanisms and ability to address transnational and global threats may differ between countries.

Potential Questions

1) How can dependencies and connectivity be weaponised to threaten regional and global systems or networks?
2) How can societies assess and address global and transnational threats to their own resilience structure?

Learning Methods/Assessment

1) Teaching delivery could involve lectures from subject matter experts (SMEs) and academics. Seminar discussion could focus on threats and vulnerabilities, as well as opportunities for actors to exploit them.
2) As part of their analysis, learners could also create a threat assessment for international and global threats individually or in groups.

Core Readings

1) Aradau, C. (2014). The promise of security: Resilience, surprise, and epistemic politics. *Resilience: International Policies, Practices, and Discourses*. Retrieved from https://www.academia.edu/7185914/The_promise_of_security_resilience_surprise_and_epistemic_politics
2) Bourbeau, P. (2016). Resilience, security, and world politics. The Routledge Handbook of International Resilience. Routledge. Retrieved from https://www.routledgehandbooks.com/doi/10.4324/9781315765006.ch3
3) Doicariu, D. (2023). Emerging and disruptive technology trends in defence and security. *Journal of Defence Resources Management*, 14(2), 33-44. http://www.jodrm.eu/issues/Volume14_issue2/3_Doicariu.pdf
4) World Economic Forum. (2024). Global risk report. Retrieved from https://www.weforum.org/publications/global-risks-report-2023/

The Impact of COVID-19 on Global Supply Chains

The COVID-19 pandemic caused significant disruption to global supply chains, as countries implemented lockdowns and travel restrictions to contain the spread of the virus. These disruptions affected a wide range of industries, including manufacturing, retail, and transportation, and led to shortages of essential goods and materials in many parts of the world. The pandemic exposed vulnerabilities in global supply chains, particularly those that rely heavily on a single country or region for production or distribution.

The impact of supply chain disruptions on resilience was significant. The pandemic highlighted the importance of supply chains for the functioning of modern societies, as disruptions led to shortages of essential goods such as medical supplies and food. The disruption of global supply chains also had economic consequences, with many businesses facing financial losses and job cuts due to reduced demand and disrupted operations. The pandemic has underscored the need for resilient supply chains that can adapt to changing circumstances and mitigate the impact of disruptions on societies and economies.

Reference

Wang, Q., Zhou, H. and Zhao, X. (2024). "The role of supply chain diversification in mitigating the negative effects of supply chain disruptions in COVID-19", *International Journal of Operations & Production Management*, 44(1), 99-132. https://doi.org/10.1108/IJOPM-09-2022-0567

Lesson 1.2.5: Assessing Threats to Resilience

Description

In this curriculum, the primary focus lies on the process of resilience - anticipating, managing, adapting, and recovering from threats. However, for the process of resilience to unfold effectively it is key to understand the threats that can impact the resilience process or initiate it. This lesson will discuss assessing both anticipated threats, such as climate change, economic insecurities, armed conflicts, and unanticipated threats, such as unpredicted weather events, terrorist attacks, and economic disruptions. When assessing the threats to resilience, one should also consider its various levels (individual, community, organisational, national, multinational), as well as the elements and variables such as physical and psychological factors. While any threat will likely have an impact on any one of the levels of resilience, the impact may vary based on the threat and thus consideration must be given to the level (or levels) where resilience efforts should be focused.

With these considerations in mind, there are multiple methods to assess threats to resilience. One of the most universal methods that can be used at multiple levels is a Strengths, Weakness, Opportunities, and Threats (SWOT) analysis. While this may appear to be a basic business tool, it can be beneficial to understanding the environment by providing a holistic assessment of where things are relatively stable and strong, and where there could be challenges to resilience. Another common assessment technique is to monitor annual assessment reports, such as the World Economic Forum annual risk report. This provides a broad overview of threats and allows discussion of resilience relative to the threat at various levels of consideration. Overall, this lesson aims to generate discussion regarding ways to assess resilience and the considerations in assessing resilience, such as anticipated and unanticipated threats. However, there is no single method to assess resilience and thus the lesson will primarily focus on a broad discussion of these topics.

Learning Objectives

Learners will be able to:

1) Recognise why and how threats can impact resilience.
2) Discuss methods to assess potential threats to resilience.

3) Compare and contrast methods for assessing threats to resilience based on the environment and focal level (individual, community, organisational/institutional, national, multinational).

Issues for Consideration in Designing the Lesson

1) This will be a broad discussion to help the learner understand that there are some broad ways to assess threats to resilience. More details may be added throughout the curriculum.
2) It may help the instructor to narrow the focus of threat assessment to only some of the levels discussed in this curriculum, such as threats to individual resilience and national resilience.

Potential Questions

1) What process should be established to assess threats to resilience systematically?
2) How often should threats to resilience be assessed?
3) In what ways does a threat to resilience impact the various levels (individual, community, organisational, national, international) discussed in this curriculum?

Learning Methods/Assessment

The lesson can be delivered through a combination of lecture, group discussion, presentation of assessment frameworks, and exercises using those frameworks.

Core Readings

1) Berte, E., & Panagopoulos, T. (2014). Enhancing city resilience to climate change by means of ecosystem services improvement: A SWOT analysis for the city of Faro, Portugal. *International Journal of Urban Sustainable Development*, 6(2), 241-253. https://doi.org/10.1080/19463138.2014.953536
2) University of Kansas. (2024). Section 14. SWOT analysis: Strengths, weaknesses, opportunities, and threats. Community Toolbox. Retrieved from https://ctb.ku.edu/en/table-of-contents/assessment/assessing-community-needs-and-resources/swot-analysis/main

The UK's National Risk Register

One real-world example of an assessment of threats to resilience is the National Risk Register (NRR) Assessment conducted by the UK government. The NRR is a comprehensive assessment of the risks facing the UK, including natural hazards, terrorist threats, cyber threats, and other risks to national security and societal resilience. The assessment is conducted by a team of experts from across government, academia, and industry, and is designed to inform policy and decision-making at the national level. The NRR is a cyclical process involving ongoing monitoring and analysis of risks and regular assessment updates to reflect changing circumstances and emerging threats. The assessment is used to inform the development of national resilience plans and to guide the allocation of resources to address identified risks. The most recent NRR, published in 2023, identified a range of threats to resilience, including cyber-attacks, terrorist threats, pandemics, and natural hazards such as flooding and severe weather.

Assessments such as the NRR highlight the need for a coordinated and integrated approach to resilience that involves collaboration between government, private sector, and civil society, as well as investment in critical infrastructure and the development of contingency plans to address identified risks.

Reference

UK Government. 2024. National Risk Register 2023.

Papuan vikvinia with the civil safety division planning unit of the Republic of Georgia's Emergency Management Department participates in training in the Crisis Management Center during Shared Horizons 2013, June 21, 2013. Shared Horizons is a U.S. European Command-directed exercise conducted by U.S. Army Europe designed to prepare the Republic of Georgia government to provide civil response in the event of a natural disaster. The exercise is designed to assess the preparedness of responsible ministries in case of an emergency and identify and address deficiencies. The exercise will also provide insight to U.S. participants as to the processes used by the Republic of Georgia and identify procedures to integrate relief if requested by the government of the Republic of Georgia. U.S. Army photo by Jesse Granger/Released

Resilience Reference Curriculum Writing Team Workshop, Stockholm, July 2023.

Theme 2: National and Multinational Approaches to Resilience

Aim

This theme aims to demonstrate interdependencies between resilience and various instruments of national power. The theme also explores national and multinational aspects of resilience. It provides learners with a framework to understand the role of resilience in an increasingly complex and contested strategic environment.

Goal

The goal of this theme is to explore and demonstrate the interdependencies between resilience and various instruments of national power by examining national and multinational levels within the whole-of-government approach. Traditionally, instruments of power (IoPs) are considered to be Diplomatic, Information, Military, and Economics (DIME). For the purpose of this reference curriculum, the IoPs include diplomacy, political, legal, military, space, administration, infrastructure, economy, intelligence, information, and cyber. This is because the strategic context has evolved and become more interconnected and contested, requiring a more comprehensive understanding of defence and security vulnerabilities within instruments of power. Therefore, whole-of-government and whole-of-society approaches are required to address resilience. By completing this theme, learners will examine how all IoPs connect and provide a lens through which they can understand and apply resilience efforts. They will be able to identify lessons learned through specific thematic examples (vignettes) on resilience.

Theme Learning Objectives

Learners will be able to:

1) Understand the contemporary strategic context and the role of resilience in addressing associated challenges
2) Demonstrate knowledge of the interdependencies between national instruments of power and resilience.
3) Differentiate and assess resilience on national and multinational levels.
4) Apply resilience concepts in various national and multinational contexts through a whole-of-government approach by considering civil-military interdependencies.
5) Develop and implement national, regional, and international frameworks and approaches to resilience.

Module 2.1: Strategic Context and Resilience

Description

The contemporary security environment is dynamic and unpredictable, characterised by rising strategic competition, global, and interdependent security challenges. The impacts of transnational security issues, such as climate change, mass migration, health emergencies, terrorism, and food insecurity enable destabilisation and interference by adversaries, challenging resilience and impairing security. Enhanced strategic awareness is crucial to prepare for, prevent, deter, and defend effectively against contemporary and emerging security threats. Reflecting the shift in framing the threats and navigating the new strategic landscape, nations have been adapting their national security strategies, identifying the power struggles, and highlighting foreign factors and foreign policy as a fundamental dimension of national security.

Economic security, technological innovation, and industrial aspects play a fundamental role in the new global dynamics and strategic competition. Lacking a consensus on the concept, 'Strategic Competition' describes the current strategic environment and refers to a spectrum of activities undertaken by competitors to gain an advantage in pursuit of long-term goals. This module approaches resilience in global dynamics and provides a framework for cross-examining the interdependencies and interplay between instruments of national power and resilience. By completing this module, learners will analyse opportunities and vulnerabilities to build more resilient national and multinational capabilities.

Learning Objectives

Learners will be able to:

1) Understand the role of resilience within the contemporary security environment.
2) Analyse opportunities and vulnerabilities arising from strategic competition.
3) Identify lessons learned for improving resilience efforts within a strategic context.

Lesson 2.1.1: Instruments of National Power

Description

The instruments of national power are the tools that a national government uses to influence other countries, multinational and international organisations, non-state actors, as well as internal domestic challenges. They are considered capabilities and resources that a country can use to achieve its national objectives. Traditionally, the IoPs were Diplomacy, Information, Military, and Economy (DIME). While useful, for purposes of resilience, the DIME framework is considered too limited, too military-centric, and neglectful of other IoPs, which results in suboptimal use of resources and capabilities, and poor transitions to other organisations, agencies, and/or national governments. The emergence of a new strategic environment thus requires conceptualisation and expansion of multiple instruments of power, to create a more comprehensive ecosystem. Beyond DIME, this curriculum includes Financial, Intelligence, Legal, Law Enforcement, Space, Cyber, and Critical Infrastructure. Resilience building efforts must be multiple, simultaneous, and interconnected across all instruments of national power. All these IoPs make up a comprehensive national space where local or national governments and civic space interact. The IoPs are not mutually exclusive and resilience (or lack thereof) in one or more IoP could potentially undermine resilience in others.

Learning Objectives

Learners will be able to:

1) Identify and describe instruments of national power.
2) Explore and discuss resilience within instruments of national power.
3) Discuss the interdependence between instruments of national power.

Issues to Consider in Designing this Lesson

1) All instruments of national power may not apply in every context.
2) The national level of analysis may limit the comprehensive and inclusive discussion among the participants. Other levels of analysis (such as individual, organisational, societal, international, global) may need to be considered.
3) The lack of resources (doctrinal, academic, etc.) on the topic may limit the discussion.

Potential Questions

1) When considering resilience, why should professional military education (PME) schools consider the civil dimension and use IoPs beyond DIME?
2) How can effective resilience be achieved and sustained through coordinated efforts between the military IoP and other IoPs?
3) How can IoPs reinforce or weaken each other in resilience building efforts?

Learning Methods/Assessment

1) Teaching delivery may include lectures by subject matter experts (SMEs), seminars, presentations/ briefings, exercises, and classroom simulations.
2) Learners could be assessed through participation and discussion in joint reading exercises, discussions, and briefs.

Core Readings

1) Kimsey, D. & Kim, J.W. & McCoy, J. & Cuddy, C. Utilization of the DIMEFIL Framework in a Case Study Analysis of Security Cooperation Success. *Small Wars Journal* (2020). https://smallwarsjournal.com/jrnl/art/utilization-dimefil-framework-case-study-analysis-security-cooperation-success
2) Mastapeter, C.W. (2008). The instruments of national power: achieving the strategic advantage in a changing world. Thesis. https://core.ac.uk/reader/36697480
3) Rodriguez, C. A. & Charles, T. W. & Chu, H. (2020). Putting the "FIL" into "DIME": Growing Joint Understanding of the Instruments of Power. *Joint Force Quarterly* 97. https://ndupress.ndu.edu/Media/News/News-Article-View/Article/2106566/putting-the-fil-into-dime-growing-joint-understanding-of-the-instruments-of-pow/
4) The International Institute for Strategic Studies. (n.d.). Cyber capabilities and national power: A net assessment. Retrieved from https://www.iiss.org/globalassets/media-library---content--migration/files/research-papers/cyber-power-report/cyber-capabilities-and-national-power---a-net-assessment___.pdf
5) Treverton, J. F. & Jones, S. G. Measuring National Power. RAND Corporation (2005). https://www.rand.org/content/dam/rand/pubs/conf_proceedings/2005/RAND_CF215.pdf
6) Ziarnick, B. D. (2021). A Practical Guide for Space Power Strategy. *Space Force Journal*. https://spaceforcejournal.org/a-practical-guide-for-spacepower-strategy/

Space

Competition in space is intensifying against a backdrop of rapid advances in technology. As a result, governments and private players now perceive the space economy as a ground to gain significant commercial and military advantages. Recognising its significance, NATO adopted a Space Policy, declared space an operational domain (2019) and underlined the vital role of space for NATO's deterrence and defence posture in its 2022 Strategic Concept. In 2022, EU leaders identified space as a strategic domain in the Strategic Compass and called for an EU Space Strategy for Security and Defence. While during the Cold War, both the U.S. and the Soviet Union approached space as a sanctuary and a non-warfighting arena, the shift in the strategic environment has led to the declaration of space as a warfighting domain (U.S. DOD Space Strategy (2020). As part of the "comprehensive national power", China has also stressed the vital role of space (China's Space Programme (2021)).

References

U.S. White House. (2021). Space priorities framework. Retrieved from https://www.whitehouse.gov

U.S. Department of Defense. (2020). Defense space strategy summary. Retrieved from https://media.defense.gov/2020/Jun/17/2002317391/-1/-1/1/2020_DEFENSE_SPACE_STRATEGY_SUMMARY.PDF

NATO. (2022). NATO's overarching space policy. Retrieved from https://www.nato.int/cps/en/natohq/official_texts_190862.htm

Lesson 2.1.2: Interdependencies Between Resilience and Instruments of National Power

Description

The IoPs serve as a guiding framework to examine the whole-of-government approach to resilience within the increasingly complex and contested strategic environment. It is important to note that instruments of national power are not mutually exclusive but also reinforce each other. They are often used together in a coordinated fashion to achieve national resilience goals. For example, a country might use diplomatic pressure and economic sanctions to persuade another country to change its behaviour or use cyber capabilities to strengthen and enhance its own information and infrastructure resilience. The effectiveness of a country's instruments of national power depends on many factors, including the country's leadership, economic strength, capabilities, national resources, technological advancement, etc. Learners can further examine their contextual understanding by examining the interdependencies between military and civil elements.

Learning Objectives

Learners will be able to:

1) Explain instruments of national power and their impact on resilience efforts.
2) Understand the interdependencies between the IoPs and the impact of the coordinated offensive or defensive efforts on national resilience.
3) Identify and apply lessons learned from the case studies.

Issues to Consider in Designing this Lesson

1) Different perspectives of the challenges within the strategic context could hinder effective resilience implementation.
2) Lessons learned may not be applicable to all national contexts, which is why unique national approaches need to be considered.
3) Lack of shared understanding of the important issues within the strategic environment.

Potential Questions

1) What does the concept of the strategic environment mean to you from your national context?
2) Is there a shared understanding of the strategic environment?
3) Can you effectively describe the role of resilience across multiple IoPs?

Learning Methods/Assessment

1) Teaching delivery may include lectures by subject matter experts (SMEs), seminars, demonstrations, exercises, and classroom simulations.
2) Learners could be assessed through participation and discussion in joint reading exercises, discussions, and briefs.

Core Readings

1) Cybersecurity and Infrastructure Security Agency. (2020). Critical infrastructure sectors. Retrieved from https://www.cisa.gov/topics/critical-infrastructure-security-and-resilience/critical-infrastructure-sectors
2) Priechenfried, C. (2017). Untying our hands: Reconsidering cyber as a separate instrument of national power. National Defense University. Retrieved from https://www.hsdl.org/c/abstract/?docid=805121
3) Rodriguez, C. A., Charles, T. W., & Chu, H. (2020). Putting the "FIL" into "DIME": Growing joint understanding of the instruments of power. *Joint Force Quarterly*, 97. Retrieved from https://ndupress.ndu.edu/Media/News/News-Article-View/Article/2106566/putting-the-fil-into-dime-growing-joint-understanding-of-the-instruments-of-pow/

Raw Materials

In view of the technological developments and innovation, the demand for critical raw materials is projected to increase drastically, making it a strategic objective in great power competition. The African continent has become a key scene for great power competition (e.g., China's Belt and Road Initiative, Russia's Africa strategy). Against this backdrop the EU has launched the 'Raw Materials Diplomacy' with non-EU countries and adopted the European Critical Raw Materials Act (2023) to enhance its economic resilience. The Act proposes a comprehensive set of actions to ensure its access to a secure, diversified, affordable and sustainable

supply of critical raw materials indispensable for a wide set of strategic sectors, including the net zero industry, the digital industry, and the aerospace and defence sectors. While harnessing resources can support Africa and other resource-rich areas in fostering resilience through scaling up their economic achievements, the geo-strategic ambitions of the major powers can hinder Africa's decision-making autonomy and carry risks for supply chains related to strategic dependencies.

References

European Union. (2023). Critical raw materials: Ensuring secure and sustainable supply chains for EU's green and digital future. Retrieved from https://ec.europa.eu/commission/presscorner/detail/en/ip_23_1661

Müller, M., Saulich, C., Schöneich, S., & Schulze, M. (2023). From competition to a sustainable raw materials diplomacy: Pointers for European policymakers. Retrieved from https://www.swp-berlin.org/10.18449/2023RP01/

Lesson 2.1.3: Role of Resilience within Instruments of National Power

Description

Resilience-building among all IoPs needs to be designed and implemented accross multiple domains with a comprehensive ecosystem approach. Developing resilience against threats in any of the IoPs requires the respective stakeholders to look beyond resilience in individual instruments, and to consider dependencies and interdependencies between and among different parts of government and society. It requires a systems-thinking approach. All IoPs are interconnected and the strengthening of resilience in one domain impacts others, either positively or negatively. Malign actors exploit the vulnerabilities of various IoPs and their interconnectedness to maximise their impact. Therefore, understanding the interdependencies between the various elements is critical for applying resilience efforts to civil-military preparedness, early detection of malign activity, and building resilience against resulting threats.

Learning Objectives

Learners will be able to:

1) Identify and articulate the role of resilience within the different instruments of national power.
2) Analyse how strengthening or weakening one IoP may impact others.
3) Apply resilience efforts to civil-military preparedness.
4) Recommend areas for improvement in resilience efforts across all IoPs.

Issues to Consider in Designing the Lesson

1) Possible disagreements and differing views on the specifics of resilience responsibilities in each IoP and suggested recommendations.
2) Lack of understanding of the interconnectedness of IoPs within the civil-military relationship.
3) Different perceptions of who or what constitutes a malign or hostile actors/action.

Possible Questions

1) Why are some economic investments seen as a security risk/threat?
2) Should all IoPs be expected to have equal/balanced capacities to help in resilience efforts?

3) How can IoPs contribute to strengthening/weakening resilience across the civil-military relationship spectrum?

Learning Methods/Assessment

1) Teaching delivery may include lectures by subject matter experts (SMEs), seminars, table-top exercises, wargaming, and classroom simulations.
2) Learners could be assessed through participation and discussion in joint exercises, debates, and briefs.

Core Readings

1) Hagelstam, A. (2016). Resilience inside and out: A Finnish perspective. In D. S. Hamilton (Ed.), Forward resilience: Protecting society in an interconnected world. Center for Transatlantic Relations. https://archive.transatlanticrelations.org/wp-content/uploads/2016/12/resilience-forward-book-hagelstam-final.pdf
2) Hybrid CoE. (2019). Countering disinformation: News media and legal resilience. Workshop organized by the Hybrid CoE and the Media Pool, Finnish Emergency Supply Organisation. Retrieved from https://www.hybridcoe.fi/wp-content/uploads/2020/07/News-Media-and-Legal-Resilience_2019_HCPaper-ISSN.pdf
3) Hynes, W., Trump, B., Love, P., Linkov, I., & Florin, M.-V. (2020). Bouncing forward: A resilience approach to dealing with COVID-19 and future systemic shocks. *Environment Systems and Decisions*, 40(2), 174-184. Retrieved from https://doi.org/10.1007/s10669-020-09776-x

Cognitive Warfare and Election Interference

Cognitive warfare may influence any aspect of the functioning of societies, and it can have an impact across many IoPs. IoPs can also serve as instruments to carry out cognitive attacks. Operations in the cognitive domain can be short or long term and have unlimited dimensions. Election interference by Russia has not only cyber dimension, i.e. using cyber capabilities to compromise election infrastructure networks and systems, but it has the information vector through which Russia injects disinformation and propaganda to influence cognitive dimensions of the voters. Russian influence strategies during multiple elections around the world showed how through cyber, information, social, and other instruments of national power Russia attempts to impact cognitive decision-making skills and behaviours of targeted populations.

In this context, building resilience against cognitive attacks is critical for overall national resilience efforts.

References

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Praktyka, T. I., Reczkowski, R. S., & Lis, A. (2022). Cognitive warfare: What is our actual knowledge and how to build state resilience? Retrieved from Semantic Scholar. Retrieved from https://btip.ka.edu.pl/pdf/2022-3/btip2022-3-reczkowski.pdf

Backes, O., & Swab, A. (2019). Cognitive Warfare. The Russian Threat to Election Integrity in the Baltic States, Cambridge: Belfer Center for Science and International Affairs. Retrieved from https://www.belfercenter.org/publication/cognitive-warfare-russian-threat-election-integrity-baltic-states

Lesson 2.1.4: Civil-Military Resilience Interdependencies

Description

Civilian instruments of national power are the capabilities and resources a country uses to achieve its national interests without resorting to military force. Military instruments of national power are associated with the use of armed forces and intelligence services. It could be difficult to make a clear distinction between some instruments of national power, such as military diplomacy or extensive military involvement in cyber, space, and information domains.

