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Razvoj odpornosti mest - Vodnik za združevanje obvladovanja tveganja nesreč in prilagajanja podnebnim spremembam - Zgodovinska območja

City Resilience Development - Guide to combine disaster risk management and climate change adaptation - Historic areas

Entwicklung resilienter Städte - Leitfaden zur Kombination von Katastrophenrisikomanagement und Anpassung an den Klimawandel - Historische Gebiete

Développement des villes résilientes - Guide pour combiner la gestion des risques de catastrophe et l'adaptation au changement climatique - Zones historiques

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September 2022

AGREEMENT

ICS 13.020; 13.200

English version

City Resilience Development - Guide to combine disaster risk management and climate change adaptation - Historic areas

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CWA 17727:2022 (E)**European foreword**

This CEN Workshop Agreement (CWA 17727:2022) has been developed in accordance with the CEN-CENELEC Guide 29 “CEN/CENELEC Workshop Agreements – A rapid prototyping to standardisation” and with the relevant provisions of CEN/CENELEC Internal Regulations – Part 2. It was approved by a Workshop of representatives of interested parties on 2022-04-28, the constitution of which was supported by CEN following the public call for participation made on 2021-04-22. However, this CEN Workshop Agreement does not necessarily include all relevant stakeholders.

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CWA 17727:2022 (E)**Introduction****Resilience of historic areas**

While negative impacts of climate-related and other hazards on urban areas are widely discussed in contemporary literature and research, their impacts on cities and communities, which are inextricably linked to historic areas, have not yet been studied extensively. Combined work on disaster risk reduction and climate change adaptation in and for historic areas, with their unique structure, calls for advanced technologies, models, methods, processes and tools. To make a historic area resilient, the local community, municipal staff, practitioners and decision-makers need to address both the chronic stresses posed by climate change as well as the shocks and existing risks posed by other disasters. However, to date, typical management frameworks for disaster risk management (DRM) and climate change adaptation (CCA) still consider shocks and chronic stresses in isolation. Furthermore, the term “city resilience” or additionally, “community resilience” can mean many different things to different actors, depending on the context in which it is applied.

The ARCH DRM/CCA Framework

The aim of the CEN/WS ARCH, a temporary working group, was to further develop the ARCH Project’s DRM/CCA Framework, together with a broader community of experts, including municipal staff. The framework was created to help, for example, practitioners, decision-makers, heritage managers, public administrators, and other actors in the field of DRM, CCA, and historic area management to:

- acknowledge the need for socially just resilience building activities,
- understand which steps are necessary to develop a Resilience Action Plan that combines DRM and CCA processes and that takes into account the needs and opportunities of historic areas when building resilience,
- provide guidance on how to operationalize the different steps of the DRM/CCA Framework,
- provide guidance on which stakeholders to involve in each step of the DRM/CCA Framework,
- provide a conceptual structure for the use of different supporting tools and materials within the steps of the DRM/CCA Framework.

The content in this document is based on the DRM/CCA Framework of the ARCH project, which centres on historic areas. Nonetheless, the DRM/CCA Framework can also be applied to other use cases in other parts of a given city, not necessarily only on historic areas.

The framework is based on the DRM cycle proposed by Jigyasu, King, and Wijesuriya in the UNESCO manual on managing disaster risk for world heritage [1] as a starting basis and extends it with the climate change adaptation planning cycle of Climate ADAPT’s Urban Adaptation Support Tool [2]. This combined planning cycle is then further extended with considerations from topic-specific frameworks relevant to historic areas, like the Culture in City Reconstruction and Recovery Framework [3], the SMR European Resilience Management Guideline [4], and the RESIN Conceptual Framework [5].

CWA 17300 series on “City Resilience Development”

This document complements the already existing standards series CWA 17300 on “City Resilience Development”. This supports the uptake and consideration of the standards content in relation to enhance resilience in cities and communities. The standards series consists of the following documents:

- CWA 17300 *City Resilience Development – Operational Framework*
- CWA 17301 *City Resilience Development – Maturity Model*

- CWA 17302 *City Resilience Development – Information Portal*

The CWA on Operational Guidance is the overarching document that refers to the CWA 17301 *City Resilience Development – Maturity Model*, the CWA 17302 *City Resilience Development – Information Portal*, as well as to other supporting tools.

