# Climate change related urban transformation and the role of cultural heritage

Matthias Ripp & Christer Gustafsson
(Eds.)


Foreword by Claire Cave

IL Sileno Edizioni

Geographies of the Anthropocene

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Matthias Ripp & Christer Gustafsson
*Editors*

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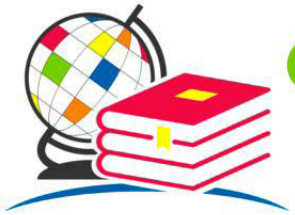

Geographies of the Anthropocene

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# Geographies of the Anthropocene

Open Access and Peer-Reviewed series

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The book series “Geographies of the Anthropocene” edited by the Scientific International Publisher “Il Sileno” (Il Sileno Edizioni) will discuss the new processes of the Anthropocene epoch through the various worldviews of geoscientists and humanists, intersecting disciplines of Geosciences, Geography, Geoethics, Philosophy, Socio-Anthropology, Sociology of Environment and Territory, Psychology, Economics, Environmental Humanities and cognate disciplines.

Geoethics focuses on how scientists (natural and social), arts and humanities scholars working in tandem can become more aware of their ethical responsibilities to guide society on matters related to public safety in the face of natural hazards, sustainable use of resources, climate change and protection of the environment. Furthermore, the integrated and multiple perspectives of the Environmental Humanities, can help to more fully understand the cultures of, and the cultures which frame the Anthropocene. Indeed, the focus of Geoethics and Environmental Humanities research, that is, the analysis of the way humans think and act for the purpose of advising and suggesting appropriate behaviors where human activities interact with the geosphere, is dialectically linked to the complex concept of Anthropocene.

The book series “Geographies of the Anthropocene” publishes online volumes, both collective volumes and monographs, which are set in the perspective of providing reflections, work materials and experimentation in the fields of research and education about the new geographies of the Anthropocene.

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The volume proposals can be presented in English, Italian, French or Spanish.

The choice of digital Open Access format is coherent with the flexible structure of the series, in order to facilitate the direct accessibility and usability by both authors and readers.

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# 2. Cultural heritage governance typologies and their role in urban transformation

*Louis J. Durrant[1], Jacques Teller[2], Atish N. Vadher[3,4], Aitziber Egusquiza Ortega[5]*

**Abstract**

Climate change has increased the intensity and frequency of disaster events worldwide, which in turn, has forced modern civilisation to reflect on the resilience of its built and natural environments. Within this broader context, urban areas have been forced to adapt to cope with the increasing risk of disaster events, with adaptions often having a direct impact on cultural heritage, especially where this heritage is exposed to the consequences of adaptation that are unplanned or unforeseen. Cultural heritage is, therefore, being reconsidered as an untapped 'opportunity space' disputed by international organisations and stakeholders. These stakeholders include local communities, external visitors, heritage experts and urban planners. Overcoming the challenges raised by the simultaneous urban adaptation to climate change and conservation of cultural heritage requires these stakeholders and decision-makers to enter a 'trading zone'. The trading zone is considered a space where stakeholders can negotiate conflicting or contradictory objectives and explore potential trade-offs between heritage preservation and climate change adaptation, leading to mutually beneficial outcomes. Building such a trading zone requires an appreciation of governance but evidence suggests there is a lack of understanding of governance structures related to climate change, including disaster risk management, disaster risk reduction and climate adap-

[1] LEMA Research Group, Urban & Environmental Engineering Department, University of Liège, 4000 Liège, Belgium. Corresponding Author louis.durrant@uliege.be

[2] LEMA Research Group, Urban & Environmental Engineering Department, University of Liège, 4000 Liège, Belgium. jaques.teller@uliege.be

[3] Faculty of Arts, Science and Technology, University of Northampton, Northampton NN1 5PH, United Kingdom.

[4] School of Science, Loughborough University, Loughborough, LE11 3TU, United Kingdom. A.N.Vadher@lboro.ac.uk

[5] TECNALIA, Basque Research and Technology Alliance (BRTA), Parque Científico y Tecnológico de Bizkaia,Astondo Bidea, Edificio 700, E-48160 Derio, Spain. aitziber.egusquiza@tecnalia.com

tation. Greater clarity about who does what, how they do it and when they do it within the context of climate change, especially disaster events, would help to facilitate this trading zone, helping to identify potential situations where there may be room for compromise and where mutually beneficial trade-offs exist. Stakeholders can negotiate conflicting or contradictory objectives within this trading zone with a greater appreciation of the different experts' roles in the urban transformation. Furthermore, the stakeholders will also be better equipped to develop more practical and workable solutions, which incentivises all stakeholders. This book chapter builds upon and contributes towards ongoing Horizon research projects. In particular, the Shelter project and the Rescue Me project. These projects explored pre-existing literature to identify four preliminary governance typologies when exploring the anatomy of urban and rural historic areas at different spatial scales. The four governance typologies defined were Hierarchical, Participatory & collaborative, multi-level & networking and Community-led. This book chapter describes these four typologies in greater detail, reflecting upon them with ongoing working examples and exploring them within the context of climate-driven urban transformation. We propose that these typologies form the basis for further research. A refined version of these governance typologies complemented by further examples will help inform the development of the trading zone. In turn, stakeholders identify more adaptive governance processes, allowing them to shift from one typology to another according to the stakes involved. This will provide a theoretical platform to facilitate the integration of CH sites into broader decision-making processes, enhancing the synergies between heritage and other stakeholders.