The comprehensive and holistic nature of national security requires the engagement and coordination between civil and military government components. Military institutions rely heavily on civilian infrastructure, including communications networks, logistics, energy grids and transportation systems. At the same time, civilian authorities depend on specific military capabilities to support the population during civil emergencies, maintenance of public order, and counter-terrorism operations. A systems-approach to these complex interdependencies across multiple domains is critical. Understanding these interdependencies informs strategic planning, resource allocation, and the formulation of effective national policies. Given these interdependencies, both civilian and military agencies have a vested interest in the resilience of institutions and essential service providers. Initiatives aimed at minimising vulnerabilities in all sectors and enhancing the protection and continuity of essential services are a common civil-military interest.

Throughout this lesson, learners will gain a comprehensive understanding of civil-military interdependencies as a primer for developing and implementing resilience efforts within the nexus of civil-military relations.

Learning Objectives

Learners will be able to:

1) Understand the importance of the civil-military nexus and the role of resilience.
2) Analyse civil-military interdependencies.
3) Describe effective civil-military engagement and coordination for resilience.

Issues to Consider in Designing the Lesson

1) The balance between civilian and military relations will differ depending on the local context.
2) Resilience efforts where the civil-military relationship is significant may not be equally distributed across all instruments of national power.
3) Challenge of information sharing and knowledge transfer between civil-military domains.

Potential Questions

1) Why should cooperation between civil-military counterparts' matter in resilience efforts?
2) What are the main limitations and challenges for effective civil-military engagement and cooperation?
3) How can these challenges be effectively mitigated? Are there lessons learned?

Learning Methods/Assessment

1) Teaching delivery may include lectures by subject matter experts (SMEs), seminars, site-visits, exercises, and classroom simulations.
2) Learners could be assessed through participation and discussion in joint reading exercises, discussions, and briefings.

Core Readings

1) European Commission. (2022). Action plan on military mobility 2.0. Retrieved from https://defence-industry-space.ec.europa.eu/action-plan-military-mobility-20_en
2) Hybrid CoE. (2023). Hybrid threats: A comprehensive resilience ecosystem (CORE). Retrieved from https://www.hybridcoe.fi/publications/hybrid-threats-a-comprehensive-resilience-ecosystem/
3) Pantev, P. (2005). Civil-military relations and democratic control of the security sector. Retrieved from https://www.dcaf.ch/sites/default/files/publications/documents/CMRHandbook.pdf
4) Roepke, W., & Thankey, H. (2019). Resilience: The first line of defence. NATO Review. Retrieved from https://www.nato.int/docu/review/articles/2019/02/27/resilience-the-first-line-of-defence/index.html

CIMIC in Total Defence: The Swedish Approach

Total Defence is a comprehensive approach to national defence that involves all aspects of society, including the military, civil defence, economic, social and psychological domains. It is based on the principle that every citizen and every organisation have a role to play in the defence of the nation. Total defence enables a country to use all its resources and capabilities to deter aggression and respond to contingencies.

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Sydow, B. von. (2018). Resilience: Planning for Sweden's total defence. NATO Review. Retrieved from NATO SOF Comprehensive Defence Handbook, 2020

Module 2.2: Whole-of-Government Approach to Resilience

Description

A whole-of-government approach to resilience is a way to prepare for hazards and build resilience across all levels and functions of government. At a national level, it involves the coordination and collaboration of all government actors to develop and implement policies and programmes that reduce vulnerabilities and increase resilience. A whole-of-government approach to resilience is important because many of the risks and challenges are complex and interrelated, and no single government entity can effectively address them on their own. National strategies lay the foundation for how governments will address all stages of resilience planning and implementation. In the face of multiple and often simultaneous challenges that threaten security and stability of nations, governments must develop effective communication and information-sharing mechanisms, joint planning, and collaboration to ensure that resilience is integrated into all government policies and programmesin a comprehensive, coordinated and sector-agnostic way.

For example, climate change threatens many government functions, including disaster management, water security, and public health. Generative AI could also enhance vulnerabilities in the information space making populations more prone to malign influence and hence undermining their trust in the government and eroding democratic principles. All levels and functions of government must have a common understanding of these risks and challenges, and effectively collaborate in resilience efforts.

Learning Objectives

Learners will be able to:

1) Discuss the whole-of-government approach to resilience.
2) Understand resilience efforts within the civil-military nexus.
3) Examine the shared roles and responsibilities within the whole-of-government approach to resilience.

Lesson 2.2.1: Civil-Military Cooperation and Resilience

Description

Civil-military cooperation (CIMIC) is the process of coordination and cooperation between civilian and military actors to achieve common objectives. Civil-military cooperation includes military support to civil society and civilian support to the military. It plays a crucial role in contexts such as disaster relief, maintaining public order, and enhancing national resilience. CIMIC relies on a common understanding of the threats, shared resources, including equipment, personnel and funding, thereby maximising the impact of efforts. Combining civilian and military efforts and expertise produces quicker and better results when and where government resources are limited.

This lesson provides a comprehensive exploration of civil-military cooperation on enhancing national resilience. Learners will explore specific examples where civil and military government entities work collaboratively to address complex challenges and enhance their national resilience. Upon completion, learners will understand CIMIC and its significance for strengthening resilience.

Learning Objectives

Learners will be able to:

1) Understand the scope and forms of civil military cooperation (CIMIC).
2) Describe the significance of CIMIC in national security and resilience.
3) Identify CIMIC areas of cooperation and challenges in the context of national resilience.

Issues to Consider in Designing the Lesson

1) A CIMIC approach may require a change in mindset to be effectively implemented.
2) There could be limits and restrictions of effective civil-military engagement and cooperation.

Possible Questions

1) What are the advantages of a CIMIC approach to resilience?
2) What could be the challenges and limitations of CIMIC?
3) How to facilitate CIMIC and to maximise the effects of CIMIC to enhance national resilience?

Learning Methods/Assessment

1) Teaching delivery may include lectures by subject matter experts (SMEs), seminars, and classroom discussions.
2) Learners could be assessed through participation and discussion in joint exercises, debates and briefs.

Core Readings

1) Cusumano, E., & Corbe, M. (Eds.). (2018). A civil-military response to hybrid threats. Palgrave Macmillan. https://link.springer.com/content/pdf/10.1007/978-3-319-60798-6.pdf
2) NATO Allied Joint Publication for Civil-Military Cooperation, AJP 3-19. Retrieved from https://www.cimic-coe.org/publications/external-publications/doctrines-and-nato-documents/
3) Ries, M. (2022). Global key concepts of civil-military cooperation for disaster management in the COVID-19 pandemic – A qualitative phenomenological scoping review. *Frontiers in Public Health*, 10. https://www.frontiersin.org/articles/10.3389/fpubh.2022.975667/full
4) Romanyshyn, L. (2023). Ukraine's total democratic resilience in the shadow of Russia's war. Carnegie Europe. Retrieved from Ukraine's Total Democratic Resilience in the Shadow of Russia's War – Carnegie Europe – Carnegie Endowment for International Peace
5) Stette, M., Porath, K., & Muehlich, S. (2023). Civil-military cooperation for the countering of threats: Protection of civilians during the development of a threat. In Handbook for Management of Threats: Security and Defense, Resilience and Optimal Strategies (pp. 475-520). Springer International Publishing. https://link.springer.com/chapter/10.1007/978-3-031-39542-0_23

CIMIC in Total Defence – The Swedish Approach

Refer to Lesson 2.1.4.

Lesson 2.2.2: Shared Roles and Responsibilities in Resilience Efforts

Description

Shared roles and responsibilities in an integrated resilience effort ensure that all relevant government institutions are involved in, and accountable for, the building of national resilience. This includes the sharing of information, resources, and expertise across government departments and agencies. Shared responsibilities and integrated implementation in national resilience efforts stem from the need for coordinated responses to multiple complex challenges such as natural disasters, cyber-attacks, pandemics and other security threats. Resilience is not the sole responsibility of any one government entity but requires a multi-dimensional approach involving a range of stakeholders, including civilian government agencies, and military organisations. Shared roles and responsibilities ensure that resilience efforts take a comprehensive and holistic approach for a more effective response to complex crises.

Given their different organisational structures, resources, and priorities, successfully coordinating resilience efforts across different federal, state, regional and local, civil and military bodies can be challenging. Ensuring the balance is critical to facilitate successful interoperability at the national level. For example, military involvement in civilian affairs should always be balanced with security and civil liberties, while civilian oversight of the military should be ensured. While different laws governing military and civilian operations exist, they must be reconciled. These integrated efforts must comply with legal and regulatory frameworks.

In this lesson learners will explore how different institutions' unique resources, expertise and capabilities can be used to address various aspects of resilience, and how the effective sharing of resilience roles and responsibilities can reduce the risk of systemic failure. Learners will learn about best practices in facilitating civil-military interoperability through the establishment of standardised procedures, communication protocols, interoperable equipment, and clear lines of authority.

Learning Objectives

Learners will be able to:

1) Understand the importance of government entities' shared roles and responsibilities in integrated resilience efforts.
2) Demonstrate the functional benefits of distributed roles and responsibilities.
3) Recognise and address challenges of integrated implementation in the context of resilience.

Issues to Consider in Designing the Lesson

1) Differing approaches and institutional settings may hinder effective resilience implementation.
2) Lack of consensus on cross-sectoral priorities and distribution of roles may complicate resilience efforts.
3) Lessons learned may not be applicable to all national contexts and unique national approaches need to be considered.

Potential Questions

1) Why should coordination be required when there are clearly defined leadership roles and capacities?
2) Establishing standardised procedures, communication protocols, interoperable equipment, and clear lines of authority requires a lot of effort and coordination, i.e. who will be responsible for it given limited personnel and capacity within government agencies?
3) What if consensus on shared roles and responsibilities is not reached? Who makes the ultimate decision?

Learning Methods/Assessment

1) Teaching delivery may include lectures by subject matter experts (SMEs), seminars, and classroom discussions.
2) Learners could be assessed through participation and discussion in joint exercises, debates, and briefs.

Core Readings

1) Aldrich, D. P. (2012). Building resilience: Social capital in post-disaster recovery. University of Chicago Press.
2) MSB. (2023). Building resilience for the future – Lessons from Ukraine. Retrieved from https://www.msb.se/en/news/2023/september/new-report-building-resilience-for-the-future--lessons-from-ukraine/

3) OECD. (2019). Resilience strategies and approaches to contain systematic threats. Retrieved from https://www.oecd.org/naec/averting-systemic-collapse/SG-NAEC(2019)5_Resilience_strategies.pdf
4) Reznikova, O. (2022). National resilience in a changing security environment. Retrieved from https://www.marshallcenter.org/en/publications/books/national-resilience
5) UK Government. (2022). The UK government resilience framework. Retrieved from https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1131163/UKG_Resilience_Framework_FINAL_v2.pdf

Emerging & Disruptive Technologies (EDTs)

Technologies such as artificial intelligence (AI), autonomous systems and quantum technologies are changing the world. These and other emerging and disruptive technologies (EDTs) present both risks and opportunities for countries and their resilience strategies and enable governments to create more effective offensive and defensive capabilities. EDTs can alter the character of conflict, impair decision-making, increase information threats within societies, and undermine democratic processes and principles. The People's Republic of China (PRC) is emerging as a powerhouse across a range of emerging technologies, and Chinese leaders recognise today's technological revolution as a critical, even historic, opportunity to achieve strategic advantage. The PRC has closely examined advanced military approaches to warfare, applying lessons learned to its own military modernisation in seeking to catch up, while also looking for opportunities to pursue asymmetric capabilities or attempt to achieve advantage to overtake others.

Reference

Kania, E. B. (2019). Minds at War: China's Pursuit of Military Advantage through Cognitive Science and Biotechnology. *PRISM*, 8(3), 82-101. https://www.jstor.org/stable/26864278

Lesson 2.2.3: Whole of Government-Led Strategic Planning for Resilience

Description

Strategic resilience planning is a process by which governmental institutions can identify and prepare for potential disruptions to their operations, whether those disruptions come from natural disasters, cyber-attacks, armed conflict, or other sources. This lesson introduces learners to how strategic resilience planning can ensure that government agencies can continue providing essential services in the face of unexpected challenges.

By completing this lesson learners will understand that governmental institutions must identify risks and vulnerabilities, develop resilience strategies based on an all-hazards approach, incorporate them into operations by adapting policies, allocating resources, adapting the infrastructure, and continuously monitoring and evaluating for effectiveness. The vignette demonstrates the practical approach to strategic resilience planning whose elements can be adapted and applied to their national contexts.

Learning Objectives

Learners will be able to:

1) Understand governmental strategic resilience planning process, including through identification of different stages.
2) Identify the role of individual government entities in implementing resilience.
3) Learn how resilience planning can ensure the continuity of essential government functions.

Issues to Consider in Designing the Lesson

1) Access to resilience planning documents may not be readily available.
2) Lack of trust and transparency between government agencies may hinder resilience planning.

Possible Questions

1) Why is it important to apply a whole-of-government approach to the national resilience planning process?
2) How can government institutions be prepared for an all-hazards approach?
3) Which government functions and services should be considered as essential?

4) What are the major challenges that may hinder resilience planning?

Learning Methods/Assessment

1) Teaching delivery may include lectures by subject matter experts (SMEs), seminars, classroom discussions, table top exercises, and wargames.
2) Learners could be assessed through participation and discussion in joint exercises, debates, and briefs.

Core Readings

1) Angus, S., & Hansom, J. D. (2021). Enhancing the resilience of high-vulnerability, low-elevation coastal zones. *Ocean & Coastal Management*, 200, 105414. https://www.sciencedirect.com/science/article/abs/pii/S0964569120303215
2) Bynner, C., McBride, M., & Weakley, S. (2022). The COVID-19 pandemic: The essential role of the voluntary sector in emergency response and resilience planning. *Voluntary Sector Review*, 13(1), 167-175. https://bristoluniversitypressdigital.com/view/journals/vsr/13/1/article-p167.xml
3) Critical Infrastructure Resilience Institute. (2024). Conducting research and education to enhance the resiliency of the nation's critical infrastructures. Retrieved from https://ciri.illinois.edu/
4) European Commission. (2024). Directive on the resilience of critical entities. Retrieved from https://home-affairs.ec.europa.eu/policies/internal-security/counter-terrorism-and-radicalisation/protection/critical-infrastructure-resilience_en

Infrastructure Resilience Planning Framework (IRPF)

The U.S. National Defense University's College of International Security Affairs (CISA) developed the Infrastructure Resilience Planning Framework (IRPF) to provide an approach for local administrations, regions, and the private sector to work together to plan for the security and resilience of critical infrastructure services in the face of multiple threats and changes. The primary audience for the IRPF is state, local, tribal, and territorial governments and associated regional organisations; however, the IRPF can be flexibly employed by any organisation seeking to enhance their resilience planning. It provides resources for integrating critical infrastructure into planning and a framework for working regionally and across systems and jurisdictions.

Reference

Cybersecurity and Infrastructure Security Agency (CISA). (2023). Infrastructure resilience planning framework (IRPF). Retrieved from https://www.cisa.gov/resources-tools/resources/infrastructure-resilience-planning-framework-irpf

Module 2.3: Multinational Approaches to Resilience

Description

The increasingly evolving and complex security environment characterised by numerous global challenges, such as conflicts, climate change, mass movement of people, and particularly the COVID-19 pandemic, have demonstrated the vulnerabilities of today's deeply interconnected world. In this context, international governmental and non-government organisations can play a prominent role in providing instruments and frameworks to support domestic actions and multinational approaches to promote common solutions to address transnational challenges. Strengthening resilience on national and international levels requires a common understanding of global challenges and lessons learned from various multinational approaches.

Learning Objectives

Learners will be able to:

1) Demonstrate an awareness of global and regional challenges to local contexts in resilience efforts.
2) Learn about international, in comparison to intra-governmental, organisations' approaches to resilience-building efforts.
3) Examine the impact of strategic context on resilience planning and integration.

Lesson 2.3.1: International Organisations

Description

This module introduces different approaches to resilience by four international intergovernmental/supranational organisations: The North Atlantic Treaty Organisation (NATO), European Union (EU), United Nations (UN), and the Organisation for Economic Co-operation and Development (OECD). It also addresses collaborative approaches applied by international non-governmental organisations (NGO).

NATO approaches resilience through civil preparedness. NATO has identified three core functions of civil preparedness: 1) Continuity of government, 2) Continuity of essential services to the population, and 3) Civil support to the military. These critical specifications have been translated into seven baseline requirements for national resilience against which Allies can measure their levels of preparedness. For NATO, resilience is a national responsibility and a collective commitment and a critical enabler for the Alliance's collective deterrence and defence.

The **EU** has initially focused on resilience in the context of Europe's economic growth and markets. Responding to an increasingly connected, contested, and complex global environment, the EU's approach to resilience has undergone a significant expansion to encompass multiple domains such as social, economic, geopolitical, green and digital as well as a range of focus areas, including health, disaster response, cyber, defence, energy, and critical infrastructure protection.

The **UN** integrates resilience across its three key pillars: development, human rights, and peace and security. Resilience has been recognised as a unifying theme in global policies and frameworks aimed at advancing the implementation of the 2030 Agenda for Sustainable Development. To support this agenda, the UN Common Guidance on Helping Build Resilient Societies (2020) provides an analytical framework for resilience-building efforts at global, regional, national, and local levels, addressing all types of hazards and risks. For the UN, fostering resilience lies at the heart of all development initiatives.

The **OECD** applies the principle of resilience to counter various emerging threats to economic growth and social prosperity. Its approach to economic resilience provides a dataset of more than 70 vulnerability indicators to monitor and assess country risks in OECD economies.

OECD views resilience as an enabler for private sector market competition.

International organisations provide nations with a range of often complementary tools to leverage emerging opportunities and minimise vulnerabilities in building their resilience. While NATO's military efforts to defend the Alliance rely on a robust civil preparedness, the EU, UN, and OECD resilience efforts tend to reflect each of these organisations' distinct mandates, resulting in a multi-sectoral, development and economic focus respectively. International organisations are placing higher emphasis on nations' ability to adapt to emerging challenges by moving towards more comprehensive approaches and by placing a higher emphasis on societal resilience.

Learning Objectives

Learners will be able to:

1) Understand international contexts and organisations with regards to resilience.
2) Identify various approaches to resilience-building among international organisations.
3) Analyse the roles, responsibilities, and vulnerabilities of different international organisations in the area of resilience.

Issues to Consider in Designing the Lesson

1) Differing views on the importance of international/supranational actors and their roles.
2) Lack of awareness about national vulnerabilities as a problem that may be exploited by malign actors on an international level.
3) Debate over national vs. international interests, rules, norms, etc.
4) Accessibility and sharing of information on resilience efforts.

Possible Questions

1) How applicable are international organisations' approaches to local contexts?
2) To what extent should nations follow non-binding guidance from international organisations?

Learning Methods/Assessment

1) Teaching delivery may include lectures by subject matter experts (SMEs), seminars, and classroom discussions.
2) Learners could be assessed through participation and discussion in joint exercises, debates, and briefs.

Core Readings

1) North Atlantic Treaty Organisation (NATO). (n.d.). Resilience, civil preparedness and Article 3. Retrieved from https://www.nato.int/cps/en/natohq/topics_132722.htm
2) European Union (EU). (n.d.). How the EU responds to crises and builds resilience. Retrieved from https://www.consilium.europa.eu/en/policies/eu-crisis-response-resilience/
3) United Nations (UN). (2021). UN common guidance on helping build resilient societies. Retrieved from https://unsdg.un.org/sites/default/files/2021-09/UN-Resilience-Guidance-Final-Sept.pdf
4) Organisation for Economic Co-operation and Development (OECD). (2014). Recommendation of the Council on the governance of critical risks. Retrieved from https://www.oecd.org/gov/risk/recommendation-on-governance-of-critical-risks.htm

NATO-EU Staff-to-Staff Task Force on the Resilience of Critical Infrastructure

In light of the growing assertiveness of strategic competitors and the increasing complexity of security threats, ensuring the resilience of infrastructure which is critical to both NATO Allies and EU Members constitutes an important element of the strategic partnership and cooperation between the two organisations. The task force aimed to strengthen critical infrastructure protection cooperation between the two organisations, by assessing the current security context characterised by a heightened level of risk accross four key sectors (energy, transport, digital infrastructure, and space), as well as by highlighting cross-sectoral considerations. The cooperation between NATO and the EU contributes towards making critical infrastructure, technology, and supply chains more resilient in the face of continuously evolving threats and risks.

References

The EU-NATO Final Assessment Report. (2024). Retrieved from https://europa.eu/EU-NATO_Final_Assessment_Report_Digital.pdf

Organisation for Economic Co-operation and Development (OECD). (2020). Good governance for critical infrastructure resilience. Retrieved from https://www.oecd.org/gov/good-governance-for-critical-infrastructure-resilience-02f0e5a0-en.htm

United Nations. (2020). Making critical infrastructure resilient: Ensuring continuity of service. United Nations Office for Disaster Risk Reduction. Retrieved from https://www.undrr.org/publication/making-critical-infrastructure-resilient-ensuring-continuity-service

Lesson 2.3.2: Regional Frameworks and Approaches

Description

Regional frameworks and approaches to resilience are strategies developed and implemented at regional level to enhance resilience in the face of various challenges. These frameworks and approaches are often developed by regional governments, and intergovernmental or non-governmental organisations. Regional frameworks and approaches to resilience require collaboration among various regional stakeholders, including government agencies, private sector organisations, and community groups. They involve conducting a risk assessment to identify potential hazards and vulnerabilities and developing plans and preparedness measures to mitigate the impact of potential disruptions. Capacity building, monitoring and evaluation are essential for regional resilience efforts, and demonstrate how, by working together and taking a comprehensive approach, regional actors can better prepare for and respond to disruptions, ultimately enhancing the resilience of a region.

Learning Objectives

Learners will be able to:

1) Understand the role of regional frameworks and approaches in resilience-building efforts.
2) Identify best practices among regional approaches to resilience.
3) Develop new ideas for regional approaches for resilience efforts.

Issues to Consider in Designing the Lesson

1) Lack of transparency, trust, consensus, and accountability may impact regional resilience.
2) Debate over regional vs national interests, rules, norms, and priorities.
3) Different governance systems (types) may have different approaches/perspectives on what constitutes a regional framework.

Potential Questions

1) How would you describe regional approaches in your area of work? Do you have any?
2) How would you address potential differences between regional vs national interests and frameworks for building resilience?
3) How would you integrate examples from other regional approaches in your context?

Learning Methods/Assessment

1) Delivery may include lectures by subject matter experts (SMEs), seminars, classroom discussions and table top exercises.
2) Learners could be assessed through participation and discussion in joint exercises, debates, and briefs.