Technical Committees

The cross-sectoral topic of disaster risk management and climate change adaptation of historic areas is discussed in the following Technical Committee:

- CEN/TC 346 *Conservation of cultural heritage*,
- ISO/TC 292 *Societal and citizen security*,
- ISO/TC 268 *Sustainable cities and communities*,
- ISO/TC 207/SC 7 *Greenhouse gas and climate change management and related activities*.

Wherever possible, the document refers to existing standards from the above mentioned Technical Committees.

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CWA 17727:2022 (E)

1 Scope

The document specifies a resilience-building framework for historic areas within cities and communities that defines and combines disaster risk management (DRM) and climate change adaptation (CCA) activities in an integrated approach. The framework is applicable for historic areas that face natural and climate change-induced hazards. The framework includes a:

- characterisation of historic areas and their exposure to natural and climate change-induced hazards,
- set of requirements and recommendations on how historic areas can become more resilient,
- step-by-step process to manage disasters, and to perform and monitor resilience-building activities.

This document is intended to be used by decision makers and technical staff at the city/community and historic area levels, as well as by councillors working on risk and vulnerability assessment, climate change adaptation and resilience enhancement. Other stakeholders who may wish to use the document include disaster risk managers, heritage managers, public administrators, sustainability and resilience officers, critical infrastructure managers, service providers, emergency service providers, civil society associations, non-governmental organisations, academic and research institutions, as well as consultancies.

2 Normative references

There are no normative references in this document.

3 Terms and definitions (standards.iteh.ai)

For the purposes of this document, the following terms and definitions apply.

ISO and IEC maintain terminological databases for use in standardisation at the following addresses:

- ISO Online browsing platform: available at <https://www.iso.org/obp>
- IEC Electropedia: available at <https://www.electropedia.org/>

3.1

chronic stress

underlying human and natural pressure or tension that causes persistent negative impacts relating to environmental degradation, social inequality and economic instability

[SOURCE: ISO 37123:2019, definition 3.9, modified — “chronic” was added, “in a city” and the examples were deleted]

3.2

city

human settlement formed by a central area, neighbourhoods and suburbs reciprocally connected but not necessarily coincident with administrative boundaries, and inclusive of all the urban stakeholders that play key roles in its functioning

[SOURCE: CWA 17300:2018, definition 3.5]

3.3

climate change

change in climate that persists for an extended period, typically decades or longer

NOTE 1 to entry:to entry: Climate change can be identified by such means as statistical tests (e.g. on changes in the mean variability).

NOTE 2 to entry:to entry: Climate change might be due to natural processes, internal to the climate system, or external forcing such as modulations of the solar cycles, volcanic eruptions, and persistent anthropogenic changes in the composition of the atmosphere or in land use.

[SOURCE: ISO 14090:2019, definition 3.5]

3.4

climate change adaptation

process of adjustment to actual or expected climate and its effects

NOTE 1 to entry:to entry: In human systems, adaptations seeks to moderate or avoid harm or exploit beneficial opportunities.

NOTE 2 to entry:to entry: In some natural systems, human intervention can facilitate adjustment to expected climate and its effects.

[SOURCE: ISO 14090:2019, definition 3.1]

3.5

disaster

situation where widespread human, material, economic or environmental losses have occurred which exceeded the ability of the affected organisation, community or society to respond and recover using its own resources

[SOURCE: ISO 22300:2021, definition 3.1.73]

3.6

disaster risk reduction

application of policies aimed at preventing new and reducing existing disaster risk and managing residual risk, all of which contribute to strengthening resilience and therefore to the achievement of sustainable development

[SOURCE: ISO 22300:2021, definition 3.1.74, modified — “policy aimed” changed to “application of policies aimed”]

3.7

emergency

sudden, urgent, usually unexpected occurrence or event requiring immediate action

EXAMPLE Child falls into a fast running river.