Core Readings

1) Environmental Protection Agency. (2019). Regional resilience toolkit: 5 Steps to build large scale resilience to natural disasters. Retrieved from https://www.epa.gov/sites/default/files/2019-07/documents/regional_resilience_toolkit.pdf
2) Hu, X., & Hassink, R. (2020). Adaptation, adaptability and regional economic resilience: A conceptual framework. In Handbook on regional economic resilience (pp. 54-68).
3) International Organisation for Migration. (2019). Climate change and migration in vulnerable countries. Retrieved from https://publications.iom.int/system/files/pdf/climate_change_and_migration_in_vulnerable_countries.pdf
4) Republic of Austria/Federal Ministry of Defence. (2024). The war in Ukraine and resilience in South East Europe: From Democratic Consolidation to Security. ISBN 978-3-903359-84-0
5) Väätänen, V. (2021). Securing anticipatory geographies: Finland's Arctic strategy and the geopolitics of international competitiveness. Geopolitics, 26(2), 615-638.

The Arctic

The Arctic's commercial and military significance has increased considerably making it a sphere of strategic competition. Consequently, a number of countries with varying distances from the Arctic Circle have adopted strategy papers identifying their goals and priorities with regard to the northern region (e.g. U.S., China, Russia, Canada, Norway, Finland, Germany, Denmark, and others). In addition, the EU has updated its Arctic Policy (2021) aimed at preserving the Arctic as a region of peaceful cooperation. This demonstrates a regional approach to resilience-building efforts.

Reference

Hersman, R., Brewer, E., & Simon, M. (2021). Strategic stability and competition in the Arctic. Center for Strategic & International Studies. Retrieved from https://csis.org/deep-dive/debrief-strategic-stability-and-competition-arctic

Climate Change

As the reference examples below demonstrate, individual and societal groups are better positioned to engage in disaster prevention, mitigation, preparedness, response and recovery when they understand the risks they face, are involved in decision-making, and have accessible means to pursue adaptation, preparation, and resilience-building measures.

References

Gavin, M. (2022). Climate change and regional instability in the Horn of Africa. Council on Foreign Relations (CFR). Retrieved from https://www.cfr.org/climate-change-and-regional-instability-horn-africa

Melina, G., & Santoro, M. (2021). Enhancing resilience to climate change in the Maldives. International Monetary Fund (IMF). Retrieved from https://www.imf.org/en/Publications/WP/Issues/2021/04/23/Enhancing-Resilience-to-Climate-Change-in-the-Maldives-50293

Theme 3: A Whole-of-Society Approach: Who Are the Actors and Why Do they Matter to National Resilience

Aim

The aim of this theme is to provide a broad overview of societal resilience as an integral component of national resilience, and by extension of national defence and security, by focusing on the whole-of-society approach to building resilience.

Goal

The goal is to highlight the importance of societal resilience by demonstrating the connections and interdependencies between the civil society and the national defence and security sector. For the purposes of this reference curriculum, the whole-of-society approach includes governmental authorities, both civilian and military, the private sector and civil society, with civil society referring to societal actors other than the government and military. Throughout this theme, learners will explore the contribution of civil society to deterrence, containment, and defence. This theme will provide learners with the tools to understand and analyse the complexities of building, sustaining and enhancing societal resilience.

Learning Objectives

Learners will be able to:

1) Describe and explain societal resilience.
2) Understand why societal resilience is an integral component of national resilience, security and defence.
3) Distinguish between the whole-of-society and the whole-of-government approaches to national resilience.
4) Demonstrate how gender, ethnicity, race, and other equity concerns are always implicated in efforts to build, sustain, and enhance societal resilience.
5) Identify how different challenges may impact societal resilience and the effectiveness of the whole-of-society approach.

Module 3.1: The Concept of Societal Resilience

Description

This module introduces the concept of societal resilience as a constituent part of national resilience. It demonstrates the importance of societal resilience by highlighting the roles played by individuals, communities, NGOs, the private sector, media and the society as a whole in national resilience, defence and security. It also explores why societal resilience is required for a nation to effectively respond to all types of challenges and threats, from climate change disruptions to global health issues, pandemics, information threats, and war. This module highlights why a joined and coordinated approach is needed not only across a national government as outlined in Theme 2 but across the whole of society. This module discusses top-down and bottom-up efforts to promote societal resilience.

Learning Objectives

Learners will be able to:

1) Define the concept of societal resilience.
2) Explain the key elements of societal resilience including its structures, resources, procedures, and mechanisms.
3) Understand the role of civil society actors in resilience.
4) Demonstrate awareness of public-private resilience interdependencies.

Lesson 3.1.1: Foundations of Societal Resilience

Description

Societal resilience refers to a society's proactive nature, preparedness, and willingness of people to act in critical situations, withstand shocks and disruptions, recover, adapt, and continue their lives. The way that government entities engage and coordinate resilience efforts with the rest of the population impacts the development of resilient social infrastructure, and it influences the mindset of society and its readiness to act. Therefore, resilience in this context can be described as a dynamic, relational, spatial, and political concept.

Societal resilience is crucial in the security sector as, in times of crisis and conflict, nations might need to draw upon all elements of society for civil preparedness, crisis management, and response. Military and defence sectors depend on the support and capabilities from civil society to fulfil their tasks. During conflict, one combatant can be supported by as many as ten civilians. The resilient mindset seen during crises is developed during peacetime, making societal resilience an ongoing social effort that evolves with the context.

Key factors contributing to societal resilience include:

1) Shared perception of security threats within society;
2) Emergency response and civil preparedness skills of the entire society;
3) Culture, collective memory, and past crisis experiences;
4) Socio-economic well-being, social cohesion and equality (race, gender, sexual orientation, etc.), access to services, trust in state institutions, quality of governance;
5) Secure information and communication environments, clear and consistent communication, and positive narrative construction;
6) Professional and independent media, quality journalism;
7) High levels of media and information literacy;
8) Effective communication before, during, and after crises.

Resilience is not reducible to resistance though the two are connected. Societal resilience encompasses the ability to face challenges, whereas resistance focuses on individual's actions during conflict, particularly in areas involving the defence and security sector. Higher

societal resilience is typically associated with stronger national resilience and resistance.

Learning Objectives

Learners will be able to:

1) Define what societal resilience is.
2) Understand why societal resilience is relevant to the security and defence sector.
3) Identify key factors that contribute to societal resilience.
4) Distinguish between societal resilience and resistance.

Issues for Consideration in Designing the Lesson

1) The lesson should reflect how variation among countries, including social, ethnic, political, historical, and cultural differences have an impact on how societal resilience is fostered and maintained.

Potential Questions

1) Why do armed forces need to consider societal resilience factors when developing their defence capacities, capabilities, and plans?
2) Which national strategic documents and programmes address national societal resilience issues?
3) Why is the concept of societal resilience considered an evolving concept, i.e. a concept in the making?
4) How are societal resilience issues addressed in your country?

Learning Methods/Assessment

1) Lessons can use a variety of learning methodologies, including lectures, case studies, group discussions, and simulations.
2) Lessons can also include opportunities for learners to apply their learning through hands-on activities such as table-top exercises, wargames etc.

Core Readings

1) Caves, B., et al. (2021). Enhancing Defence's contribution to societal resilience in the UK: Lessons from international approaches. RAND Corporation. Retrieved from https://www.rand.org/pubs/research_reports/RRA1113-1.html
2) Forward Defense. (2023). PRISM Vol. 10, No. 2. National Defence University. Retrieved from https://ndupress.ndu.edu/PRISM/PRISM-10-2/
3) Keck, M., & Sakdapolrak, P. (2013). What is social resilience? Lessons learned and ways forward. *Erdkunde*, 67(1), 5-19.
4) NATO and Societal Resilience: All Hands on Deck in an Age of War, (2022). Retrieved from https://www.gmfus.org/news/nato-and-societal-resilience-all-hands-deck-age-war
5) Teperik, D., Denisa-Liepniece, S., Bankauskaitė, D., & Kullamaa, K. (2022). Resilience Against Disinformation: A New Baltic Way to Follow? Retrieved from https://icds.ee/en/resilience-against-disinformation-a-new-baltic-way-to-follow/

Societal and National Resilience in Ukraine's National Resilience System and Action Plan

Societal resilience is strongly embedded in the Concept of Ensuring the National Resilience System and the Action Plan adopted by Ukraine in 2021 and 2023 respectively. Both documents focus on implementing the national resilience system at national, regional, and local levels in Ukraine. Also, they address the enhancement of individual, community, organisational, and societal resilience. These documents define the purpose, basic principles, directions, mechanisms, and conditions for the implementation and functioning of the national resilience system.

Moreover, these documents outline the role of society in building societal and national resilience and identify the measures (conditions) that both impact and cultivate societal resilience. They provide space for examining how Ukraine interprets the role of culture, education, and information in (societal) resilience building as well as other elements important for a culture of readiness.

References

"On the Implementation of the National Resilience System" Decision of the National Security and Defence Council of Ukraine dated August 20, 2021. DECREE OF THE PRESIDENT OF UKRAINE No. 479/2021 – From the official website of the President of Ukraine. УКАЗ ПРЕЗИДЕНТА УКРАЇНИ №479/2021 – Офіційне інтернет-представництво Президента України: https://www.president.gov.ua/documents/4792021-40181?fbclid=IwAR07cWljvLHi4tiFPjZmcgArEY2Bto2oXS8yRiq0G-Yn4MaGT2h3JW9bh4k

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Resilience Reference Curriculum Writing Team Workshop, Vienna, February 2024.

Lesson 3.1.2: Elements of Societal Resilience

Description

This lesson addresses the elements of societal resilience: the structure of communities, the resources available to those communities, and the procedures and mechanisms they use to prepare for, resist, respond to, and quickly recover from shocks and disruptions.

Structures refer to formal and informal links between members of society. These links are inherent to community organisations, state and non-state entities such as city, regional, and national authorities, schools, and interest groups. The relationship between individuals, local, regional and national organisations, businesses, civic organisations, and government/state authorities is a dynamic one shaped by national and regional history and traditions. For example, in some societies, the government may play a stronger role in areas such as employment and provision of services like education and healthcare. In other societies, the government has a more limited role because of resources or traditions.

Resources include financial, natural resources, and human capital. The availability and distribution of resources in a society will impact societal resilience. Resource inequality along class, race, gender and other community markers can lead to societal divisions and tensions that external actors may exploit. Moreover, these deficiencies may present challenges for attaining military and security objectives.

Procedures and mechanisms are formal and informal. Formalised procedures and mechanisms include laws, government agencies and programmes designed to address challenges to national resilience. Informal procedures include customs and traditions that shape the interactions between individuals and groups. Procedures and mechanisms are taught and known to members of society in advance so that individuals, organisations, companies, and government entities know how to prepare for, resist, respond to, and quickly recover from shocks and disruptions.

All three elements of societal resilience are interrelated and complement each other, including to create **social cohesion** that is further discussed in Lesson 3.3.1. When structures are in place but resources are scarce, society cannot effectively respond to a threat. Likewise, even if there are established procedures for a given challenge, but they are weak or poorly resourced, society will not be able to implement them. For society to be highly resilient and cohesive, all three elements must be in place.

Learning Objectives

Learners will be able to:

1) Identify each of the three elements of societal resilience and be able to provide examples from their own countries and abroad.
2) Understand the inter-relationships between these three different elements.
3) Understand how the three elements might impact a country's ability to respond to shocks and disruptions, and by extension impact the ability of national armed forces to perform their duties.

Issues for Consideration in Designing the Lesson

1) Every society has a different "resilience profile" concerning elements of resilience. Some societies may have abundant resources but weak structures, while other societies will demonstrate robust structures and procedures with fewer resources.
2) Despite this variations among and within societies, policy makers, citizens, and leaders can bring the three elements into balance.
3) While the distribution of these resources is mostly outside the security and defence sector's control, strategic awareness of how these factors influence societal resilience is important for security sector leaders to include in their assumptions and planning.

Potential Questions

1) What are the structures, resources, and procedures addressing societal resilience in your society?
2) Which element(s) contribute most to societal resilience and why?
3) What might influence the elements of societal resilience in your country?

Learning Methods/Assessment

1) Teaching delivery may include lectures by subject matter experts (SMEs), seminars, demonstrations, exercises and classroom simulations.
2) Assessment might occur through evaluating learners' participation and discussion in joint reading exercises, debates, and briefs. This could include writing an essay on the elements of societal resilience and/or preparing a presentation on the elements of societal resilience in the learner's country or other

countries. Learners could also be assessed through a group exercise, where they will be divided into three groups, each having two elements but lacking the third. Groups will be asked to identify strengths and shortcomings of the resulting societal resilience and compare these across the groups.

Core Readings

1) Bodas, M., Peleg, K., Stolero, N., & Adini, B. (2022). Understanding Societal Resilience – Cross-Sectional Study in Eight Countries. Front. Public Health.
2) Dagdeviren, H., Capucha, L., Calado, A., Donoghue, M., & Estêvão, P. (2020). Structural Foundations of Social Resilience. *Social Policy and Society*, 19(4), 539-552.
3) Frigotto, M.L., Young, M., & Pinheiro, R. (2022). Resilience in Organisations and Societies: The State of the Art and Three Organizing Principles for Moving Forward. In Towards Resilient Organisations and Societies. Palgrave Macmillan, Cham.
4) Parker, J. (2019). Emergency Preparedness through Community Cohesion: An Integral Approach to Resilience. Routledge.
5) Young, M. (eds.) (2022). Towards Resilient Organisations and Societies. Palgrave Macmillan, Cham. Anholt, R., et al. (2021). Understanding Societal Resilience: The Case for Engaged Scholarship. In M. Ungar (ed.), Multisystemic Resilience: Adaptation and Transformation in Contexts of Change. Oxford Academic.

The Evolution of Societal Resilience Elements in Ukraine

Although Ukraine does not have a story of long-standing state-society collaboration in enhancing national resilience interests, it has a story of an extraordinary evolution of civil society resilience, which is also starting to show clear signs of state-society collaboration. From the Orange Revolution to the Euromaidan to the 2022 resistance to Russia's full-scale invasion, the Ukrainian society stepped up, displaying their disagreement with the abuses of the state, compensating for its shortcomings and supporting national response to the war.

In particular, Ukraine's response to Russia's war of aggression demonstrates the results of the evolution of different elements of societal resilience and of how they come together. Historically, Ukraine had governmental procedures and mechanisms that were mainly vertically coordinated and rather informal.

However, in response to years of external and internal pressures and changes, the Ukrainian society and government were able to respond to Russia's full-scale invasion, by preventing the Ukrainian government and social structures from collapsing, contrary to what many observers, both in Russia and around the world, expected.

This evolution continues to be shaped by the formalisation of a unified national approach to resilience, which aims to develop resilience structures, procedures and resources. To this end, Ukraine adopted the Concept of Ensuring the National Resilience System (2021) and the Action Plan (2023). For more information see the vignette in Lesson 3.1.1.

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Kudlenko, A. (2023). Roots of Ukrainian resilience and the agency of Ukrainian society before and after Russia's full-scale invasion. *Contemporary Security Policy*, 44(4), 513-529. https://doi.org/10.1080/13523260.2023.2258620

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Lesson 3.1.3: Role of Civil Society in Resilience

Description

This lesson addresses the roles of civil society in national resilience. In particular, it considers the role of individuals and NGOs in supplementing and supporting emergency services, security and defence forces and in serving as interlocutors with segments of the population. The role of the private sector is addressed separately in Lesson 3.1.4.

Civil society is considered a key component and resource for crisis management and response. However, it could also be seen as the most vulnerable element of a nation and a the most directly affected by a crisis or conflict if not properly developed and resourced. The preparedness of the civil society is essential to developing an effective societal and national resilience. To varying degrees, many national governments incentivise and empower individuals for self-preparedness or self-sufficiency. This could include an individual's involvement in national crisis management and preparedness mechanisms through volunteering opportunities in defence and security organisations, setting up personal preparedness (emergency supplies, sheltering, civil defence and resistance training, etc.), learning first aid, understanding information threats and ways to counter it, maintaining personal cyber-security, or providing general support for the local/neighbourhood community.

Within international best practices, governments draw on NGOs as interlocutors to reach larger segments of the population and to implement the government's national resilience agenda in the civil society. NGOs likewise communicate the needs of specific societal groups back to the government and attempt to influence its decision-making and planning. The role of NGOs can be essential in national resilience efforts as they can provide organisational structures to support civil authorities and armed forces with specialist skills (logistics, radio communication, etc.), contribute trained volunteers to local authorities as extra personnel resources, provide crisis preparedness training and self-sufficiency education, offer spiritual services for religious communities, incorporate gender and minority perspectives into resilience efforts, or coordinate volunteers in times of crisis and conflict.

Learning Objectives

Learners will be able to:

1) Understand the rationale behind civil society supporting and supplementing government authorities in times of crisis and conflict.
2) Demonstrate the value of an individual's contributions to societal and national resilience.
3) Consider the role of NGOs and their functions in building national resilience.

Issues for Consideration in Designing the Lesson

1) Consider different national approaches to involving civil society in resilience-building efforts and why some countries involve their population to a much higher degree than others.
2) Recognise the scope required to support a nation-wide crisis response or defence efforts, why civil society's involvement might be necessary and beneficial, and why this might also require individuals to be self-sufficient for a period of time.
3) This lesson should include a discussion about the necessity for relationship-building between the military and civil society in peacetime.

Potential Questions

1) What are the appropriate roles for civil society to play across the peace, crisis, and conflict continuum?
2) How can governments enable and empower their civil societies to play these roles?
3) What are the advantages and drawbacks of having NGOs working on behalf of the government to increase societal resilience?
4) Why is civil society sometimes not seen as an integral part of crisis response or the defence and security effort?

Learning Methods/Assessment

1) Teaching delivery may include lectures by subject matter experts (SMEs) and case studies.
2) Learners could be assessed by preparing a presentation on how civil society contributed or contributes to specific sectoral resilience (see the example on floods in the references) followed by a group discussion on advantages and disadvantages of this approach.

Core Readings

1) Boulègue, M., Lutsevych, O., & Marin, A. (2018). "Civil Society Under Russia's Threat: Building Resilience in Ukraine, Belarus and Moldova." Chatham House, Research Paper. Retrieved from https://www.chathamhouse.org/2018/11/civil-society-under-russias-threat-building-resilience-ukraine-belarus-and-moldova-0-0

2) Forrest, S., Trell, E.-M., & Woltjer, J. (2018). "Civil Society Contributions to Local Level Flood Resilience: Before, during and after the 2015 Boxing Day Floods in the Upper Calder Valley." *Transactions of the Institute of British Geographers*, 44(2), 422-36. https://doi.org/10.1111/tran.12279

3) Izumi, T., & Shaw, R. (2011). "Roles of Civil Society in Climate and Disaster Resilience of Cities and Local Governments." In Shaw, R. & Sharma, A. (Eds.), *Climate and Disaster Resilience in Cities (Community, Environment and Disaster Risk Management*, Vol. 6), Emerald Group Publishing Limited, pp. 261-280. https://doi.org/10.1108/S2040-7262(2011)0000006019

4) Lawry, L. (2009). "Guide to Nongovernmental Organisations for the Military A primer for the military about private, voluntary, and nongovernmental organisations operating in humanitarian emergencies globally." Retrieved from https://apps.dtic.mil/sti/pdfs/ADA519436.pdf

5) O'Grady, N., & Shaw, D. (2023). "Resilience, responsibility and state abandon: The changing role of the government in emergencies." *Political Geography*, 100, 102796. https://doi.org/10.1016/j.polgeo.2022.102796

6) Teperik, D. (2018). "A Route to National Resilience – Building Whole-of-Society Security in Ukraine." Retrieved from https://icds.ee/en/a-route-to-national-resilience-building-whole-of-society-security-in-ukraine/

Nordic and Baltic Experiences in Building Societal Resilience with Civil Society

The Nordic and Baltic nations have a long-standing tradition of building societal resilience through a variety of means and approaches. Given their complex relationships with Russia, countries like Finland, Estonia, Latvia, and Lithuania employ a range of strategies to engage with their respective civil societies often in a way that is not common in other Western countries. These strategies focus on promoting collaboration among authorities, the private sector, and the rest of the society with the aim to build systems where every citizen plays a role in national resilience, security and defence. By reviewing the references, learners can compare and contrast two different approaches to engaging civil society and their roles.

References

Spruds, A., Aaltola, M., Kuznetsov, B., & Vizgunova, E. (2018). "Societal Security in the Baltic Sea Region: Expertise Mapping and Raising Policy Relevance." Latvian Institute of International Affairs. Retrieved from https://pure.spbu.ru/ws/portalfiles/portal/36894962/Societal_Security_in_the_BSR_2018.pdf#page=26

Bankauskaite, D., Berzins, J., Lawrence, T., Šlekys, D., Swaney, B., & Hammes, T.X. (2020). "Baltics Left of Bang: Comprehensive Defence in the Baltic States." Strategic Forum 307. Retrieved from https://ndupress.ndu.edu/Media/News/News-Article-View/Article/2393841/baltics-left-of-bang-comprehensive-defense-in-the-baltic-states/

Lesson 3.1.4: Public-Private Resilience Interdependencies

Description

The term "private sector" encompasses a diverse range of for-profit organisations across various industries and ownership structures. The private sector provides most of the essential services, and goods critical for the well-being of the population and the functioning of societies. By extension, it has key capabilities required to enhance societal resilience. As such, cooperation with the private sector is essential.

Differences in ownership structures, such as private versus public or majority locally-owned versus multinational, and corresponding motivations, expectations, and challenges can significantly impact how companies respond to public-private initiatives and projects. Private companies are for-profit organisations whose specific purpose is to produce profit for their owners. Any commitments that include resource allocation (financial or human) must be justified as beneficial for the company. Regulatory and legal frameworks must also be considered as the private sector usually cannot be tasked with, or held accountable for, public safety and security. Thus, a number of friction points might develop in the context of private companies contributing, or not contributing to the public good and societal resilience.

Increasingly, the private sector is also driven, at least in part, by ethical and social-corporate responsibilities. Private companies often work to play a constructive role in the communities in which they operate and are willing to contribute when feasible. Companies also have self-interest in the resilience of their operating environment making them inclined to participate in initiatives that enhance resilience more broadly. Therefore, a positive incentive for private companies to participate in and support social and national resilience efforts is critical.

Learning Objectives

Learners will be able to:

1) Understand the benefits of private-public cooperation for societal resilience.
2) Demonstrate awareness of limitations and challenges associated with private sector involvement in societal resilience.
3) Explain the various forms of private sector involvement in societal resilience efforts, including financial contributions, knowledge sharing, and resource allocation.

Issues for Consideration in Designing the Lesson

1) There are different models of public-private cooperation in societal resilience across industries and regions.
2) Legal, regulatory, and ethical issues vary by national context as do expectations of involved parties, especially in systems without formal frameworks.

Potential Questions

1) What are the primary motivations and challenges for private sector engagement in societal resilience initiatives?
2) What are the benefits of public-private cooperation in enhancing societal resilience?
3) Are there potential ethical conflicts between profit maximisation and contributing to societal wellbeing?
4) What are the various forms (financial contributions, knowledge sharing, and resource allocation) of private sector involvement in societal resilience efforts?

Learning Methods/Assessment

1) The lesson can use a variety of learning methodologies, including lectures, case studies, group discussions, and simulations.
2) The lesson can also include opportunities for learners to apply their learning through hands-on activities, by analysing case studies of private sector contributions to societal resilience and evaluate their effectiveness, or by constructing a proposal for a public-private partnership aimed at addressing a pressing societal resilience challenge.

Core Readings

1) Chandra, A., Moen, S., & Sellers, S. (2016). "What Role Does the Private Sector Have in Supporting Disaster Recovery, and What Challenges Does It Face in Doing So?" RAND Corporation, *Perspectives.* DOI: https://doi.org/10.7249/PE187
2) Chen, J., Chen, T. H., Vertinsky, I., Yumagulova, L., & Park, C. (2013). "Public-Private Partnerships

for Resilient Communities." *Journal of Contingencies & Crisis Management*, 21: 130-143. DOI: 10.1111/1468-5973.12021.

3) Fjäder, C. (2021). "Developing Partnerships for Building Resilience." In Eslamian, S. & Eslamian, F. (eds.), Handbook of Disaster Risk Reduction for Resilience. Springer, Cham. https://doi.org/10.1007/978-3-030-61278-8_12
4) Izumi, T., & Shaw, R. (2015). "Overview and Introduction of the Private Sector's Role in Disaster Management." In Izumi, T. & Shaw, R. (Eds.), "Disaster Management and Private Sectors – Challenges and Potentials." Springer, Tokyo.
5) UNISDR. (2013). "From Shared Risk to Shared Value: The Business Case for Disaster Risk Reduction – The 2013 Global Assessment Report on Disaster Risk Reduction." *International Journal of Disaster Resilience in the Built Environment*, 4(3), https://doi.org/10.1108/IJDRBE-06-2013-0020

Finland's Private-Public Collaboration on Security of Supply

In an era of growing disruptions, Finland's National Emergency Supply Agency (NESA) and grocery stores teamed up to create the "TOIMIVA" project, pioneering a public-private approach to securing a reliable network of shops and service stations nationwide.

This collaboration, recognised by the World Economic Forum for its impact, aims to ensure 95% of the population can access essential supplies even during emergencies. The case demonstrates how the public and private sectors can come together to address a common problem and create resilience through seamless collaboration.

Reference

World Economic Forum: The NESA among global pioneers in building a crisis-resistant shop network - Huoltovarmuuskeskus. (n.d.). https://www.huoltovarmuuskeskus.fi/en/a/world-economic-forum-the-nesa-among-global-pioneers-in-building-a-crisis-resistant-shop-network

Resilience Reference Curriculum Writing Team Workshop, Vienna, February 2024.

Module 3.2: Whole-of-Society Approach

Description

This module introduces learners to the whole-of-society approach to building and enhancing societal and by extension national resilience. A whole-of-society approach compliments and builds on the whole-of-government approach by engaging all actors across society from state agencies to private companies and civil society organisations. Integrating actors and agencies across individual, community, organisational, and societal levels results in more comprehensive and nuanced responses to challenges. The whole-of-society approach emphasises the shared roles and responsibilities of all actors particularly in the area of civil preparedness and civil defence. In the current strategic environment, a whole-of-society approach enhances traditional defence and is one of the central tenets of Total Defence.

Learning Objectives

Learners will be able to:

1) Understand the whole-of-society approach to building resilience.
2) Distinguish the whole-of-society approach from the whole-of-government approach.
3) Identify different levels, roles and responsibilities as well as implementation of the whole-of-society approach in a national security and defence context.

Lesson 3.2.1: Resilience at Individual, Community, Organisational, and Societal Levels

Description

This lesson complements Lesson 3.1.2 on structures, resources, procedures, and mechanisms of societal resilience by identifying and discussing the different levels at which we address resilience in a society and the factors influencing these levels.

At the individual level, behaviour is shaped by both positive factors like hope, high levels of preparedness and personal planning, a vision of the future, a sense of belonging, an individual's social capital, well-being, and a sense of self-realisation, as well as negative factors such as perceived threats and a sense of danger.

At the community level, societal resilience is influenced by a community's strength and interconnectedness, including social bonds, levels of trust among community members and groups, trust in local decision-makers, as well as knowledge and competencies of individual, group and local government roles and responsibilities.

At the organisational level, the focus is on developing internal resilience of an organisation and its ability to respond to shocks and disruptions. Simultaneously, organisations contribute positively to the geographically local communities they operate in, especially when they understand their institutional roles in crisis and in the defence and security context.

At the societal level, resilience is gauged in terms of the strength of national identity and solidarity, overall civil activism, legitimacy and effectiveness of state institutions, social cohesion, as well as shared optimism about the country's future.

For further insights on managing, sustaining, and assessing the levels of resilience, see Theme 4.

Learning Objectives

Learners will be able to:

1) Describe why the multiple levels of resilience (individual, community, organisational, and societal) are all necessary in a whole-of-society approach to resilience.
2) Identify and discuss the different factors influencing each of the levels of resilience.

3) Discuss how structures, resources, procedures, and mechanisms (Lesson 3.1.2) can undermine or strengthen resilience at different levels and how these might be managed, sustained, and assessed (Theme 4).

Issues for Consideration in Designing the Lesson

1) This lesson should include a discussion about the different factors influencing resilience at the individual, community, organisational, and societal levels within the framework of the whole-of-society approach.
2) Aggregating individual, community, and organisational resilience might not necessarily lead to a high societal resilience because, for example, resilience communities might be divided across ethnolinguistic lines and nationality.

Potential Questions

1) How do whole-of-society initiatives enhance and maintain societal resilience?
2) Explain how the different (individual, community, organisational, societal) levels impact societal resilience in your country.

Learning Methods/Assessment

1) Teaching delivery may include lectures by subject matter experts (SMEs) and seminars.
2) Learners could be assessed through a group exercise, in which they will identify strengths and shortcomings accross different levels in a given country and compare findings among groups.

Core Readings

1) Andersson, T., Caker, M., Tengblad, S., & Wickelgren, M. (2019). Building traits for organisational resilience through balancing organisational structure. *Scandinavian Journal of Management*, 35(1), 36-45. https://www.sciencedirect.com/science/article/pii/S0956522118301040
2) Christie, E.H., & Berzina, K. (2022). NATO and Societal Resilience: All Hands on Deck in an Age of War. Retrieved from https://www.gmfus.org/news/nato-and-societal-resilience-all-hands-deck-age-war
3) Forward Defense, National Defence University. (2023). PRISM Vol. 10., No. 2. Retrieved from https://ndupress.ndu.edu/PRISM/PRISM-10-2/
4) Jermalavičius, T., & Parmak, M. (2014). Societal Resilience: A Basis for Whole-of-Society Approach to National Security. In Resistance Views: Tartu Resistance Seminar Essays on Unconventional Warfare and Small State Resistance (pp. 23-47).
5) Michelon, L. (2023). Whole-of-Society Resilience – Report Summary. Retrieved from https://resiliencefirst.org/news/new-report-whole-society-resilience-whats-inside-and-why-your-action-matters

Factors Influencing Societal Resilience in Ukraine, Estonia, and Lithuania

A recent comparative study on resilience indicators during the war in Ukraine demonstrated similarities in the predictors of a high level of community and societal resilience in Ukraine, Estonia, and Lithuania. In particular, preserving hope among the population results in strong perceptions of the crisis management capacities of communities, among their residents, local and governmental authorities, and other organisations. On the other hand, lower levels of personal socio-economic well-being, higher sense of danger, and some psychological distress can negatively affect resilience-related perceptions of people. As many Ukrainians were admittedly unprepared for the full-scale invasion in 2022, their personal resilience suffered dramatically.

Reference

Kimhi S., Kaim A., Bankauskaite D., Băran M., Baran T., Eshel Y., Dumbadze S., Gabashvili M., Kaniasty K., Koubová A., Marciano H., Matkeviciene R., Teperik D., Adini B. (2023). A full-scale Russian invasion of Ukraine in 2022: Resilience and coping within and beyond Ukraine. *Applied psychology: Health and Well-being*, 1-19. https://www.semanticscholar.org/paper/A-full-scale-Russian-invasion-of-Ukraine-in-2022%3A-Kimhi-Kaim/9b9bce87f75c6431f34c56699f227e959189721a

Lesson 3.2.2: Societal Resilience in the Context of Civil Preparedness, Civil Defence and Civil Resistance

Description

This lesson highlights key tenets, structures and processes of civil preparedness, civil defence and civil resistance and how they contribute to societal resilience.

Civil preparedness, also known as civil emergency planning, encompasses all steps taken in peacetime to enable a nation to confront shocks or disruptions. It refers to the ability to sustain the functions vital to society, ensuring basic supply for the population, the state's capacity to act in a crisis and support for the armed forces. While most civil preparedness activities tend to be led and organised by the government, all segments of a society have a role to play. Relevant sectors, e.g., the health sector for pandemics, support provision of services, capabilities and reliable information, advocacy and raise awareness. Individual sectors and stakeholders therefore have a responsibility to put in place continuity of operations and preparedness arrangements.

Civil defence refers to the mobilisation, organisation, and direction of the civil population (generally non-combatants) designed to minimise the effects of hostile action against all aspects of civil life by passive measures. Its primary objective is to ensure civil protection measures during natural and man-made disasters and in conflict to funnel all of society's efforts into a common goal: ensure protection, aid recovery, and provide conditions for survival. Civil defence efforts entail a broad spectrum of activities ranging from warning and evacuation through decontamination and emergency sheltering to repairing critical public utilities. In peacetime, civil defence structures tend to support civil protection or emergency preparedness, which refer to activities undertaken by emergency services to protect populations, properties, infrastructure, and the environment from the consequences of natural and technological disasters and other emergencies.

Civil resistance refers to nonviolent tactics (e.g., appeals to the adversary, pressure or coercion) by ordinary people, who use them to challenge, or "resist", a particular oppressive power. Civil resistance can take the form of demonstrations, vigils, face-to-face as well as social media confrontations and parallel institutions. Although civil resistance can emerge independently, it can also be nurtured by the state through education and preparations for conflict. See Lessons 3.3.2 on Civil education and 3.3.3 on Self-organisation and the Vignette for a discussion about resistance in Ukraine.

Learning Objectives

1) Understand the difference between societal resilience, civil preparedness, civil defence, and civil resistance.
2) Explain how civil preparedness, defence and resistance contribute to societal resilience and by extension to national security, defence, and deterrence efforts.
3) Identify the roles and responsibilities of all societal stakeholders: the government, the military, the private sector, and civil society (population), in civil preparedness, civil defence and civil resistance efforts.

Issues for Consideration in Designing the Lesson

1) The instructor could lay out the evolution of national approaches to civil preparedness and civil defence from the Cold War through 1990s and 2000s to 2020s, especially following Russia's full-scale invasion of Ukraine in 2022.
2) Learners should discuss civil preparedness and civil defence in the context of national responsibilities vs. international commitments.
3) This lesson should include a discussion about the approaches of relevant international stakeholders and their work in the areas of civil preparedness and civil defence (United Nations, European Union, NATO, International Committee of the Red Cross, etc.)
4) This lesson should also involve a discussion about violent (guerrilla warfare) versus nonviolent (civil) resistance.

Potential Questions

1) What are the key conceptual differences between civil preparedness, defence and resistance?
2) Why do different countries include different roles, responsibilities, and structures within their national civil defence models?
3) Why should civil preparedness, defence and resistance be considered important parts of building societal resilience?
4) Why are some countries hesitant to prepare their populations for (civil) resistance, while others are not?

Learning Methods/Assessment

1) Teaching delivery may include lectures by subject matter experts (SMEs).
2) Learners could be assessed through participation in discussions and debates.

Core Readings

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8) World Health Organisation. (2009). Pandemic Influenza Preparedness and Response: A WHO Guidance Document. Geneva: World Health Organisation. Section 3, Roles and responsibilities in preparedness and response. Available from: https://www.ncbi.nlm.nih.gov/books/NBK143067/

Communicating Civil Preparedness to the Population

National governments take a variety of approaches to convey preparedness instructions to their populations, including through government websites, media communication campaigns, courses and trainings taught at schools or administered by NGOs. In particular, international best practice in this area has coalesced around the concept of "leaflets" or "brochures" that give individuals simple instructions on how to prepare themselves and what to expect and do in times of crisis and conflict.

The following examples of leaflets from Latvia, Lithuania, Singapore, and Sweden illustrate the kinds of topics and instructions that governments and individuals need to think about in terms of civil preparedness across the peace, crisis, and conflict spectrum.

References

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Singapore Civil Defence Force. (2021). Retrieved from https://www.scdf.gov.sg/home/community-volunteers/publications/emergency-handbook

Sweden (2024) The brochure In Case of Crisis or War. Retrieved from https://www.msb.se/en/advice-for-individuals/the-brochure-in-case-of-crisis-or-war/download-and-order-the-brochure-in-case-of-crisis-or-war/

Lesson 3.2.3: Societal Resilience in the Context of Traditional and Total Defence Models

Description

This lesson addresses the relationship between societal resilience, "traditional" defence, the Total/Comprehensive Defence, and deterrence concepts.

From a traditional (national) defence perspective, societal resilience represents the substantial dependence of national militaries on civil and commercial resources (transport, communication, infrastructure, economic output of a country during a crisis, etc.). In this sense, national security and defence have become deeply reliant on how resilient other parts of the society are. In many countries, traditional defence concepts do not actively include stakeholders other than the government and the military in planning, preparedness, training, exercises and defence activities.

In contrast, the Total/Comprehensive Defence concepts envisage a direct, and in certain cases mandatory, participation of civil society in defence and security activities. Societal resilience represents the ability of a nation to draw upon all elements of society in times of crises and conflict. Societal resilience is essential for a society's ability to continue to function and support the military in times of crisis. This includes the fullest possible range of stakeholders empowered to play their appropriate roles in national defence and security. The Total Defence concept seeks to remove barriers between the armed forces and the rest of the society, including within the government, to prepare the entire society for crisis and conflict.

High societal resilience contributes to a credible defence. In this context, societal resilience represents a key component of deterrence by denial: denying the success of an adversary's hostile action. By increasing the likelihood of an adversary failing to meet its intended military and non-military objectives, it raises the cost of aggression and makes it more unlikely.

Learning Objectives

Learners will be able to:

1) Understand the role of societal resilience in the context of "traditional defence".
2) Understand the role of societal resilience in the context of the Total/Comprehensive Defence.
3) Describe and explain the connection between societal resilience, deterrence by denial, and credible defence.

Issues for Consideration in Designing the Lesson

1) Some countries might not consider it appropriate for the broader society to be involved in emergency, crisis, or conflict responses. This influences how these countries view societal resilience and its role.
2) Involving non-military stakeholders in crisis and conflict exposes them to greater risks, and this might also make them parties to the conflict under international law.
3) There is no one-size-fits-all approach to building societal resilience in the context of defence.
4) In hybrid ("grey-zone") warfare, the transition period when the military moves from supporting civil society to being supported by civil society has become more complex.

Potential Questions

1) What are the differences between "traditional" and "Total Defence" approaches to societal resilience?
2) How does the overall level of national societal resilience relate to the concept and practice of deterrence?

Learning Methods/Assessment

1) Teaching delivery may include lectures by subject matter experts (SMEs) and seminars.
2) Assessment can be administered through an individual assignment, where learners are asked to analyse different national approaches to incorporating societal resilience in deterrence and defence. This can include a comparison between countries that have adopted the Total Defence concept (Norway, Sweden, Finland, Singapore, Taiwan, Lithuania, or Ukraine) and those that have not.
3) Assessment could also include a group discussion on the benefits and drawbacks of incorporating societal resilience into deterrence and defence efforts, especially from international law perspective.

Core Readings

1) Angstrom, J., & Ljungkvist, K. (2023). Unpacking the varying strategic logics of total defence. *Journal of Strategic Studies*. 1-25. DOI: https://doi.org/10.1080/01402390.2023.2260958
2) Berzina, I. (2020). From 'Total' to 'Comprehensive' National Defence: the Development of the Concept in Europe. Journal on Baltic Security, 6(2), 1-9. https://www.researchgate.net/publication/347621201_From_'total'_to_'comprehensive'_national_defence_the_development_of_the_concept_in_Europe
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5) RAND Europe. (2021). Enhancing Defence's Contribution to Societal Resilience in the UK. Retrieved from https://www.rand.org/content/dam/rand/pubs/research_reports/RRA1100/RRA1113-1/RAND_RRA1113-1.pdf
6) Fabian, S. (2020, June 10). Total defense, revisited: An unconventional solution to the problem of conventional forces. Modern War Institute. Retrieved from https://mwi.westpoint.edu/total-defense-revisited-unconventional-solution-problem-conventional-forces/

Exercising Total Defence across the Whole Society

The Total Defence 2020 exercise held by Sweden involved all elements of society: from Parliament through regional administrations to local municipalities; across government institutions, including the Central Bank; and throughout Sweden's corporate sector.

This and other similar exercises demonstrate the numerous linkages between broader society and defence and the need for societal resilience, especially in the context of Total Defence models.

Reference

Wheeler, G. (2020). Northern Composure: Initial Observations from Sweden's Total Defence 2020 Exercise. RUSI. Retrieved from https://rusi.org/explore-our-research/publications/commentary/northern-composure-initial-observations-swedens-total-defence-2020-exercise

Module 3.3: The Role of Democratic Governance in Resilience

Description

Building and maintaining legitimate, open, transparent, and accountable democratic institutions and processes that serve the needs and preferences of the public are key to strengthening societal resilience. This module explores how inclusivity, civic education, and good governance mechanisms, both formal/top-down and informal/bottom-up, contribute to societal resilience across the whole society and foster active public engagement and exchange. The Module highlights the importance of recognising vulnerabilities in democratic societies, such as slow decision-making processes and the risks of exploiting freedom of expression and transparency to create divisions. It also emphasises the need to develop mechanisms to shield these vulnerabilities from exploitation by adversaries. As such, this Module demonstrates how and why knowledge of, and trust in, democratic institutions and processes is key to societal resilience.

Learning Objectives

Learners will be able to:

1) Describe the key features of inclusivity, civic education, and good governance as they relate to societal resilience.
2) Identify mechanisms for soliciting and incorporating input from civil society, NGOs, and the private sector towards enhancing societal resilience.
3) Understand the centrality of democratic governance for successful and effective societal resilience efforts.

Lesson 3.3.1: The Role of Inclusivity in Societal Resilience

Description

This lesson is designed to explore the critical role of inclusivity and social cohesion in enhancing societal resilience. Societies face a myriad of challenges and their ability to adapt to and withstand these challenges is closely linked to social inclusivity and cohesion. Factors such as socio-economic, gender, cultural, and ethnic markers, along with organisational structures and foreign relations can either enhance or undermine societal resilience.

There are certain dimensions of social cohesion that provide insights into the linkage between social inclusion and resilience. These are:

1) Belonging versus Isolation of social ties;
2) Inclusion versus Exclusion ("otherness/othering") in resource allocation and access;
3) Participation versus Non-involvement in community-based activities;
4) Recognition versus Rejection of a plurality of values; and
5) Legitimacy versus Illegitimacy of societal norms.

Each of these factors can generate varied levels of civic participation and engagement. On the spectrum from disasters and crisis management to conflict, social cohesion is important at the preparatory level (pre-crisis/conflict) as much as during the crisis/conflict and at the recovery stage (post-crisis/conflict). At the preparatory level, socially resilient communities will demonstrate strong mechanisms of governance that operate with inclusive values. During the crisis/conflict, these mechanisms then enable the society to deal with shocks and disruptions, and in the post-crisis/conflict phase, social cohesion is assumed to positively influence a community's ability to rapidly recover. A comprehensive exploration in this Lesson will serve as a foundation for understanding the multifaceted relationship between inclusivity, social cohesion, and societal resilience, providing learners with the knowledge and tools necessary to contribute to the creation of more robust and adaptive communities.

Learning Objectives

Learners will be able to:

1) Understand the importance of inclusivity and social cohesion in governance structures,
2) Explain the mechanisms for fostering and maintaining social inclusion.
3) Describe how and why social divisions and inequalities present a challenge to societal resilience.

Issues for Consideration in Designing the Lesson

1) Consider how people living in areas that experience natural disasters, such as wildfires and floods respond to adversity, loss, and stress.
2) The role of the military in fostering social inclusion in a variety of resilience scenarios.
3) Cohesion exists in both abstract and physical senses, but it is also reactive and contextual. Consider what kinds of shocks bring communities together, versus those that can drive them apart.

Potential Questions

1) How do social cohesion, inclusion, and resilience interrelate?
2) What are some of the key dimensions of social cohesion and why are they important?

Learning Methods/Assessment

1) Teaching delivery may include lectures by subject matter experts (SMEs).
2) Assessment can be conducted through individual or group assignments, requiring learners to analyse various dimensions of social cohesion. They can also examine case studies showcasing the positive effects of inclusive decision-making on resilience.

Core Readings

1) Almedom, A. M. (2005). Resilience, hardiness, sense of coherence, and posttraumatic growth: All paths leading to "Light at the End of the Tunnel"? *Journal of Loss and Trauma*, 10(3), 253-265. DOI: 10.1080/15325020590928216
2) McCandless, E. (2020). 'Resilient Social Contracts and Peace: Towards a Needed Reconceptualization'. *Journal of Intervention and Statebuilding*, 14(1), 1-21. DOI: 10.1080/17502977.2019.1682925
3) Sonn, C., & Fisher, A. T. (1998). Sense of community: Community resilient responses to oppression and change. *Journal of Community Psychology*, 26(5), 457-472. DOI: 10.1002/(SICI)1520-6629(199809)26:5<457:AID-JCOP5>3.0.CO;2-O
4) Townshend, I., Awosoga, O., Kulig, J. et al. (2015). Social cohesion and resilience across communities that have experienced a disaster. *Natural Hazards*, 76, 913-938. DOI: 10.1007/s11069-014-1526-4
5) Uslaner, E. M. (2016). Disasters, trust, and social cohesion. *Ritsumeikan Language and Culture Study*, 28.2. DOI: https://www.ritsumei.ac.jp/acd/re/k-rsc/lcs/kiyou/pdf_28-1/RitsIILCS_28.1pp.183-191USLANER.pdf

See vignette 4.2.3. on community resilience highlighting the self-organising aspect of a community coming together to address a common problem and building resilience in the local ecosystem in a sustainable manner.