[SOURCE: ISO 22300:2021, definition 3.1.87, modified — example was added]

3.8

framework

system of requirements and recommendations designed to support the accomplishment of disaster risk management and *climate change adaptation* (3.4)

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3.9

hazard

source of potential harm

[SOURCE: ISO 22300:2021, definition 3.1.110]

3.10

historic area

any group of buildings, structures and open spaces including archaeological and paleontological sites, constituting human settlements in an urban or rural environment, the cohesion and value of which, from the prehistoric, archaeological, architectural, industrial, historic, aesthetic or sociocultural point of view are recognized

EXAMPLE Prehistoric sites, historic towns, old urban quarters, villages and hamlets as well as homogeneous monumental groups.

[SOURCE: Adapted from UNESCO Recommendation Concerning the Safeguarding and Contemporary Role of Historic Areas. Nairobi, 1976]

3.11

historic urban landscape

urban area understood as the result of a historic layering of cultural and natural values and attributes, extending beyond the notion of “historic centre” or “ensemble” to include the broader urban context and its geographical setting

[SOURCE: UNESCO. (2011). Recommendation on the Historic Urban Landscape adopted by the General Conference at its 36th session]

3.12

impact

evaluated consequence of a particular outcome

[SOURCE: IEC 62443-3-3 Corrigendum 1:2014, definition 3.1.27]

3.13

resilience

ability of a *historic area* (3.10) as a *social-ecological system* (3.21) to cope with *hazard* (3.9) by responding and adapting in socially just ways that maintain the historic area’s functions and heritage significance (including identity, integrity, authenticity)

3.14

resilience action plan

plan outlining actions to improve a long-term or overall resilience objective

[SOURCE: ISO 9000:2015, definition 3.5.12, modified — “resilience”, “outlining actions” was added]

3.15

resilience building process

sequence of *resilience* (3.13) enhancing activities

3.16

risk

effect of uncertainty

NOTE 1 to entry: to entry: An effect is a deviation from the expected. It can be positive, negative or both. An effect can arise as a result of a response, or failure to respond, to an opportunity or to a threat to objectives.

NOTE 2 to entry: to entry: Uncertainty is the state, even partial, of deficiency of information related to, understanding or knowledge of, an event, its consequence, or likelihood.

[SOURCE: ISO 14090:2019, definition 3.12]

3.17

risk assessment

overall process of risk identification, risk analysis and risk evaluation

[SOURCE: ISO 22300:2018, definition 3.203]

3.18

risk mitigation

lessening or minimising of the adverse impacts of a hazardous event

[SOURCE: ISO 22300:2018, definition 3.1.225]

3.19

risk prevention

process of either avoiding risks or reducing their probability

3.20

shock

natural or man-made event that causes a *disaster* (3.5)

EXAMPLE Flood, earthquake, volcanic eruption, hurricane, wildfire, pandemic.

[SOURCE: ISO 37123:2019, definition 3.8]

3.21

social-ecological system

SES

complex system of people and nature, emphasizing that humans are seen as a part of, not apart from, nature

[SOURCE: Berkes, F., Folke, C., & Colding, J. (Eds.). (2000). Linking social and ecological systems: management practices and social mechanisms for building resilience. Cambridge University Press.]

3.22

sustainability

ability of a system to be maintained for the present and future generations

[SOURCE: EN 16627:2015, definition 3.62]

3.23

vulnerability

intrinsic properties of something resulting in susceptibility to a risk source that can lead to an event with a consequence

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[SOURCE: ISO Guide 73:2009, definition 3.6.1.6]

4 Characterisation of historic areas

This clause defines a template that should be filled out by the end users of the document to characterise the historic area of concern and the hazards it faces. The template assumes an understanding of a historic area as a social-ecological system (see Figure 1) that consists of the built and natural environments which make up the ecological system, and the social, cultural, economic, and policy aspects which make up the social system. These two subsystems are related to each other, with the ecological system providing functions and services to the social system and the social system conducting interventions on the ecological system. It is important to note that the social and ecological systems, as well as their elements, cannot be viewed independently from each other, but as interrelated and partially overlapping [6][7].