Lesson 3.3.2: The Role of Civic Education in Societal Resilience

Description

The public education sector plays a crucial, though often overlooked, role strengthening societal resilience in a whole-of-society approach to national defence. Civic education fosters and maintains individual and collective capacities as well as cultural values and democratic principles necessary for effective societal resilience. It integrates people into society, providing them with a sense of belonging around shared values, goals, and traditions. Education on core democratic values such as integrity, curiosity, creativity, reflexivity, respect for diversity, openness, self-reliance, communitarianism, advocacy, equity, human rights, respect for law and justice helps to promote relationship building and civic engagement. This lesson emphasises the importance of commitment to and safeguarding of those shared values and the democratic institutions that embody them. Teaching what has been called "honest and reflective patriotism" encourages active, responsible, and informed civic engagement rather than blind conformity or absolute loyalty. Honest and reflective patriotism emphasises sustained critique of the strength of, and challenges to, shared values and democratic institutions thereby contributing to a more inclusive and resilient society. This approach to civic education stands in a direct contrast to intrusive "social engineering" (psychological manipulation) or uncontrolled interventions in civil society, both of which can lead to far-reaching negative consequences.

Beyond a desire or willingness to actively and meaningfully contribute to national defence and security, individuals must be equipped with the necessary skills and knowledge to do so. Educational institutions should provide learners with training on emergency prevention, preparedness, and response in relation to environmental and ecological disasters and crises such as fire, floods, earthquakes, or power disruptions. Learners also learn critical thinking, communication, digital and media literacy skills that bolster individual, community, organisational and societal level resilience in relation to hybrid threats, cyber-attacks, and information threats campaigns. Outside of the formal education sphere but sometimes connected to it, many nations have organisations such as the scouts or joint civilian-military exercises that teach and reinforce survival skills, self-defence techniques, and public-military co-operation. Pedagogical approaches and programmes developed by educators have been adopted by NGOs and businesses to provide their members and/or employees with CPR training, emergency management models, problem-solving strategies, and opportunities for collaborative decision-making.

While education systems play a key role in strengthening societal resilience, there could be challenges to their effectiveness or purpose. For example, educational facilities and programmes might become targets of disinformation campaigns or recruitment sites for the radicalisation of disaffected and marginalised groups.

Learning Objectives

Learners will be able to:

1) Explain how civic education and training enhance democratic governance, social inclusion, and societal resilience.
2) Describe what critical thinking means in relation to societal resilience.
3) Discuss different civic education and training programmes – formal/informal and public/military – for their capacity to generate dialogue and learning between and among civil society, civil government, and the military.

Issues for Consideration in Designing the Lesson

1) Different countries have different views on whether societal resilience is enhanced through close(r) links between public education and military education sectors.
2) In addition to a common set of values held by all members of an international organisation like NATO, each country has its own specific set of cultural values.
3) The relationship between formal and informal education and training changes over time and across countries.

Potential Questions

1) The resilience of most national educational systems was severely tested and compromised by the COVID-19 pandemic. How can nation states improve the teaching of adaptability, inclusivity, and resilience in their educational systems?

2) What civic or democratic values, mindsets, knowledge, and skills were you taught as an adult learner within the military education system? How does this relate to what you learned in your public education system as an adult, young person, and child?

Learning Methods/Assessment

1) Teaching delivery may include lectures by subject matter experts (SMEs) and seminars.
2) Assessment can be administered through an individual or group assignment, where learners are asked to analyse different national approaches to building and maintaining societal and national resilience through civic education and training.

Core Readings

1) Hoggan-Kloubert, T., Brandi, U., Hodge, S., Knight, E., & Milana, M. (2023). Civic lifelong education: Fostering informed citizenship amidst global challenges and democratic transformations. *International Journal of Lifelong Education*, 42(4), 335-341. https://doi.org/10.1080/02601370.2023.2234133
2) Jermalavičius, T., & Parmak, M. (2014). Societal resilience: A basis for whole-of-society approach to national security. In Resistance Views: Tartu Resistance Seminar Essays on Unconventional Warfare and Small State Resistance (pp. 23-47). Retrieved from https://www.academia.edu/58559346
3) Kreija-Gaikste, S., & Katane, I. (2021). Multidimensional and multifunctional content of national defence training in Latvian schools. Research for Rural Development, 36, 337-343.
4) Lesenciuc, A., Nagy, D., & Lesenciuc, S. (2022). Between resilience through education and resilience through war. *Intercultural Education, Security Education*, 10(1), 25-31. Retrieved from https://www.afahc.ro/ro/rcic/2022
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6) Shea, J. (2022). NATO and climate change: Better late than never. The German Marshall Fund of the United States. Retrieved from https://www.gmfus.org/sites/default/files/2022-03/Shea%20-%20NATO%20climate%20-%20brief.pdf

Securing Public Education Systems from Hybrid Threats

In January 2024, Estonian authorities arrested a Russian academic at the University of Tartu on espionage charges. Professor of international political theory, Viacheslav Morozov taught Russia-EU relations at the university and published widely on Russian political identity and foreign policy. Estonian officials highlighted Russia's interest in infiltrating various aspects of Estonian life, including the academic sector, which teaches democratic and civic values. Morozov was later found guilty of espionage and sentenced by a court to more than six years in prison. This case highlights how external actors might target educational systems.

Consider the roles and responsibilities of political and educational authorities in protecting public education systems from hybrid threats, which might also include cyber-attacks, information threats, etc.

References

Gorzashko, S. (2024). Estonia arrests Russian professor suspected of spying for Moscow. *Politico*. Retrieved from https://www.politico.eu/article/russia-professor-arrested-estonia-suspected-espionage-tartu/

Ngendakumana, P. E. (2024). Estonia sentences Russian professor to six years in prison over espionage. *Politico*. Retrieved from https://www.politico.eu/article/estonian-sentences-russian-professor-vyacheslav-morozov-six-years-prison-over-espionage-moscow/

Lesson 3.3.3: The Role of Governance in Societal Resilience

Description

This lesson addresses the role of formal/top-down (i.e., legal frameworks, regulations, and standards) and informal/bottom-up (i.e., self-organisation) governance mechanisms applicable to societal resilience in the context of deterrence and defence. It also considers the impact of "good governance" on societal resilience.

In a formal/top-down approach, governments outline their vision for societal resilience in national and sectoral strategies and in corresponding laws and regulations. While such strategies set out a government's vision over a mid- to long-term period, laws, regulations, and standards address different phases and requirements for societal resilience. Key components of such laws focus on contingency planning, training, exercises, education, risk, and threat awareness within the public, and close cooperation with regional and local authorities, and NGOs and the private sector. These components provide a formal governance structure through which the government can involve the society, and, by extension, enable/empower them to play their appropriate role during peace, crisis, and conflict. In this context, a country's overall quality of formal governance, e.g., "good governance" is critical. Some of the governance-related factors, such as levels of corruption, societal trust, and high-quality political leadership would represent key indicators of a nation's and its society's ability to be resilient.

In contrast, a self-organisation/bottom-up approach represents an informal organisation and reaction of a civil society to shocks or disruptions. Through self-help, self-reliance, and self-organisation, groups and communities can respond to an emergency, crisis, or conflict by creating their own structure(s), by pooling resources and skills, and by executing necessary tasks, notably without government support, guidance, or involvement. Self-organisation draws on day-to-day interactions, previous experiences, relations with other actors, and learning established in peacetime or previous crises. Self-organising often represents the first response to an event, until a formal (government) response is initiated.

Learning Objectives

Learners will be able to:

1) Understand the difference between formal (top-down) and informal (bottom-up) governance mechanisms shaping societal resilience.
2) Recognise the value of comprehensive and balanced laws, regulations, and standards addressing societal resilience.
3) Explain key characteristics and purpose of self-organisation in the context of emergency, crisis, and conflict.
4) Demonstrate awareness of key factors (levels of corruption, societal trust, and high-quality political leadership) determining the overall quality of governance and its impact on societal resilience.

Issues for Consideration

1) Consider why distinct national contexts necessitate tailored approaches to governing societal resilience. For example, consider the differences between centralised and decentralised countries.
2) The lesson should include some discussion of how self-organisation, both as an activity and a resource, represents an important factor to consider in the context of military activities and operations.
3) Without senior leaders, both formal/elected and civic, across the society supporting efforts to enhance resilience governance, it might be difficult to achieve this goal.

Potential Questions

1) What are the benefits of having formal governance structures supported by legislation, regulations, and standards as opposed to relying on self-organisation?
2) Which key components should be considered when preparing legislation aimed at strengthening societal resilience, especially in a broader security and defence context?
3) How does organisational/institutional independence, efficiency, and transparency translate into greater societal resilience?

Learning Methods /Assessment

1) Teaching delivery may include lectures and case studies reviewing the strategies, frameworks, and laws governing societal resilience.
2) Assessment can be administered through individual or group assignments. For example, instructors can ask learners to:

    a) Review and prepare a summary of the UK's formal approach to resilience by drawing on the UK's national legislation, frameworks, and strategies.
    b) Find and assess other examples of governance structures and explain how they are different or similar to the UK's approach.
    c) Review and assess Ukraine's response to the 2022 invasions through the lens of self-organisation.

Core Readings

1) Brown, F. Z. (2022). Governance for resilience: How can states prepare for the next crisis? Retrieved from https://carnegieendowment.org/2022/05/23/governance-for-resilience-how-can-states-prepare-for-next-crisis-pub-87175
2) Dewaele, L., & Lucas, R. (2022). Policymaking to support resilience in democratic countries: An examination of Sweden, Israel, and Australia. *European Journal of Futures Research*, 10, 13. https://doi.org/10.1186/s40309-022-00200-y
3) Theussen, A. (2023). The promises and perils of law-making as the way to strengthen societal resilience. DIIS Policy Brief February. Retrieved from https://pure.diis.dk/ws/files/16374350/promises_and_perils_digi.pdf
4) OECD. (2023). Build, reinforce and protect: Democratic resilience in an era of multiple crises. In Government at a Glance 2023. OECD Publishing, Paris. https://doi.org/10.1787/128bebb5-en
5) UK Government (2023). "Integrated Review Refresh 2023", https://www.gov.uk/government/publications/integrated-review-refresh-2023-responding-to-a-more-contested-and-volatile-world
6) UK Government (2022). "UK Government Resilience Framework", https://www.gov.uk/government/publications/the-uk-government-resilience-framework
7) UK Government (2013). "Resilience in society: infrastructure, communities and businesses", https://www.gov.uk/guidance/resilience-in-society-infrastructure-communities-and-businesses
8) Anderson, B., and Peter A. (2012). "Governing Events and Life: 'Emergency' in UK Civil Contingencies", *Political Geography* 31 (1): 24-33, https://doi.org/10.1016/j.polgeo.2011.09.002

Self-organisation in Ukraine in 2022

Self-organisation, also in the form of civil resistance (discussed in Lesson 3.2.2), in Ukraine played and continues to play, an important role in responding to Russia's full-scale invasion. Ukrainian self-organisation showcases actions taken by ordinary people with skills or resources that they chose to share, when necessary, without relying on state institutions or political parties to do what needed to be done. For example, residents in Kyiv, utilising social media, organised cars to help evacuate people, deliver supplies to towns and cities under siege, and share information about accessible routes. Behind the occupation line, resistance networks engaged in sabotage and other guerrilla warfare tactics as well as non-violent actions, such as large-scale protests, the blocking of roads, as well as face-to-face or social media confrontations.

These examples of self-organisation demonstrate key principles through which ordinary people and communities can respond to conflict and other crises by creating their own structure(s), pooling resources and skills, and executing necessary tasks.

References

Channell-Justice, E. (2022). Molotov cocktails and self-organisation in a time of war. Hot Spots, Fieldsights, March 11. Retrieved from https://culanth.org/fieldsights/molotov-cocktails-and-self-organisation

Morton, J., Aljona Zorina, & Sri Kudaravalli. (2023). "The strategic value of IT-enabled self-organised collectives during crises", *Journal of Strategic Information Systems*, 32(3), 101792. https://doi.org/10.1016/j.jsis.2023.101792

Krohley, N. (2024). "Ukrainian civilians are pioneering the art of resistance." *Foreign Policy*. https://foreignpolicy.com/2024/02/28/ukrainian-civilian-resistance-movements-women-war-mavkas/

Theme 4: Developing, Implementing, and Assessing Resilience

Aim

The aim of this theme is to provide a broad overview of how to develop resilience, implement management and sustainment processes, and assess resilience at each level of analysis (e.g., individual, community, organisational, national, and multinational). The intent is to highlight how the context impacts the development, implementation and assessment of resilience.

Goal

Building on the previous themes and by providing concrete conceptualisations of resilience, the goal of this theme is to provide a methodological way to develop, implement, and assess resilience at the various levels of analysis, while highlighting how these concepts apply within national defence and security sectors.

Learning Objectives

Learners will be able to:

1) Identify processes for developing and planning for resilience for each of the levels of resilience and their respective contexts.
2) Analyse practical approaches for managing and sustaining resilience, including stakeholder engagement, resource allocation, monitoring and assessing.
3) Evaluate assessment strategies for the levels of resilience and their respective contexts.
4) Explain specific considerations for developing, implementing, and assessing resilience in the context of national defence and security.
5) Create a resilience strategy within a specific context that considers the development, implementation, and assessment components.

Module 4.1: Anticipating: Developing and Planning for Resilience

Description

This module will provide learners with the necessary information and tools to identify, analyse, and compare available development and planning approaches for establishing resilience at a specific level of consideration (e.g., individual, community, organisational, national, multinational) and in a chosen context. The module will highlight how the different levels of resilience apply to defence and security considerations. For example, leaders at the small unit level may be focused on individual resilience, command leaders may be focused on organisational resilience, and governmental leaders may be concerned about resilience at the national and multinational levels.

Learning Objectives

Learners will be able to:

1) Describe and evaluate elements of resilience, including those related to anticipating, responding to, adapting to, and recovering from sudden and unexpected shocks and prolonged change to improve functions going forward.
2) Compare and contrast the advantages and disadvantages of available methods to develop and plan for resilience.
3) Analyse how to develop resilience at each level with an understanding of how development will shift based on the context in which one is operating.
4) Discuss how each of the levels of resilience apply to defence and security considerations.
5) Create a developmental plan that builds on the elements of resilience at the various levels as related to the context.

Community members in Kotzebue, Alaska, demonstrate patient transfer on a distinguished visitor during Arctic Chinook, Aug. 24, 2016.Community members in Kotzebue simulated triage and shelter for injured role players. U.S. Coast Guard photo by Petty Officer 3rd Class Meredith Manning

Lesson 4.1.1: Overview and Challenges to Developing and Planning for Resilience

Description

This lesson will highlight some of the broad complexities of developing and planning for resilience. One of the most significant challenges is that resilience must be considered at different governance levels (individual, community, organisational, national, and multinational). While resilience is about preparing for, adapting to, and recovering from shocks and disruptions regardless of the level, the approach to developing and planning for resilience at each governing level implies different considerations and challenges. Thus, it is important to understand the focal level before planning or creating programmes for resilience. Another challenge to developing and planning for resilience is that resilience must be developed and planned for in two different domains: proactive resilience processes and reactive strategies to an unexpected disruption. For example, resilience may be developed proactively for something such as climate change. However, consideration must also be given to developing capacities to demonstrate resilience to unexpected challenges, such as developing a culture of adaptability for a community so that it is willing and able to adjust as needed to unexpected disruptions.

Another aspect involves the challenges of recognising and planning for the successive stages of resilience: anticipating, managing, adapting, and recovering. Anticipating involves preparing for both known and unknown disruptions. Managing includes accepting that a disruption is occurring and developing and implementing solutions. Adapting involves using the lessons learned and changing to persist through the disruption. Recovering is a time of reflection, resource recovery, and reorganisation for future disruption. These stages remain the same regardless of the level of resilience; however, the process to develop and plan for resilience with these stages in mind will differ at each level.

Fundamentally, this lesson will highlight the complexity of developing and planning for resilience and the necessity for a multifaceted approach.

Learning Objectives

Learners will be able to:

1) Describe the distinctions between developing proactive processes for resilience and reactive processes to unexpected disruption.
2) Identify the structure of developing and planning for the successive stages of resilience (anticipating, managing, adapting, and recovering).
3) Examine the challenges to developing and planning for resilience within systems.

Issues for Consideration in Designing the Lesson

1) Resilience as a concept is complex and there are numerous considerations when developing and planning for resilience. It may be important to narrow the focus to a certain context to reduce the complexity.
2) This lesson is meant to highlight the challenges and may not result in comprehensive conclusions or solutions. However, it may bring up lots of questions that could be challenging, but also create space for additional dialogue.

Potential Questions

1) What level of resilience do you consider the most important to develop?
2) What stage/s of resilience (anticipating, managing, adapting, and recovering) do you have experience with developing? Which stage is the most important to plan for and develop?
3) What are the challenges to planning for resilience at the different levels – individual, community, organisational, national, and multinational?

Learning Methods/Assessment

1) The lesson will benefit from minimal lecture (to present some of the foundational challenges) to be followed by discussions both in small and larger groups.

Core Readings

1) Bartone, P. T. (2006). Resilience under military operational stress: Leaders influence hardiness? *Military Psychology*, 18(Suppl.), S131-S148.
2) Coutu, D. L. (2002). How resilience works. *Harvard Business Review*, 80(5), 46-56.

3) Duchek, S. (2020). Organisational resilience: A capability-based conceptualization. *Business Research*, 13(1), 215-246.
4) Seligman, M. E. (2011). Building resilience. *Harvard Business Review*, 89(4), 100-106.
5) Southwick, S. M., Bonanno, G. A., Masten, A. S., Panter-Brick, C., & Yehuda, R. (2014). Resilience definitions, theory, and challenges: Interdisciplinary perspectives. *European Journal of Psychotraumatology,* 5(1), 25338. https://doi.org/10.3402/ejpt.v5.25338

Reactive and proactive approaches to organisational resilience

Read the following article about reactive and proactive approaches to organisational resilience. What are the three principal disadvantages with applying a reactive approach and what are the three principal advantages with applying a proactive approach instead?

Reference

Business Continuity Institute (2023). Balancing reactive and proactive approaches to build new resilience capabilities. The Business Continuity Institute (BCI). A global institute for business continuity and resilience. Retrieved from https://www.thebci.org/news/balancing-reactive-and-proactive-approaches-to-build-new-resilience-capabilities.html

Resilience Reference Curriculum Writing Team Workshop, Vienna, February 2024.

Lesson 4.1.2: Developing Individual Resilience

Description

Developing individual resilience often revolves around performance – developing ways to perform under pressure, rebound from challenges, and perform optimally despite obstacles. There are several studies that examine military performance in combat as a benchmark for understanding ways to develop resilience. An exploration and description of the stressors often found in combat operations, specifically: isolation, ambiguity, powerlessness, boredom, danger, and workload, present opportunities to explore mitigation techniques, thereby increasing resilience. It is also important to note that many of these concepts of building individual resilience are universal and can be applied to civilians as well.

Another approach to developing resilience entails a framework of performance improvement in which increasing positive behaviours and actions enhance performance rather than attempting to solely reduce maladaptive behaviours. By working on areas such as: motivation for the task or mission, learning orientation, a sense of shared risk, a common lifestyle, competence, the ability to develop trust from subordinates, and loyalty to the organisation, one can improve performance and develop greater resilience at the individual level. Building personal resilience also entails resilient thinking, strengthening supportive relationships, finding purpose, and setting goals.

Learning Objectives

Learners will be able to:

1) Describe the typical responses to adversity that contribute to or detract from resilience (e.g., self-destructive state; more fragile/less resilient; return to previous normal; more resilient).
2) Identify steps to build individual resilience as derived from the foundations of individual resilience (e.g., mental agility/mindfulness, physical health, mental/emotional health, growth mindset, social support, meaning and purpose).
3) Discuss the role that stress plays in developing individual resilience and how to find the balance between stress and performance (e.g., Eustress vs. Distress).
4) Identify factors that can lead to stress and prevent the development of resilience.

Issues for Consideration in Designing the Lesson

1) Resilience is often manifested in response to an event or situation. Thus, there should be consideration placed on developing strategies to demonstrate resilience in the face of an event and learning from past experiences to build resilience for future challenges.
2) As with many of these topics, there are cultural components that must be considered when discussing the development of resilience.

Potential Questions

1) How does developing individual resilience enhance community or organisational resilience?
2) What is the connection of individual resilience to grit and hardiness?
3) What is the connection of individual resilience to mindfulness?

Learning Methods/Assessment

1) The lesson can use a variety of learning methodologies, including lectures, case studies, group discussions, and simulations.
2) The lesson can also include opportunities for learners to apply their learning through hands-on activities.

Core Readings

1) Connor, K. M., & Davidson, J. R. T. (2003). Development of a new resilience scale: The Connor Davidson Resilience Scale (CD-RISC). *Depression and Anxiety*, 18, 76-82.
2) Ledford, A., Raver, C., Dixon, D. P., Miles, P., & Lynch, S. M. (2022). The role of mindfulness and resilience in Navy SEAL training. *Military Psychology*. https://doi.org/10.1080/08995605.2022.2026558
3) Raver Luning, C., & Ledford, A. (2020). The necessity of grit and hardiness in leading with character. *Journal of Character and Leader Development*, 7(1), 84-95.
4) Reivich, K. J., Seligman, M. E. P., & McBride, S. (2011). Master resilience training in the U.S. Army. *American Psychologist*, 66(1), 25-34.
5) Szivak, T. K., & Kraemer, W. J. (2015). Physiological readiness and resilience: Pillars of military preparedness. *The Journal of Strength & Conditioning Research*, 29, S34-S39.

Importance of risk acceptance

People performing high-risks jobs often have a high level of awareness about the, often severe, risks associated with their work duties. What equips people in high-risk occupations to maintain a constant vigilance of risks in order to control them, while not being overwhelmed with the potential severe consequences that may occur regardless of the controls in place? How do they find the mental hardiness to apply standardised responses in situations where their lives are at risk? The case studies in this report tell stories of how people working in high-risk jobs deal with the uncertainties and high stress in such situations. The instructor may divide learners into four groups and assign each a sub-section (anticipating, learning, monitoring, responding) in section 3 "Resilient Minds" and ask them to identify 3 attributes that all the case personalities have in common. Have groups present these to each other and close with a discussion around 3.6. "Resilient Minds: A Round-up."

Reference

Anne van Galen, Linda J. Bellamy. (2015). Dealing with uncertainty in practice: Strengths and traps in human intervention. Welkom. Retrieved from https://www.resilienceacademy.nl/wp-content/uploads/2016/11/150206Resiliencecasestudies1.pdf

Lesson 4.1.3: Developing and Planning for Community Resilience

Description

While some of the foundational principles are similar to individual resilience, community resilience moves beyond sole focus on the individual to how an entire community and its integrated networks can be developed to enable resilience of an entire ecosystem, in this case a community. Community resilience is generally considered as the ability of a community to prepare for anticipated hazards, adapt to changing conditions, and withstand and recover rapidly from disruptions. This may include a variety of disaster preparedness measures: prevention, protection, mitigation, response, and recovery.

Community resilience can be approached from a variety of lenses. Two of the most common are from a socio-ecological systems lens or a psychological development and mental health lens. The socio-ecological systems lens considers a community to be a series of nested levels spanning from individuals to family units, to organisations, to government, to the values that drive how the entire system operates. This lens focuses on the interrelated nature of humans within the systems in which we live and operate. With a socio-ecological lens for developing and planning for community resilience, the focus is to understand the connection between the systems, and how those connections can enhance and detract from resilience.

The psychological development and mental health lens for community resilience focuses on developing community through individual agency and self-organisation. There is emphasis placed on the connections between people and places, values and beliefs, knowledge and learning, social networks, collaborative governance, economic diversification, infrastructure, and leadership. The most integrated approaches to community resilience try to combine these two lenses focusing on the complex socio-ecological systems integrated with the psychological perspectives to create agency and self-organisation within those complex systems.

Regardless of the approach, planning for and developing community resilience must come from first generating awareness of the types of threats that would necessitate a resilient response, such as natural disasters, economic uncertainty, and external threats (environmental, political, or military). While the foundational aspects

of community resilience remain the same regardless of the threat, the planning for the specific types of threats may require distinct considerations. To develop community resilience, there are a myriad of considerations. However, it is generally accepted that both the systems (socio-ecological response) and psychological considerations (individuals developing agency to demonstrate individual resilience and support community responses) must be accounted for to develop community resilience. This lesson will address how these two aspects come together through development of policies and procedures, infrastructure, resources and resource distribution, and interconnected services for individuals and the community at large.

Learning Objectives

Learners will be able to:

Compare and contrast the resilience of a community with the resilience of individuals.

1) Describe the lens (e.g., socioecological, psychological, and mental health) through which to develop community resilience.
2) Examine the various events and adverse conditions that may necessitate community resilience.
3) Investigate the various structures, policies, and processes that enhance community resilience.

Issues for Consideration in Designing the Lesson

1) Community resilience is a broad topic, and it will be important to discuss the size and scope of the community to shape the discussion (e.g., a local municipality, city, or a neighbourhood).
2) The cultural context of the country may drive the lens (e.g., socio-ecological or psychological lens). Generally, an integrated approach is what is optimal. However, societal culture may drive what is naturally the lens from which community resilience is viewed.

Potential Questions

1) What are some distinctions between individual and community resilience? What are different considerations when differentiating community resilience from individual resilience?
2) How does a community create an integrated approach to resilience? What are some considerations in developing that integrated approach?
3) When planning for resilience, how does a community take into consideration the different disaster preparedness measures - prevention, protection, mitigation, response, and recovery?
4) When developing resilience, how does a community take into consideration the different disaster preparedness measures - prevention, protection, mitigation, response, and recovery?

Learning Methods/Assessment

1) The lesson can use a variety of learning methodologies, including lectures, case studies, group discussions, and simulations.
2) Simulations through potential games may be a more effective method to understand the intricate nature of the systems perspective to community resilience.

Core Readings

1) Berkes, F., & Ross, H. (2013). Community resilience: Toward an integrated approach. *Society & Natural Resources*, 26(1), 5-20. https://doi.org/10.1080/08941920.2012.736605
2) Koliou, M., van de Lindt, J. W., McAllister, T. P., Ellingwood, B. R., Dillard, M., & Cutler, H. (2020). State of the research in community resilience: Progress and challenges. *Sustainable and Resilient Infrastructure*, 5(3), 131-151.
3) RAND Corporation. (n.d.). Community resilience. Retrieved from https://www.rand.org/topics/community-resilience.html
4) Schoon, I. (2021). A socio-ecological developmental systems approach for the study of human resilience. In M. Ungar (Ed.), Multisystemic Resilience: Adaptations and Transformations in Contexts of Change (pp. 335-359). Oxford University Press.
5) Steratore, R., Clark-Ginsberg, A., Shelton, S. R., Malika, N., Leuschner, K. J., & Reese, T. (2023). Community and individual disaster resilience for floods: Options for improving. RAND Corporation. Retrieved from https://www.rand.org/pubs/research_reports/RRA1770-1.html

Case of Tarnagulla community

The Tarnagulla community is a remote township in Central Victoria in Australia. The community is located in the traditional lands of the Dja Dja Wurrung Clan, first nations people of Australia that have a deep sense of belonging to their land. Their lands extend over 16,000 square kilometres with a total population of 133 people.

Without support, Tarnagulla township, like the 1,700 other small towns in Australia (approximately 9.7% of the total population) are at risk of disappearing due to reduction in population, deteriorating buildings, low economic prospects, and climate risks. Some of the ongoing challenges facing the Tarnagulla community include unreliable electricity, long distances from business opportunities, lack of adequate public transportation, lack of health care facilities, threat from bushfires, occasional floods, droughts, and storms.

The report describes how the project supported the Tarnagulla community in resilience planning by adopting a co-production method that involved the community residents and key external stakeholders to: 1) increase awareness of the risks and instil trust and participation in the project, 2) community identification of strengths, challenges, vulnerabilities, and adaptive capacities to identified climate scenarios, and 3) development of a community resilience action plan.

The case provides an example of community driven resilience planning. How could similar efforts to improve community resilience be adapted in other small remote communities? What are the strengths, as well as potential weaknesses, of such approaches to community resilience planning?

Reference

PreventionWeb. (n.d.). Resilience action plan for Tarnagulla community. Retrieved from https://www.preventionweb.net/publication/resilience-action-plan-tarnagulla-community

Lesson 4.1.4: Developing and Planning for Organisational Resilience

Description

The concept of organisational resilience builds on the foundations of psychological resilience. However, just as community resilience is different from individual resilience, organisational resilience is distinct from the other levels of resilience. The foundational concepts are similar in that they are about overcoming challenging and adverse events. However, organisations exist for an explicit purpose whereas communities and individuals may not have an explicit purpose. Further, within organisations, there are different organisational processes, policies, and cultural dynamics that contribute to or detract from organisational resilience. In general, organisational resilience is defined as a process supported by various organisational characteristics which help an organisation to overcome challenging and adverse events.

There are multiple conceptualisations of organisational resilience: 1) A process of responding and adapting to adverse events; 2) Perspectives focused on the underlying characteristics and capabilities that lead to organisational resilience; 3) Resilience as a combination of factors to include processes, characteristics and capabilities, and solidification of those components through ongoing response to minor setbacks and major disruptions. Generally, many consider organisational resilience to be a combination of factors that include processes, characteristics, and capabilities that are solidified through the cultural response within an organisation to challenges and setbacks. While many disagree about the key components of organisational resilience, some of the broadest principles include: fortitude embedded into the culture of an organisation, teamwork, open communication channels, processes that enable adaptability, and policies to support flexibility in the organisation. While many of these components are aspirational, at the bare minimum, organisations should prepare processes for continuity of operations during times of crisis.

For organisations to demonstrate resilience, there are several mechanisms that they can embed within the organisation to lay a foundation for resilience. Those include: planning for adversity, policies and processes to manage adversity when faced with challenges, and policies to recover from adversity. Ultimately, leaders play a key role in creating an organisational environment that is primed to demonstrate resilience. This lesson will expand upon how leaders can create a culture of resil-

ience by understanding and communicating the components of organisational resilience and establishing the mechanisms to lay the foundation for resilience.

Learning Objectives

Learners will be able to:

1) Compare and contrast how resilience at the organisational level differs from resilience at the individual and community level.
2) Identify the various conceptualisations of organisational resilience.
3) Describe key components of organisational resilience.
4) Explain how organisations can demonstrate organisational resilience.
5) Investigate the role that organisational leaders play in establishing an environment to foster and ensure organisational resilience.

Issues for Consideration in Designing the Lesson

1) This lesson is meant to be a broad overview of how to develop organisational resilience. However, it is quite complex because establishing organisational resilience relies on creating a culture within the organisation that is primed to be adaptable to anticipated and unanticipated challenges.
2) This lesson is meant to highlight some abstract ideas about how to develop organisational resilience. It will be key to tie in examples of organisational resilience that will be familiar to those in the lessons.

Potential Questions

1) What are some distinctions between individual, community, and organisational resilience? What are different considerations when discussing resilience at each of these levels?
2) How does a leader create a culture of resilience within their organisation?
3) How is organisational resilience developed within the military?

Learning Methods/Assessment

1) The lesson can use a variety of learning methodologies, including lectures, case studies, group discussions, and simulations.
2) Case studies, including positive and negative examples of organisational resilience, within the context of the country in which the learners are learning may be most beneficial for understanding the concept.

Core Readings

1) Barasa, E., Mbau, R., & Gilson, L. (2018). What is resilience and how can it be nurtured? A systematic review of empirical literature on organisational resilience. *International Journal of Health Policy and Management*, 7(6), 491-503.
2) Duchek, S. (2020). Organisational resilience: A capability-based conceptualization. *Business Research*, 13, 215-246.
3) McKinsey & Company. (2022). Raising the resilience of your organisation. Retrieved from https://www.mckinsey.com/capabilities/people-and-organisational-performance/our-insights/raising-the-resilience-of-your-organisation
4) Suarez, F. F., & Montes, J. S. (2020). Building organisational resilience. *Harvard Business Review*. Retrieved from https://hbr.org/2020/11/building-organisational-resilience
5) Sutcliffe, K. M., & Vogus, T. J. (2003). Organizing for resilience. In K. S. Cameron, J. E. Dutton, & R. E. Quinn (Eds.), Positive Organisational Scholarship: Foundations of a New Discipline (pp. 94-110). Berrett-Koehler Publishers, Inc.

Organisational Resilience and Climate Change

Read the following article about a report that examined what distinguished companies that faired best during the challenging year of 2020. What were the key actions that these companies took and how do they relate to the five characteristics of resilience the report highlighted? What are the potential other characteristics to develop resilience not mentioned in the report? Can you develop such characteristics systematically in an organisation?

Reference

World Economic Forum (2021). Climate Change. Resilience in an age of disruption. Retrieved from https://www.weforum.org/agenda/2021/01/business-resilience-pandemic-disruption/

Lesson 4.1.5: Developing and Planning for National Resilience

Description

Given available approaches and methods, this lesson will provide the participants with the necessary knowledge and tools to enable independent thinking and agency in planning national resilience. National resilience is a dynamic and multifaceted concept that lacks a universal definition. It is deeply influenced by the historical, cultural, geographical, and socio-political context of the nation.

This lesson will explore how different nations perceive, prioritise, and plan resilience based on their unique circumstances. It aims to provide an insightful overview of national resilience, emphasising its complexity, the absence of a universal definition, and its diverse interpretations across different societies. Moreover, it delves into the "common components" that contribute to national resilience, shedding light on the essential elements that should be considered when developing national resilience strategies.

This lesson will explore each of these components in-depth, showcasing real-world examples and best practices from various nations. Participants will gain a comprehensive understanding of how these components interact and enable national resilience planning.

Learning Objectives

Learners will be able to:

1) Define and explain the concept of national resilience and its significance for a country's security, defence, and overall well-being.
2) Understand the role of government agencies and other stakeholders in national resilience planning.
3) Compare and contrast resilience planning approaches in different countries.
4) Design a comprehensive national resilience plan for a hypothetical country, considering various sectors and potential threats.

Issues for Consideration in Designing the Lesson

1) The context in which (both internal and external) national resilience planning is applied has significant implications for the objectives, approaches, and methods used in each individual country. How can we adapt leading practices and transfer lessons learned from one country to another? If each country's specific resilience project is considered so unique to its specific context, does each country need to start from scratch? How can we identify practices that are likely to apply to other countries and adapt them accordingly?
2) Adhering to a whole-of-society approach requires broad constituencies that are consulted and included in the process. It will be key to engage stakeholders representing divergent interests and perspectives, while ensuring common objectives and cohesion is included in planning.
3) How do we account for the divergent interests of various regions, communities, and sectors, while producing a comprehensive and cohesive effort in national resilience planning?

Potential Questions

1) Why is it difficult to establish a universal definition of "national resilience"? Would it be helpful to have one?
2) How can "national resilience" be defined in the context of national resilience planning?
3) What are the essential elements of resilience that should be considered in the context of national planning?
4) Who are the key government agencies and other stakeholders that should be involved?

Learning Methodology

1) The lesson can use a variety of learning methodologies, including lectures, case studies, group discussions, and simulations.
2) The lesson can also include opportunities for learners to apply their learning through hands-on activities.

Core Readings

1) Canetti, D., Waismel-Manor, I., Cohen, N., & Rapaport, C. (2014). What does national resilience mean in a democracy? Evidence from the United States and Israel. *Armed Forces & Society*, 40(3), 504-520. https://www.jstor.org/stable/48609337
2) Howard, Martin (2021). Resilience is the new black. Diplomat. Retrieved from https://diplomatmagazine.com/resilience-is-the-new-black/

3) Fjäder, C. (2014). The nation-state, national security, and resilience in the age of globalisation. *Resilience*, 2(2), 114-129. https://doi.org/10.1080/21693293.2014.914771
4) RAND Europe (2021). Enhancing defence's contribution to societal resilience in the UK: Lessons from international approaches. Retrieved from https://resiliencefirst.org/sites/default/files/2021-09/RAND_RRA1113-1.pdf
5) The UK Government Resilience Framework. (2023). GOV.UK. Retrieved from https://www.gov.uk/government/publications/the-uk-government-resilience-framework

Sweden's "Total Defence" model

In the Nordic countries, developing and planning for national resilience is conducted in the context of a "Total Defence" model. For instance, Sweden employs a concept of Total Defence as a foundational concept for building national resilience. According to Swedish law, total defence is defined as the preparations and planning required to prepare Sweden for war. When the government has declared highest alert, all societal functions fall under the concept of total defence, which consists of military defence and civil defence. Parliament, government authorities, municipalities, private enterprises, and voluntary defence organisations, as well as individuals are all part of the total defence.

Different countries may have differing political, cultural, and historical attitudes towards employing a "Total Defence" approach to national resilience. What are the aspects of the Swedish approach that could be applied in your country? Which aspects would not be acceptable or possible?

Reference

Von Sydow, Björn. (2018). Resilience: Planning for Sweden's "Total Defence". *NATO Review*. Retrieved from https://www.nato.int/docu/review/articles/2018/04/04/resilience-planning-for-swedens-total-defence/index.html

Lesson 4.1.6: Developing and Planning for Multinational Resilience

Description

In today's interconnected world, the impact of global crises can extend far beyond national borders, leaving no country immune to disruption. Multinational resilience refers to the ability of nations to collaborate effectively to anticipate, mitigate, respond to, and recover from global challenges. This includes developing a shared understanding of threats, coordinating responses, and sharing resources.

The goal of this lesson is to provide learners with the necessary knowledge to understand, conceptualise, and design policy and planning responses for developing multinational resilience from their national perspectives across relevant policy areas.

Learning Objectives

Learners will be able to:

1) Explain the concept of multinational resilience and its significance in a globalised world.
2) Describe how transnational threats, such as pandemics or climate change, can impact multiple nations.
3) Analyse and compare case studies of multinational responses to global crises and evaluate their effectiveness in terms of resilience.
4) Design a comprehensive multinational resilience framework that addresses a specific global challenge, such as supply chain continuity, cybersecurity, or climate change.
5) Devise innovative strategies for fostering cooperation between countries in response to a global crisis.

Issues for Consideration in Designing the Lesson

1) Consider the ongoing and potential changes in the multinational system (e.g., between globalisation with high levels of interdependence and the re-emergence of geopolitical and geoeconomic competition resulting in elevated conflict potential). These dynamics have an impact on the possible scope and extent of multinational cooperation in resilience.

2) The transnational threat environment is dynamic and complex. Hence, key threats and their impacts can vary over time and geographic locations. Consider both the contemporary and potential future threats, as well as the diverse views on these across the Alliance.

Potential Questions

1) What are the principal opportunities and bottlenecks for developing and planning multinational resilience in the contemporary context?
2) How can this context change, and what implications would that change have for developing and planning multinational resilience?
3) What are the key threats that are common to potential partners in developing and planning multinational resilience?
4) How can we consider the potential future threats and their implications?

Learning Methods/Assessment

1) The lesson can use a variety of learning methodologies, including lectures, case studies, group discussions, and simulations.
2) The lesson can also include opportunities for learners to apply their learning through hands-on activities. These can include case studies or gaming.

Core Readings

1) Adobor, H. (2020). Supply chain resilience: An adaptive cycle approach. *The International Journal of Logistics Management*, 31(3), 443-463. https://www.emerald.com/insight/content/doi/10.1108/IJLM-01-2020-0019/full/html
2) Bown, C. P., Snyder, C. M., & Staiger, R. W. (2022). Vaccine Supply Chain Resilience and International Cooperation. Dartmouth College Economics Department working paper. Retrieved from https://ies.princeton.edu/wp-content/uploads/2022/06/BSS_VaccinesOffshoring_06012022_PrincetonVersion_Final.pdf
3) De Maio, G. (2020). NATO's response to COVID-19 lessons for resilience and readiness. *Foreign Policy*. Retrieved from https://www.brookings.edu/wp-content/uploads/2020/10/FP_20201028_nato_covid_demaio-1.pdf
4) Down, A., & Cook, C. (2022). Bolstering collective resilience in Europe. Center for Strategic and International Studies (CSIS). Retrieved from https://www.csis.org/analysis/bolstering-collective-resilience-europe
5) Entin, M., & Galushko, D. (2021). Resilience of the European Union as a determinant of its post-pandemic development. *Eastern Journal of European Studies*, 12. Retrieved from https://www.ceeol.com/search/article-detail?id=994015

NATO's Approach to Resilience

In 2016, NATO Allies outlined seven Baseline Requirements of National Resilience, offering a yardstick, against which to evaluate their national preparedness. In 2021, NATO Heads of State and Government strengthened their commitment to resilience against a spectrum of threats. The Resilience Committee guides strategic direction and policy as senior-level committee at NATO Headquarters, overseeing coordination and linking with partners. Simultaneously, Allied Command Transformation spearheads the military adaptation, focusing on the Layered Resilience Concept, a pivotal component of Multi-Domain Operations.

NATO's comprehensive approach aligns the efforts of its headquarters and military command, essential to confront the strategic challenges of today and tomorrow. The layered resilience concept, focusing on military aspects of resilience, ensures that NATO militaries will remain agile, adaptive, and prepared in the face of evolving threats in the future. This case illustrates how an international organisation may guide the planning and development of multinational resilience within its area of responsibility.

Reference

NATO (2023). Resilience, civil preparedness. Retrieved from https://www.nato.int/cps/en/natohq/topics_132722.htm

Module 4.2: Managing and Sustaining Resilience

Description

The goal of this module is to provide learners with the necessary information and tools to effectively manage and sustain resilience at various levels. Strategies to do this at the individual level provide a pathway for leaders to encourage this within organisations, thereby enhancing organisational and community resilience. Accounting for the influence of cultural and national contexts, this module will also explore broader strategies for maintaining resilience at national and multinational levels.

Learning Objectives

Learners will be able to:

1) Describe how to implement, manage, and sustain elements of resilience at each level (individual, community, organisational, national, and multinational), including those pertaining to anticipating, responding to, adapting to, recovering from sudden and unexpected shocks and prolonged change to improve functions going forward.
2) Compare and contrast the advantages and disadvantages of available methods to manage resilience.
3) Describe how to manage stakeholder relationships required for managing and sustaining resilience across each level.
4) Discuss defence and security considerations for managing and sustaining resilience.
5) Explore strategies for sustaining resilience over time and how the strategies should be adapted to changing circumstances.

Lesson 4.2.1: Overview and Challenges to Managing and Sustaining Resilience Processes

Description

While the general concept of resilience is easily understood, managing, and sustaining resilience processes is quite complex. This lesson will highlight the primary challenges that lead to this complexity. One of the primary challenges is that there are multiple types of disruption against which to build resilience. For example, there may be slow, enduring challenges that require resilience to adapt to the challenge and persevere through it. There may be anticipated sudden disruptions in which resilience is required to overcome the disruption. There may also be sudden unanticipated disruptions that require yet another form of perseverance and adaptability to demonstrate resilience.

Another primary challenge to managing and sustaining resilience processes is that the processes for implementing resilience vary depending on the focal level (e.g., individual, community, organisational, national, multinational). Thus, leaders must be clear about what level they are focused on when creating processes for managing and sustaining resilience. If they aim to focus on multiple levels, there should be distinctions on how to implement, manage, and sustain resilience at those distinct levels.

A third key challenge is that while there are numerous case studies at various levels there are limited models that provide a comprehensive overview of how to implement, manage, and sustain resilience. Further, the models that do exist may focus on different key contributing processes or ideas. This makes it difficult to find a single solution as to which framework or model to implement in an effort to manage and sustain resilience. One of the primary reasons that there is not a single solution is the context dependence when deciding on the respective framework to use to manage and sustain resilience. Considering these challenges, one of the most important things for leaders to consider is developing a broad understanding of multiple approaches to creating resilience and then selecting one approach or modifying a few approaches to fit the context in which they are operating.

Learning Objectives

Learners will be able to:

1) Recognise how the processes for managing and sustaining resilience will vary based on the level (e.g., individual, organisational, community, national, multinational) that one is considering.
2) Compare and contrast processes (e.g., embedding cultural norms vs. processes) that enable systems to manage, adapt to, and recover from adverse events.
3) Identify challenges to creating processes to manage, adapt to, and recover from adverse events.

Issues for Consideration in Designing the Lesson

1) Managing and sustaining resilience are overlapping but also somewhat distinct aspects of demonstrating resilience. The lesson should include some discussion of how those terms overlap in the context of resilience and how they are distinct.
2) This lesson is meant to highlight the challenges but may not result in comprehensive conclusions. It may bring up lots of questions which could be frustrating, but also create space for additional dialogue.

Potential Questions

1) What level of resilience do you consider to be the easiest to implement, manage, and sustain resilience?
2) How does the type of adverse event (e.g., prolonged, sudden anticipated, sudden unanticipated) enhance or diminish the ability to implement, manage, and sustain resilience?
3) What role does a leader play in managing and sustaining resilience?

Learning Methods/Assessment

1) The lesson will benefit from minimal lecture (to present some of the foundational challenges) to be followed up with a discussion both in small and larger groups.

Core Readings

1) Burnard, K. J., & Bhamra, R. (2019). Challenges for organisational resilience. *Continuity & Resilience Review*, 1(1), 17-25. Retrieved from https://doi/10.1108/CRR-01-2019-0008/full/html
2) Gillespie-Marthaler, L., Nelson, K. S., Baroud, H., Kosson, D. S., & Abkowitz, M. (2019). An integrative approach to conceptualizing sustainable resilience. *Sustainable and Resilient Infrastructure*, 4(2), 66-81. https://doi.org/10.1080/23789689.2018.1497880
3) Nelson, K., Gillespie-Marthaler, L., Baroud, H., Abkowitz, M., & Kosson, D. (2020). An integrated and dynamic framework for assessing sustainable resilience in complex adaptive systems. *Sustainable and Resilient Infrastructure*, 5(5), 311-329. https://doi.org/10.1080/23789689.2019.1578165
4) Seligman, M. E. (2011). Building resilience. *Harvard Business Review*, 89(4), 100-106. Retrieved from https://hbr.org/2011/04/building-resilience
5) Van Der Vegt, G. S., Essens, P., Wahlström, M., & George, G. (2015). Managing risk and resilience. *Academy of Management Journal*, 58(4), 971-980. https://doi.org/10.5465/amj.2015.4004

Finland's Comprehensive Security Approach

Finland's Security Strategy for Society (2017) provides an example of how resilience can address multiple levels of resilience in broad collaboration between the government, businesses, non-governmental organisations, and citizens. The strategy addresses building resilience for individuals, local communities, and regions at the national level and in Finland's international interdependencies with other countries. This "Comprehensive Security" approach can thus serve as an example of a layered, yet comprehensive, approach to societal resilience.