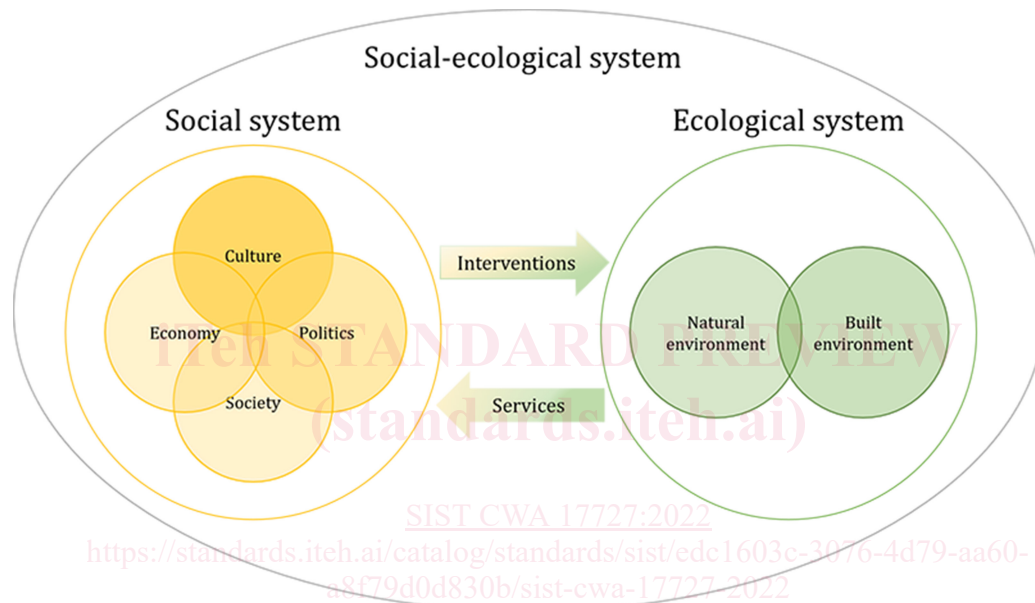


Figure 1 — Social-ecological system (SES) [7]

The term historic area represents different heritage concepts such as Historic Urban Landscapes (HUL), cultural landscapes, archaeological sites and others. Their specific assessment and the definition of cultural heritage values as well as requirements are brought into the CEN Workshop Agreement within Step 1 and 2 of the DRM/CCA Framework (see clause 5). These concepts should be established independently and prior to this CEN Workshop Agreement, and they follow a set of rules of the different concepts (e.g. HUL and Cultural Landscapes as defined by UNESCO World Heritage Committee).

The template provided in Annex A should be used to describe the historic area in terms of its subsystems and constituent elements. These include:

- ecological subsystem elements (e.g. built and natural environment, supporting infrastructures and services, movable heritage),
- social subsystem elements (e.g. intangible heritage features, economic features, policy context),
- the functions and uses of the historic area, as well as
- risk information (e.g. hazards, exposed elements, vulnerability, impacts) about the historic area.

When characterising a historic area using the template, all subsystems and their constituent elements that are essential for the functioning of the historic area, as well as for its cultural significance, should be identified and described in detail at the appropriate section of the template. To do so, local examples for specific subsystem elements and characteristics should be given.

The identification of subsystems and elements should be done in consultation with local experts and community groups to ensure that all aspects relevant for the local population are included in the characterisation.

5 General information

This clause introduces the overall DRM/CCA Framework (see Figure 2) and how the steps and phases are connected to one another. The DRM/CCA Framework consists of ten steps spread across the three phases:

- pre-disaster phase,
- during-disaster phase, and
- post-disaster phase.

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