The case demonstrates how tasks between various government institutions, the private sector, and the civil society can be organised and coordinated.

Reference

Security Committee. (n.d.). Security Strategy for Society. Retrieved from https://turvallisuuskomitea.fi/en/security-strategy-for-society/security-actors/

Lesson 4.2.2: Managing and Sustaining Individual Resilience

Description

This lesson addresses strategies in managing and sustaining individual resilience. It will cover tools for both the individual to manage and sustain their own resilience and for leaders tasked with managing and sustaining resilience of others. To manage and sustain resilience, one must first understand its foundations: meaning and purpose, mindfulness, physical health, mental/emotional health, a growth mindset, and social support. Brief descriptions of these foundations are provided below:

- Meaning and Purpose – Belief that life has a purpose greater than oneself.
- Mindfulness – Controls tendency to become overwhelmed during difficulties.
- Physical Health – Helps prepare for adversity and maintain clarity of mind during adversity.
- Mental/Emotional Health – Enables self-awareness and emotional stability.
- Growth Mindset – Embraces challenge, learns from setbacks.
- Social Support – Community that serves as a network before, during, and after adversity.

It is often best for individuals to focus on each of these foundations of resilience as individual pillars, building each of them up over time. For example, individuals should reflect upon their own meaning and purpose and how they serve as a foundation for operating. Another example includes building, maintaining and expanding one's social network to ensure they have social connections when adversity happens.

Leaders should consider these foundations of resilience and work to develop them in their subordinates. By purposely focusing on each of these foundations, leaders can help others manage and sustain the skills necessary to be resilient in times of adversity. Ultimately, this lesson will highlight methods for the leader to identify and reinforce meaning and purpose, encourage mindfulness exercises, emphasise the importance of exercise, nutrition, proper sleep, and hydration, provide resources for mental health support, allow subordinates to grow from mistakes, and finally provide opportunities to a network for community support. This lesson will demonstrate that by using these techniques, a leader can maintain the individual resilience of their subordinates in preparation for times of adversity.

Learning Objectives

Learners will be able to:

1) Identify management techniques that an individual can employ when faced with an adverse event.
2) Describe how an individual develops adaptive capacities to sustain function when faced with an adverse event.
3) Examine the systems that enable individual recovery following an adverse event (e.g., physiological, psychological, and social).
4) Investigate the systems and feedback mechanisms that support one's ability to manage, adapt to, and recover from adversity.
5) Examine the role that leaders play in enhancing or detracting from the development of resilience in their followers.

Issues for Consideration in Designing the Lesson

1) Recognise that each of the foundational pillars of resilience requires deliberate effort and time that might appear to detract from the focus on performance, but over time, has a positive impact on long-term growth in the performance of individuals and organisations.
2) Without the support of a leader in an organisation in maintaining and sustaining resilience, many of the foundational pillars are difficult to enhance.

Potential Questions

1) What are specific ways to build resilience under each of the foundational pillars of resilience?
2) What are ways to identify one's goals and purpose that enhance resilience?
3) How does a leader's resilience affect their ability to remain an ethical leader?
4) How does a leader encourage subordinates to grow from mistakes and how does that sustain resilience?

Learning Methods/Assessment

1) The lesson can use a variety of learning methodologies, including lectures, case studies, group discussions, and simulations.
2) The lesson can also include opportunities for learners to apply their learning through hands-on activities.

Core Readings

1) American Psychological Association. (2020). Building your resilience. Retrieved from https://www.apa.org/topics/resilience
2) Bartone, P. T. (2006). Resilience Under Military Operational Stress: Can Leaders Influence Hardiness? *Military Psychology,* 18(sup1), S131-S148.
3) Ledford, A. K., Beckner, M. E., Conkright, W. R., Raver, C., Dixon, D. P., Miles, P., ... & Lynch, S. M. (2022). Psychological and physiological changes during basic, underwater, demolition/SEAL training. *Physiology & Behavior*, 257, 113970.
4) Ledford, A. K., Dixon, D., Raver Luning, C., Martin, B. J., Miles, P. C., Beckner, M., Bennett, D., Conley, J., & Nindl, B. C. (2020). Psychological and physiological predictors of resilience in Navy SEAL training. *Behavioral Medicine*, 46(3-4), 290-301. https://doi.org/10.1080/08964289.2020.1712648

Managing Individual Resilience in an organisational context

Managing resilience in an organisation can have major benefits for the performance of both individuals and the entire organisation. Yet, organisations and leaders often struggle with how to support and maintain individual resilience. This article outlines how business organisations can build people-centric resilience in their respective organisations. How would the approach outlined in the article differentiate from managing organisation in a military environment?

Reference

McKinsey & Company. (n.d.). Raising the resilience of your organisation. Retrieved from https://www.mckinsey.com/capabilities/people-and-organisational-performance/our-insights/raising-the-resilience-of-your-organisation

Lesson 4.2.3: Managing and Sustaining Community Resilience

Description

Community resilience is primarily approached through one or both of two lenses: a psychological developmental, and mental health lens or a socio-ecological systems lens. The lens that one is using may impact the perspective on how to manage and sustain resilience. However, there is also value in applying systems approach to managing and sustaining community resilience. Thus, there is a focus on understanding and highlighting how all aspects of a community operate holistically to prepare for, adapt to, and persevere through adversity to display resilience.

Part of managing community resilience involves establishing strategies to prepare for adversity and enact during times of crisis. Broadly, seven of those strategies include: 1) threats and hazards identification; 2) risk and disaster resilience assessment; 3) understanding the interconnected systems of a community and how those work together in crisis; 4) long-term vulnerability reduction; 5) planning; 6) operational coordination; 7) public information and warning.

To sustain community resilience, establishing recovering processes is necessary to ensure the community is able to repair from adverse events, adapt to a new environment, and prepare for future challenges. Some considerations during the recovery process include: economic recovery, health and social services, infrastructure systems, natural and cultural resources, evaluation of response to prior adversity, and adapting for responses to future adversity. Ultimately, leaders need to consider a systems perspective for managing and sustaining community resilience, considering how all aspects of a community work together to anticipate, manage, adapt to, and recover from adverse events. As part of that systems approach, leaders need to consider both the holistic structure of the community and the individuals within the community to ensure all are considered as part of the management and sustainment process.

Learning Objectives

1) Describe the processes for managing and sustaining community resilience both as preparation for crisis and during crisis.

2) Identify how different adverse conditions may necessitate different management and sustainment efforts for community resilience.
3) Compare and contrast different management and sustainment approaches to community resilience.

Issues for Consideration in Designing the Lesson

1) While there are two approaches to community resilience (psychological and socio-ecological systems approaches), the systems approach is generally taken, which enables leaders to consider how all aspects of a community must work together to display resilience. However, this perspective may vary based on the culture in which one is teaching this lesson.
2) Managing and sustaining resilience are overlapping ideas. Thus, in teaching the lesson, it may be helpful to discuss some of this overlap.

Potential Questions

1) What are some instances of community resilience that you have observed? What "systems" within the community operated together to demonstrate resilience?
2) In what ways is managing and sustaining community resilience distinct from individual resilience?
3) What is the difference between managing and sustaining community resilience? What does a leader need to do differently to manage versus to sustain community resilience?

Learning Methods/Assessment

1) The lesson can use a variety of learning methodologies, including lectures, case studies, group discussions, and simulations.
2) Simulations through games may be a more effective method to understand the intricate nature of community resilience.

Core Readings

1) Federal Emergency Management Agency. (2024). Community Resilience. FEMA National Risk Index. Retrieved from https://hazards.fema.gov/nri/community-resilience#:~:text=Community%20resilience%20is%20the%20ability,and%20recover%20rapidly%20from%20disruptions
2) Institute of Public Policy. (n.d.). Guidebook of the Community Resilience Assessment Online Tool. Harry S. Truman School of Public Affairs, University of Missouri. Retrieved from https://truman.missouri.edu/sites/default/files/resilience-tool-guidebook-final.pdf
3) National Institute of Standards and Technology. (2024). Community Resilience Planning Guide. U.S. Department of Commerce. Retrieved from https://www.nist.gov/community-resilience/planning-guide
4) University of South Carolina. (2024). Hazard vulnerability & resilience institute. Retrieved from https://www.sc.edu/study/colleges_schools/artsandsciences/centers_and_institutes/hvri/index.php/bric

UN approach to Climate

Since 2019, the United Nations Environment Programme (UNEP) in-collaboration with Partners for Resilience (PfR) have developed and implemented scalable Ecosystem-based Disaster Risk Reduction (Eco-DRR) models, working alongside various governments and their respective communities in strengthening their capacity and shaping Eco-DRR policy interventions.

This case study illustrates the self-organising aspect of a community coming together to address a common problem and building resilience in the local ecosystem in a sustainable manner.

Reference

ReliefWeb. (2022). Indonesia Case Study: Upscaling Community Resilience Through Ecosystem-Based Disaster Risk Reduction. Retrieved from https://reliefweb.int/report/indonesia/indonesia-case-study-upscaling-community-resilience-through-ecosystem-based-disaster-risk-reduction-2022

Lesson 4.2.4: Managing and Sustaining Organisational Resilience

Description

This lesson highlights the primary principles of managing and sustaining organisational resilience. There are multiple approaches to managing and sustaining organisational resilience. They generally are grouped into three categories: resistance to the adverse event and then recovery from the adversity; adaptation to persist through the adversity; anticipation of the adversity. Each of these three categories would call for a different management and sustainment approach to resilience. Thus, leaders should consider which approach the organisation has used in the past and which they plan to use in the future.

This lesson will also highlight how leaders must generate strategies to manage and sustain resilience relative to different types of threats – external versus internal. While many strategies will remain the same regardless of an external or internal threat, some may differ. For example, an external threat may be more visible to external resources and partners, while an internal threat may be more disruptive to the climate and performance of the people within the organisation. Finally, this lesson will highlight factors that leaders should consider in creating management and sustainment strategies. Some of those considerations include: material resources; preparedness and planning; information management; adversity planning; collateral pathways; policies and procedures; leadership practices; human capital; organisational culture; social networks and collaboration.

Learning Objectives

Learners will be able to:

1) Recognise the different viewpoints on how organisational resilience can be managed and sustained.
2) Describe how awareness of external and internal factors and threats are necessary in managing and sustaining organisational resilience.
3) Discuss the factors that enable leaders to manage and sustain organisational resilience.
4) Formulate management and sustainment proposals for organisational resilience that could be implemented in various scenarios.

Issues for Consideration in Designing the Lesson

1) Technically, organisational and institutional levels can be considered distinct from one another (e.g., an army base – the organisation, the entire army – the institution). Thus, when discussing managing and sustaining resilience at both organisational and institutional levels it might be helpful to highlight this slight distinction in class discussions.
2) Organisations and institutions may be able to create management and sustainment strategies to be resilient in certain circumstances, but then fail in other instances. (e.g., able to withstand a public relations issue, but not withstand an environmental disaster). Thus, it might warrant some open dialogue during class discussions.

Potential Questions

1) What management and sustainment strategies for resilience have you observed for organisations/institutions?
2) What are the leader's roles in managing and sustaining organisational resilience?
3) What policies and procedures can an organisation establish to sustain resilience?
4) What differentiates an organisation that is able to withstand adversity from another seemingly similar organisation?

Learning Methods/Assessment

1) The lesson can use a variety of learning methodologies, including lectures, case studies, group discussions, and simulations.
2) Case studies focused on the leader's role in managing and sustaining resilience within the country in which the learners are learning may be most beneficial for understanding the concept.

Core Readings

1) Carden, L. L., Maldonado, T., & Boyd, R. O. (2018). Organisational resilience: A look at McDonald's in the fast-food industry. *Organisational Dynamics*, 47(1), 25-31. https://doi.org/10.1016/J.ORGDYN.2017.07.002
2) Labaka, L., Hernantes, J., & Sarriegi, J. M. (2015). Resilience framework for critical infrastructures: An empirical study in a nuclear plant. *Reliability Engineering & System Safety*, 141, 92-105. https://doi.org/10.1016/j.ress.2015.03.009

3) Samba, C., Vera, D., Kong, D., & Maldonado, T. (2017). Organisational resilience and positive leadership: An integrative framework. *Academy of Management Proceedings*, 2017(1). https://doi.org/10.5465/AMBPP.2017.11903abstract

4) Shmul, Y., Reeves, M., & Levin, S. (2022, April 8). Building a Mutually Reinforcing System of Organisational and Personal Resilience. Boston Consulting Group. Retrieved from https://www.bcg.com/publications/2022/building-organisational-personal-resilience-reinforcing-system

5) Sommer, S. A., Howell, J. M., & Hadley, C. N. (2016). Keeping positive and building strength: The role of affect and team leadership in developing resilience during an organisational crisis. *Group & Organisation Management*, 41(2), 172-202. https://doi.org/10.1177/1059601115578027

Case on production of raw materials

This case study demonstrates how the leadership of an organisation can manage and sustain organisational resilience through utilising a network of contacts in the industry and community to coordinate measures with others impacted by the same critical event. The lessons learned from the case study also include the importance of leadership, maintaining the staff's motivation and resilient spirit, projecting credibility towards customers and other key stakeholders, and maintaining a pragmatic approach to responding to disasters, in this case an earthquake.

The case can be utilised for discussing what networks the learners have that could be utilised for resilience under adverse conditions, as well as how such personal networks can have a positive impact on responding to crises and disasters.

Reference

Resilient Organisations. (n.d.). EPL Case Study. Retrieved from https://www.resorgs.org.nz/resources/case-studies/epl-case-study/

Lesson 4.2.5: Managing and Sustaining National Resilience

Description

The goal of this lesson is to understand the concept of national resilience and learn to develop strategies and frameworks for effectively managing and sustaining national resilience. National resilience, however, lacks a universal definition and remains highly contextual. National resilience is a dynamic and multifaceted concept. It is deeply influenced by unique characteristics, such as a nation's history, culture, geography, and sociopolitical context. Yet, national resilience plays a pivotal role in safeguarding the well-being and continuity of a nation in the face of various challenges, such as natural disasters, economic crises, pandemics, or geopolitical and security threats.

This lesson will explore how different societies perceive and prioritise resilience based on their unique circumstances. For instance, a country situated in a region prone to natural disasters may prioritise disaster preparedness, while a nation facing economic instability may focus on economic resilience and diversification. Understanding these variations is crucial for tailoring effective national resilience strategies.

This lesson intends to provide an insightful overview of national resilience, emphasising its complexity, the absence of a universal definition, and its diverse interpretations across different societies. Moreover, it delves into the common components that contribute to national resilience, shedding light on the essential elements that should be considered when building national resilience strategies. It will discuss the key components of national resilience, including military and civilian aspects, such as social, economic, and environmental resilience.

Having completed this lesson, learners will appreciate the intricate nature of national resilience, recognise its adaptability across different contexts, and be equipped with insights and tools to design, manage, and sustain frameworks and strategies of national resilience.

Learning Objectives

Learners will be able to:

1) Understand the various definitions of national resilience and their impact on the formulation of national resilience frameworks and strategies.

2) Describe and analyse frameworks and strategies for managing and sustaining national resilience.
3) Develop a comprehensive plan for enhancing and sustaining national resilience in a hypothetical scenario.
4) Evaluate the effectiveness of different strategies for managing and sustaining national resilience.

Issues for Consideration in Designing the Lesson

1) Consider utilising a diverse set of examples for national resilience in order to illustrate the contextual nature of national resilience.
2) Compare and contrast the strategies in different countries to illustrate how contextual understanding of resilience influences frameworks and strategies.
3) Utilise case studies that represent various aspects of resilience, e.g., military, civilian, critical infrastructure, disaster resilience, etc.

Potential Questions

1) What are the factors that influence the definition of resilience in individual nations?
2) How does this definition influence the principal focus on resilience?
3) What are the key differences in approaches to maintaining and sustaining resilience in different countries and contexts?

Learning Methods/Assessment

1) The lesson can use a variety of learning methodologies, including lectures, case studies, group discussions, and simulations.
2) The lesson can also include opportunities for learners to apply their learning through hands-on activities.

Core Readings

1) Ablong, M. (2024). National Resilience: Lessons for Australian policy from international experience. Australian Strategic Policy Institute (ASPI). Retrieved from https://www.aspi.org.au/report/national-resilience-lessons-australian-policy-international-experience
2) Department of Homeland Security. (2022). Resilience. Retrieved from https://www.dhs.gov/topics/resilience
3) Fjäder, C. (2014). The nation-state, national security, and resilience in the age of globalisation. *Resilience – International Policies, Practices and Discourses*, 2(2), 114-129. https://doi.org/10.1080/21693293.2014.914771
4) McLennan, M. (2020). Building national resilience. Retrieved from https://www.marshmclennan.com/insights/publications/2020/apr/national-resilience-report.html
5) Reznikova, O. (2022). National resilience in a changing security environment. National Institute for Strategic Studies, Kyiv. Retrieved from https://www.marshallcenter.org/en/publications/marshall-center-books/national-resilience/about-volume

UK Government resilience framework

The UK Government resilience framework sets out the principles for how the systems and capabilities that support national resilience are developed and sustained. The framework focuses on the UK's ability to anticipate, assess, prevent, mitigate, respond to, and recover from known, unknown, direct, indirect, and emerging civil contingency risks.

This framework represents a package of measures to broaden and strengthen the resilience system centred on six themes: risk, responsibility and accountability, partnership, community, investment, and skills.

The UK Resilience Framework, published under the 2022 to 2024 administration, is being reviewed, with an expected completion in Spring 2025, as a result of the July 2024 commitment by the Chancellor of the Duchy of Lancaster to review the UK's resilience and as part of that the Resilience Framework and its commitments, including the best approach to governance and accountability.

How does this framework address the considerations for establishing a comprehensive national plan for resilience? What are the areas it does not cover, or does not cover sufficiently?

Reference

The UK Government Resilience Framework. (n.d.). GOV.UK. Retrieved from https://www.gov.uk/government/publications/the-uk-government-resilience-framework

Lesson 4.2.6: Managing and Sustaining Multinational Resilience

Description

The goal of this lesson is to provide an overview of considerations and approaches to managing and sustaining multinational resilience. It will discuss the key components of multinational resilience, including the opportunities and challenges of developing resilience together with multinational partners. The lesson will also explore strategies for managing and sustaining multinational resilience.

Learning Objectives

Learners will be able to:

1) Explain the concepts of managing and sustaining multinational resilience.
2) Describe how ongoing global challenges impact the need for continuous resilience-building efforts.
3) Analyse and summarise case studies of sustained multinational resilience efforts and assess their effectiveness.
4) Examine the geopolitical factors influencing multinational cooperation in the long-term maintenance of resilience.
5) Devise innovative strategies for fostering long-term cooperation between countries in maintaining global resilience.

Issues for Consideration in Designing the Lesson

1) Refer to Lesson 4.1.6 Developing and Planning for Multinational Resilience
2) Focus on key elements of developing and planning for multinational resilience, as detailed in Lesson 4.1.6 Developing and Planning for Multinational Resilience.
3) Emphasise the importance of managing and sustaining efforts in the long-term, considering the changes in the dynamic threat landscape.

Potential Questions

1) What are the main challenges for managing and sustaining multinational resilience in the contemporary context?
2) What are the available frameworks and strategies for managing and sustaining multinational resilience?
3) What good examples of managing and sustaining multinational resilience can be found in recent reports or media coverage?

Learning Methods/Assessment

1) The lesson will use a variety of learning methodologies, including lectures, case studies, group discussions, and simulations.
2) The lesson will also include opportunities for learners to apply their learning through hands-on activities.

Core Readings

1) De Maio, G. (2020). NATO's response to COVID-19 lessons for resilience and readiness. *Foreign Policy*. https://www.brookings.edu/wp-content/uploads/2020/10/FP_20201028_nato_covid_demaio-1.pdf
2) Demchak, C. (2021). Achieving Systemic Resilience in a Great Systems Conflict Era. *The Cyber Defense Review*, 6(2), 51-70. https://www.jstor.org/stable/27021376
3) Patel, K. R. (2023). Enhancing Global Supply Chain Resilience: Effective Strategies for Mitigating Disruptions in an Interconnected World. *BULLET: Jurnal Multidisiplin Ilmu*, 2(1), 257-264. https://journal.mediapublikasi.id/index.php/bullet/article/view/3482

Case of Nordic Regional Cooperation

The Nordic countries have a long history of cooperation in various aspects of resilience. Against the backdrop of the COVID-19 crisis and Russia's war of aggression against Ukraine, Nordic cooperation in crisis preparedness and supply chain security have taken on new urgency. Consequently, perceptions of crisis preparedness and supply chain security have undergone a major change in the Nordic region. The COVID-19 pandemic demonstrated the fragility of many of the critical flows on which the Nordics depend for their supply chain security. At the same time, the crisis heightened concerns over Nordic cooperation. The different strategies and travel restrictions adopted by the Nordic countries in response to the pandemic created disturbances in people's work and private lives especially in cross-border regions. Since February 2022, the war in Ukraine has caused further

disruptions to critical supply chains, including energy, food, medical, and raw material imports.

A report by the Finnish Institute of International Affairs (FIIA) provides an illustrative example of regional cooperation in resilience, maintaining, sustaining, and developing it further.

While the Nordic countries have deep historical, cultural, and linguistic ties to leverage on, many of the aspects of Nordic cooperation can probably be adapted to fit the needs in other regional contexts. Can you identify three such examples? In which regional context could these be utilised? How should they be adapted to consider the specific context of the region you are applying them to?

Reference

Finnish Institute of International Affairs (2022). Nordic resilience: Strengthening cooperation on security of supply and crisis preparedness. Retrieved from https://www.fiia.fi/en/publication/nordic-resilience

Resilience Reference Curriculum Writing Team Workshop, Vienna, February 2024.

Module 4.3: Methods to Assess Resilience

Description

The goal of this module is to provide participants with the necessary information and tools to effectively assess resilience at the various levels. Strategies to do this at different levels may differ significantly, due both to the level and the context in which one is assessing resilience. Through this module, learners will gain understanding of the pros and cons of each method to assess resilience.

Learning Objectives

Learners will be able to:

1) Recognise the complexity in assessing resilience across the different levels (individual, organisational, community, national, and multinational).
2) Analyse, compare, and apply the various assessment strategies, frameworks, and methods for each level and understand how the context will impact those strategies.
3) Understand how to communicate the significance of assessments to create buy-in and ownership.

Lesson 4.3.1: Overview and Challenges to Assessing Resilience

Description

This lesson will highlight some of the basic principles when assessing resilience, as well as the challenges in assessing the abstract concept of resilience. There are three fundamental things that learners should consider when assessing resilience.

The first consideration is identifying how resilience is operationalised in the specific context. Resilience is an abstract concept; thus, to be able to assess it, a learner must decide how it will be defined to make it observable and measurable.

A second consideration is the framework that will be used to assess resilience. Resilience can often be considered a process that is used during an adverse event, but it can also be considered an outcome of persistence. These distinctions are important as they will shape the assessment tools used.

A third consideration is the level (e.g., individual, community, organisational, national, multinational) at which resilience is being assessed. While the theoretical ideas of resilience are similar at the various levels, the conceptualisation, and ways to operationalise resilience vary at the differing levels; thus, the assessment tools need to match the level of assessment.

This lesson will also broadly address the challenges with assessing resilience. Some of the challenges with assessing resilience will be clarified through operationalising resilience in the context that is being assessed. However, despite clarity established in the operationalisation, some of the most prolific challenges include: 1) assessment of resilience capabilities or resilient responses; 2) the temporal components of resilience – resilience as a process unfolds overtime, making assessments difficult; 3) levels of analysis in assessing resilience – when assessing resilience at higher levels of analysis it both becomes increasingly more complex to measure and includes, but is also distinct from, resilience at lower levels of analysis; 4) confounding factors – it is difficult to measure resilience in isolation from other potential confounding factors, which is why it is difficult to ensure that one is actually measuring resilience and no other potentially overlapping factors. This lesson will discuss how leaders can take into account the key considerations in assessing resilience to combat some of the challenges to conducting the assessment.

Learning Objectives

Learners will be able to:

1) Identify the key considerations in assessing resilience.
2) Recognise the challenges in assessing resilience.
3) Discuss strategies for combating the challenges to assessing resilience in a variety of contexts.

Issues for Consideration in Designing the Lesson

1) Assessing resilience is complex and will vary depending on how it is operationalised and the societal lens that is used to understand resilience. Thus, the lesson should take into consideration the perspectives of the learners to identify how resilience is and can be assessed at all levels of a particular society.
2) It is important that learners understand the only way to assess resilience is to operationalise it in some manner (i.e., specify how it will be defined in a specific context to understand how to measure it). This enables an understanding of what aspects of resilience are assessed and which aspects may not be assessed in any assessment process.

Potential Questions

1) What methods have you used to assess resilience in your operating environment?
2) What challenges have you experienced in assessing resilience? What challenges do you anticipate in developing an assessment of resilience within your operating environment?
3) What is a leader's role in assessing resilience?

Learning Methods/Assessment

1) The lesson will benefit from minimal lecture (to present some of the foundational challenges) followed by a discussion both in small and larger groups.

Core Readings

1) Bowling, J., Jason, K., Krinner, L. M., Vercruysse, C. M., & Reichard, G. (2022). Definition and operationalization of resilience in qualitative health literature: A scoping review. *International Journal of Social Research Methodology*, 25(4), 495-509. https://doi.org/10.1080/13645579.2021.1903241
2) Cumming, G. S., Barnes, G., Perz, S., Schmink, M., Sieving, K. E., Southworth, J., & Van Holt, T. (2005). An exploratory framework for the empirical measurement of resilience. *Ecosystems*, 8, 975-987. https://doi.org/10.1007/s10021-005-0129-z
3) Davidson, J. L., Jacobson, C., Lyth, A., Dedekorkut-Howes, A., Baldwin, C. L., Ellison, J. C., & Smith, T. F. (2016). Interrogating resilience: Toward a typology to improve its operationalization. *Ecology and Society*, 21(2). Retrieved from https://www.jstor.org/stable/26270410
4) Kalaidjian, E., Becker, A., & Pinel, S. (2022). Operationalizing resilience planning, theory, and practice: Insights from US seaports. *Frontiers in Sustainability*, 3, 963555. https://doi.org/10.3389/frsus.2022.963555

Example of UK measuring resilience

The UK Government, acknowledging the challenges with measuring resilience, released a guide in 2019 that provides an overview of the various methodologies and tools, as well as assesses their strengths and weaknesses. This guide can be utilised as a base for discussing the various aspects of the conceptual and methodological challenges with measuring resilience.

Reference

UK Government. (2016). EoD Topic Guide: Measuring Resilience. Retrieved from https://assets.publishing.service.gov.uk/media/57a08956e5274a27b200002f/EoD_Topic_Guide_Measuring_Resilience_May_2016.pdf

Lesson 4.3.2: Methods to Assess Individual Resilience

Description

This lesson will describe methods to assess individual resilience and include some of the pros and cons of each of these methods. Broadly, assessments of resilience at the individual level can be done cognitively (e.g., define individual resilience), behaviourally (e.g., evaluate behaviours that demonstrate resilience), and affectively (e.g., measure if resilience is embodied by the individual). A short description of the primary behavioural and affective methods used by many social scientists, a resilience survey, done as a self-report tool will occupy much of the lesson. These self-report instruments in many cases have reliable properties that provide sufficient validity in assessing resilience. But self-reported data can also incur biases, which can be problematic for accurate assessment of individual resilience.

Other methods of assessing resilience on an individual level are observations, interviews, and focus groups. These additional methods require substantial resources and have drawbacks (e.g., time consuming to collect data, challenges with evaluating data, lack of coherence, and potential researcher bias) in providing accurate assessment. This lesson suggests that a combination of these methods is the most accurate way to assess resilience, although it might not be feasible to do so.

Learning Objectives

Learners will be able to:

1) Describe cognitive, behavioural, and affective methods to assess individual resilience.
2) Discuss how the definition of individual resilience (trait perspective, process perspective, outcome) will shape the assessment tools that are used.
3) Compare and contrast various methods to assess individual resilience and the context in which those methods are relevant.
4) Examine a leader's role in assessing individual resilience of their team.

Issues for Consideration in Designing the Lesson

1) External variables play a significant part of the discussion of assessing resilience such as the amount of time and resources available for assessment.
2) Resilience instruments, such as the "Connor Davidson Resilience Scale", although commonly used in Western countries, could have cultural dimensions that impact its reliability in other contexts.

Potential Questions

1) How does the time-distance (i.e., the amount of time between the event and the assessment) of an assessment from the event or circumstance impact resilience?
2) How do leaders effectively and efficiently assess the resilience of individuals in their organisation?
3) What are the factors of resilience found in common resilience instruments?

Learning Methods/Assessment

1) The lesson will use a variety of learning methodologies, including lectures, case studies, group discussions, and simulations.
2) The lesson will also include opportunities for learners to apply their learning through hands-on activities.

Core Readings

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Example of Resilience Scale for Adults

The Resilience Scale for Adults (RSA) is a well-established tool for assessing and evaluating resilience, specifically in the adult population. Developed in Norway, the RSA looks at six core dimensions of resilience, perception of self, perception of the future, social competence, family cohesion, and social support.

Reference

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Lesson 4.3.3: Methods to Assess Community Resilience

Description

This lesson will highlight the benefits and challenges to assessing community resilience within both the whole-of-government and whole-of-society perspectives. A whole-of-government approach to assessing community resilience would include considering the role that a government plays or played in resilience preparation for a disruption or the response that a government had during a disruption. The whole-of-society approach focuses more on the communities and assessment would centre on assessing the community. Some assessments may focus on both an integrated whole-of-government and whole-of-society response to adversity.

This lesson will also highlight the two considerations that are important in creating community assessment measures for resilience. One consideration focuses on formative assessment techniques, which include continuous monitoring of the community for resilience and providing feedback to guide development. The other consideration includes summative measures, which are measures of the interventions taken post crisis to evaluate the overall resilience at a specific point in time. Most of the time summative assessments are implemented; however, formative measures can enable leaders to be more prepared prior to disruptions by continuously monitoring a community's resilience processes and capabilities.

This lesson will also highlight the potential outcomes that may be anticipated from assessing community resilience. Outcomes from assessment of community resilience may vary; thus, leaders must anticipate a variety of potential results. One of the most important outcomes may be a better understanding of how well a community operates as a system in a crisis situation or how prepared they are to operate in a crisis as a networked system. This understanding can enable a leader to establish policies that enhance a community's capacities to operate as a networked system in times of crisis. Finally, this lesson will highlight the role and responsibilities of leaders in assessing community resilience. Leaders have an obligation to create plans and initiatives for assessing resilience as it creates an understanding of how well prepared a community is to face threats and challenges.

Learning Objectives

Learners will be able to:

1) Explain the value of assessing community resilience within various contexts (e.g., whole-of-government, whole-of-society).
2) Describe the two broad categories for community resilience assessment: "formative" and "summative."
3) Examine the outcomes that may be relevant to consider when assessing community resilience.
4) Explore the role of leaders in creating community resilience assessment plans and initiatives.

Issues for Consideration in Designing the Lesson

1) Assessing community resilience may vary greatly depending on whether a whole-of-government or whole-of-society approach is taken. The lesson may benefit from considering how using both approaches would be valuable to assessing community resilience.
2) If using a systems perspective to community resilience, it can be difficult to assess it as that requires an understanding of how the entire community is connected and able to respond as a collective entity. However, this approach provides the most robust assessment.

Potential Questions

1) What assessment techniques have you observed to assess community resilience?
2) How do you define the limits of a community in order to assess that community (e.g., municipality, networked groups)?
3) What is the leader's role in establishing community resilience assessment plans and measures?
4) How does a leader create buy-in to assess community resilience?

Learning Methods/Assessment

1) The lesson can use a variety of learning methodologies, including lectures, case studies, group discussions, and simulations.
2) Exercises where learners use various community resilience assessment methods may be the most beneficial for understanding this material.

Core Readings

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Example of New Zealand Resilience Index

The New Zealand Resilience Index (NZRI) is a standardised benchmarking and monitoring of disaster resilience at the sub-national level. It provides a standardised, quantitative measure to track changes in the resilience of communities over time. The NZRI includes resilience concepts across 7 capital frameworks (built (physically engineered structures and systems), economic, environmental, governance, cultural, social, and human), along with 13 national resilience indicators, and regional and local resilience data, that all contribute to the resilience of New Zealand.

Reference

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Resilience Reference Curriculum Writing Team Workshop, Vienna, February 2024.

Lesson 4.3.4: Methods to Assess Organisational Resilience

Description

This lesson will highlight methods and challenges to assessing organisational resilience. One of the first challenges that must be addressed prior to assessing organisational resilience is that it is multilevel in nature. This means that organisational resilience includes individuals, teams, and perhaps additional levels of consideration, such as departments and suppliers. However, this does not mean that organisational resilience is the sum of the resilience at lower levels of analysis; it is merely a consideration in identifying assessment techniques.

This lesson will also focus on considering what aspects of organisational resilience are to be assessed. This includes: 1) an assessment focused on capacities and capabilities of the organisation; 2) an assessment focused on practices that are used in the organisation in preparation for adversity or during adversity; 3) an assessment using a cultural lens to understand if the culture of the organisation is adaptable and able to withstand challenges; 4) an assessment focusing on organisational adaptability and how well the organisation adapted in the face of challenge or is able to adapt to challenges. Another consideration in assessing resilience is the process components being assessed (e.g., monitoring, response, organisational learning, or anticipatory policies for adversity).

In understanding how to assess organisational resilience, it is also important to include a discussion of potential outcomes of the assessment. The outcomes will depend on what aspects and process components are in the assessment. Some potential outcomes could include recognising deficiencies in the organisation and the need to create better policies to withstand adversity. Another potential outcome could be a better cultural understanding of how adaptable the organisation is to adversity, which could necessitate organisational culture change initiatives to embed a resilience mindset into the cultural values of the organisation. Finally, this lesson highlights the roles and responsibility of leaders in assessing the resilience of organisations, including how a leader establishes plans and initiatives for assessing organisational resilience.

Learning Objectives

Learners will be able to:

1) Recognise the multilevel nature of assessing organisational resilience.
2) Describe the indicators for assessing organisational resilience.
3) Discuss methods to assess organisational resilience by focusing on process components of resilience.
4) Examine the outcomes that may be relevant to consider when assessing organisational resilience.
5) Explore the role of leaders in creating organisational resilience assessment plans and initiatives.

Issues for Consideration in Designing the Lesson

1) The discussion of a leader's role in assessing organisational resilience is vitally important in this discussion. A leader needs to understand the key role they play in generating buy-in for organisational resilience measures.
2) Assessing organisational resilience is multi-faceted and will often include multiple techniques.
3) Assessing organisational resilience may include both qualitative and quantitative approaches. It is important to consider what the difference is between both and how both can be beneficial to understanding the resilience of an organisation.

Potential Questions

1) How does an organisation assess resilience over time?
2) How do qualitative and quantitative measures of organisational resilience vary? What are the benefits and drawbacks to both?
3) What is a leader's role in assessing organisational resilience? How does a leader generate buy-in to establish ongoing organisational resilience assessments?

Learning Methods/Assessment

1) The lesson can use a variety of learning methodologies, including lectures, case studies, group discussions, and simulations.
2) Case studies focused on the leader's role in assessing organisational resilience may be most beneficial for understanding the concept.

Core Readings

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Example of Australia's Resilience Health Check

Australia's Department of Home Affairs offers organisations an online Organisational Resilience Health Check, which allows any organisation to conduct a quick self-assessment to evaluate the organisation's resilience attributes and find ways to improve its capabilities in resilience. The tool is an example of the various indicator-based methods to assess organisational resilience.

Reference

Australian Government. (n.d.). Organisational Resilience Health Check: Overview. Retrieved from https://www.organisationalresilience.gov.au/HealthCheck/overview

Lesson 4.3.5: Methods to Assess National Resilience

Description

Assessing the effectiveness of strategies, frameworks, and measures is fundamental for sustainable development of resilience. It is also one of the hardest aspects of developing resilience. Assessing national resilience can involve qualitative and quantitative assessments of performance against the existing national strategy or framework, maturity and performance indices, or benchmarking against other countries or commonly used frameworks, such as NATO's seven Baseline Requirements.

Learning Objectives

Learners will be able to:

1) Describe the relationships between various factors that influence national resilience.
2) Understand the role of government agencies, stakeholders, and communities in the assessment process.
3) Compare and contrast resilience assessment methodologies employed in different countries and assess their effectiveness in guiding policy and resource allocation decisions.
4) Design a comprehensive national resilience assessment framework tailored to the needs of a specific country.

Issues for Consideration

1) There is no universally accepted framework or methodology for assessing national resilience. While existing frameworks can be used as an inspiration, the assessment framework has to be nationally tailored.
2) While quantitative methods have their uses in resilience assessments, they are challenged by resilience objectives that are typically qualitative in nature.
3) The involvement of diverse stakeholders is required for integrating diverse views on resilience, making it challenging to reach agreement on methods and results.

Potential Questions in Designing the Lesson

1) What are the objectives of resilience assessments in the context of national resilience?

2) Which widely used frameworks and methodologies can be used to construct a national resilience assessment framework?
3) How do you account for the diversity of the required stakeholders?

Learning Methods/Assessment

1) The lesson can use a variety of learning methodologies, including lectures, case studies, group discussions, and simulations.
2) The lesson will also include opportunities for learners to apply their learning through hands-on activities.

Core Readings

1) Argyroudis, S. A., Mitoulis, S. A., Hofer, L., Zanini, M. A., Tubaldi, E., & Frangopol, D. M. (2020). Resilience assessment framework for critical infrastructure in a multi-hazard environment: Case study on transport assets. *Science of the Total Environment*, 714, 136854. https://www.sciencedirect.com/science/article/pii/S0048969720303648
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Case of Nepal 2019

In 2019, the UK Government published a report on Tools for Measurement of Resilience in Nepal. The report aimed to identify tools and methods for measuring Nepal's resilience portfolio. While specifically aimed at assisting Nepal in measuring resilience, the report points out several challenges with measuring resilience and provides a comprehensive review of the potential tools and methods that could be utilised. This case study could be used for asking the learners to assess the pros and cons of applying different methodologies and identifying methods and tools from the report that could be useful for their own country's efforts to measure resilience.

Reference

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Lesson 4.3.6: Methods to Assess Multinational Resilience

Description

Assessing multinational resilience is challenged by the limited comparability of national strategies and frameworks. Consequently, measuring multinational resilience should be based on mutually agreed and shared goals. Moreover, assessments should be conducted in a manner that acknowledges and allows for national priorities, frameworks, and approaches to resilience.

Learning Objectives

Learners will be able to:

1) Identify key data sources and stakeholders relevant to multinational resilience assessments.
2) Describe the interdependencies and complexities of factors influencing multinational resilience.
3) Evaluate the strengths and weaknesses of current multinational resilience assessment strategies.
4) Formulate recommendations for improving the accuracy, comprehensiveness, and inclusivity of multinational resilience assessments.
5) Design an innovative and adaptable multinational resilience assessment framework that addresses emerging global challenges.

Issues for Consideration in Designing the Lesson

1) Most assessment frameworks for multinational resilience are focused on disaster resilience. Consider how these can be utilised as examples across other areas of resilience.
2) In case of lack of available examples of multinational frameworks, consider asking the learners to select 2-3 national frameworks and suggest a framework for assessing those based on the identified similarities.

Potential Questions

1) Each nation has generally unique objectives and priorities for resilience. How do you measure collective resilience in a multinational context?
2) What are the possible other complexities that should be considered?
3) What qualitative and quantitative methods are available for measuring resilience in multinational resilience? What are the primary sources and how would you utilise the available data?

Learning Methods/Assessment

1) The lesson will use a variety of learning methodologies, including lectures, case studies, group discussions, and simulations.
2) The lesson will also include opportunities for learners to apply their learning through hands-on activities.

Core Readings

1) Béné, C., Bakker, D., Chavarro, M. J., Even, B., Melo, J., & Sonneveld, A. (2021). Global assessment of the impacts of COVID-19 on food security. *Global Food Security*, 31, 100575. https://doi.org/10.1016/j.gfs.2021.100575
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Case of UN Disaster Risk Reduction

The Sendai Framework Monitor is an online tool that captures self-reported (by member states) progress data against a set of 38 Sendai Framework indicators towards the seven Sendai Framework global targets. The indicators measure progress and determine global trends in the reduction of risk and losses.

The Sendai Framework is the successor instrument to the Hyogo Framework for Action (HFA) 2005-2015: Building the Resilience of Nations and Communities to Disasters. It is the outcome of stakeholder consultations initiated in March 2012 and inter-governmental negotiations held from July 2014 to March 2015, supported by the UN Office of Disaster Risk Reduction (UNDRR) upon request of the UN General Assembly.

The Sendai Framework focuses on the adoption of measures to address the three dimensions of disaster risks (exposure to hazards, vulnerability and capacity, and hazard characteristics) to prevent the creation of new risks, reduce existing risks, and increase resilience. The Sendai Framework outlines seven global targets and four priorities to guide and against which to assess progress.

Reference

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Resilience Reference Curriculum Writing Team Workshop, Vienna, February 2024.

Abbreviations

AI	Artificial Intelligence
ANA	Afghan National Army
CCDCOE	NATO Cooperative Cyber Defence Center of Excellence
CER	Critical Entities Resilience Directive
CIMIC	Civil-Military Cooperation
DDoS	Denial of Service Attacks
DIME	Diplomatic, Information, Military and Economics
EDT	Emerging and Disruptive Technology
EU	European Union
IoP	Instrument of Power
IRPF	Infrastructure Resilience Planning Framework
MIoP	Military Instrument of Power
NATO	North Atlantic Treaty Organisation
NGO	Non-Governmental Organisation
NPD	Nationaldemokratische Partei Deutschlands
OECD	Organisation for Economic Co-operation and Development
PME	Professional Military Education
PRC	People's Republic of China
RRC	Resilience Reference Curriculum
RT	Russia Today
SME	Subject-matter expert
SWOT	Strengths, Weaknesses, Opportunities and Threats
UN	United Nations
U.S.	United States

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Theme 1: What is Resilience: Fundamentals of Resilience

Module 1.1: Introduction to the Concept of Resilience

Lesson 1.1.1: Definitions and Terminology

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Lesson 1.1.2: Levels of Resilience

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Lesson 1.1.3: Physical and Psychological Elements of Resilience

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Lesson 1.1.4: Interdependencies of Resilience

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Lesson 1.1.5: Process of Resilience: Successive Stages

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Module 1.2: Threats to Resilience

Lesson 1.2.1: Why Resilience? Contemporary Security Environment: Variety of Security Threats and Challenges

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Lesson 1.2.2: Internal Threats to Resilience

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List of Contributors

Project Leads – Curriculum Designers

NAME	INSTITUTION	
Ambassador Shota Gvineria	Baltic Defence College	
Dr. Torsten Sevecke	Führungsakademie der Bundeswehr – Command and Staff College	
Dr. Alan Stolberg	RAND Corporation	

Theme Leads

NAME	INSTITUTION	
Assoc. Prof. Dalia Bankauskaitė	Vilnius University	
Dr. Mattias Eken	RAND Europe	
Dr. Aleks Nesic	U.S. Foreign Service Institute	
Celeste Raver, Ph.D.	Stockdale Center for Ethical Leadership, United States Naval Academy	

Contributors

NAME	INSTITUTION	
Christian Fjäder	Geostrategic Intelligence Group	
Olaf Garlich	Partnership for Peace Consortium of Defense Academies and Security Studies Institutes	
Michal Gloznek	International Staff, North Atlantic Treaty Organization (NATO)	
Prof. Shaul Kimhi	ResWell, Tel Aviv University	
Andrew Ledford, Ph.D.	Department of Leadership, Ethics, and Law, United States Naval Academy	
Dr. Matthew Light	Centre for Criminology & Sociolegal Studies, University of Toronto	
Skaiste Masalaityte	International Staff, North Atlantic Treaty Organization (NATO)	
Dr. Marc Ozawa	Independent researcher	
Yurii Punda	Military Institute of Taras Shevchenko National University of Kyiv	

Vitālijs Rakstiņš	Rīga Stradiņš University	
Prof. Dr. Giray Sadik	European Studies Research Center at AYBU	
Martin Schuster	Partnership for Peace Consortium of Defense Academies and Security Studies Institutes	
Dr. Anne-Marie Singh	Toronto Metropolitan University	
Dr. Todor Tagarev	Institute of Information and Communication Technologies, Bulgarian Academy of Sciences	
Falk Tettweiler	George C. Marshall European Center for Security Studies	
Mikael Wigell	Finnish Institute of International Affairs	

PfPC Reference Curriculum Lead Editors

Ambassador Shota Gvineria
Baltic Defence College
Shota.Gvineria@baltdefcol.org

Major Martin Schuster, DEU AF
Partnership for Peace Consortium
Schuster.martin89@gmail.com

Layout Coordinator / Distribution

Gabriella Lurwig-Gendarme
NATO International Staff
Defence Education Enhancement Programme (DEEP)
lurwig.gabriella@hq.nato.int

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