**Keywords**

Cultural Heritage; Governance; Governance Typology; Stakeholders; Urban Transformation

## 1. Introduction

Cultural heritage (CH) is a unique concept encompassing various tangible and intangible elements (Vecco, 2010; Lenzerini, 2011; Munjeri, 2018). These tangible and intangible elements transcend time, connecting people to their past, present, and future (Brumann, 2015; Little et al., 2019 & Jones, 2021). CH is a concept that inherently belongs to local communities (Ripp,

2018), reinforcing their sense of place (Csurgó & Smith, 2022; El-Barbary et al., 2022) as well as reinforcing and even restoring the social cohesion of communities within an area (Reeves & Plets, 2015). Furthermore, CH is a powerful mechanism for social empowerment (Hassan, 2020). In short, CH is an essential concept transcending traditional boundaries with myriad benefits.

In this context, scholars across the academic community have noted a paradigm shift in the CH discourse (Aaroz, 2011; Smelter, 2013; Wiktor-Mach, 2019). Within this paradigm shift, our perceptions of CH and its role in the broader sustainability theory, are changing (Aaroz, 2011; Smelter, 2013; Wiktor-Mach, 2019; Cerquetti & Romagroli, 2022). In part, the paradigm shift is stimulated by the perceived vulnerability of CH to disaster events due to climate change (Sabbioni et al., 2009; Fatoric & Seekamp, 2017; Thomas et al., 2018; Sensana et al., 2020). The paradigm shift can be seen internationally across academia, policy, and practice. By way of example, international organisations such as UNESCO, ICCROM, and ICOMOS champion the importance of CH as a component of sustainability in the urban agenda (Pereria Roder & Van Oers, 2011; UNESCO, 2015; ICOMOS, 2016; Labadi, 2017).

Furthermore, UNESCO continually strengthens its rhetoric and regulatory framework to help align CH with sustainability and climate change (UNESCO, 1972; UNESCO, 2017). In parallel, academic researchers have begun to explore the challenges and implications of integrating CH into many avenues of research. By way of example, many researchers have attempted to build upon the work of Hawkes (2001), who explored the role of CH as the fourth pillar of sustainability (Nurse, 2000; Astara, 2014; Sabatini, 2019). In this research, scholars explore culture alongside economy, environment, and society (Barbier, 1987; Puvis et al., 2019). Similarly, scholars such as Petti et al. (2020) and Aureli et al. (2022) have explicitly explored the harmonisation of culture with our sustainable development targets. Other relevant avenues of research that have emerged within this paradigm shift including the integration of CH into broader disaster risk management (DRM) and disaster risk reduction (DRR) theory and practices (Ravankhah et al., 2017; Staton-Gedes & Soz, 2017; Garcia, 2019). Within this avenue of research, experts are attempting to enhance the resilience of CH sites to natural disasters as a result of climate change (Sabbioni et al., 2019). Also, experts have attempted to apply the concept of circular economy strategies to the management of CH within the context of sustainability (Foster, 2020). Scholars have more recently noted CH's importance in urban regeneration (Boeri et al., 2013; Flores de

Leon et al., 2020). It is also important to note the emerging avenue of research around CH and urban transformation (McCormick et al., 2013; Hölscher & Frantzeskaki, 2021) and growth (Ripp, 2022).

In summary, the ongoing research around CH is an essential component of our sustainable future. CH is no longer a sectoral interest but a seemingly multidisciplinary concept that links people to their environments in unique and powerful ways. As such, successfully integrating CH into broader sustainability thinking provides a vital research opportunity with growing momentum. With more comprehensive research in mind, this book chapter focuses on the role of CH within the broader sustainability space, specifically, how CH stakeholders (and their unique perspectives and knowledge) could be brought into broader discussions and decision-making processes within dynamic urban environments.

It is here that we should link to the research being conducted by Gustafsson (2010, 2011). In short, Gustafsson (2010, 2011) explores the idea that stakeholders can negotiate conflicting or contradictory objectives within a 'trading zone'. The trading zone refers to an application-oriented theoretical platform. The platform provides a place where stakeholders can develop approaches to solving boundary-spanning challenges for regional growth, strengthening competitiveness, and developing building conservation. The trading zone is contested by international organisations and many stakeholders, including local communities, external visitors, heritage experts, and urban planners. Stakeholders can negotiate conflicting or contradictory objectives in this trading zone, explore trade-offs, and define mutually beneficial outcomes. The development of this trading zone, however, requires an in-depth understanding of governance around CH sites. In particular, the stakeholders and governance mechanisms that contest and influence this space. This book chapter aims to clarify the potential stakeholders and governance typologies that can be used to inform the development of this trading zone. To achieve this, the chapter combines two separate, but interrelated avenues of research previously explored by the authors.

The first avenue of research was conducted as part of a Horizon 2020-funded project called The SHELTER Project (Shelter Project, 2023). In this project, researchers from the University of Liege adapted the Organigraph technique (Mintzberg & Van der Heyden, 1999) to co-create detailed governance maps with stakeholders from five Open labs (Durrant et al., 2022; Melandri et al., unpublished). This research yielded various outcomes, including a standardised key for building governance maps, a replicable methodology,

five unique Organigraphs, and a plethora of raw data from recorded interviews, informal discussions, and comments. The raw data directly explored the strengths, weaknesses, opportunities, and threats within the governance of the five Open Labs within the SHELTER Project. This research can be found in a deliverable submitted in November 2021 (Durrant & Teller, 2021).

The second avenue of research explores the concept of governance typologies. The term governance typologies build upon the idea that there is commonly observed governance 'types', 'models', 'structures', and 'systems' operating within CH assets. The research aimed to define a replicable schema for pinpointing the different types of governance within heritage sites and how they manifest in practice. The foundations for this research were also established within the SHELTER Project (Shelter Project, 2023) but continue to evolve within another Horizon 2020-funded project called The RescueME Project (RescueMe Project, 2023). The conceptual foundations were published within a deliverable entitled 'D2.3 PART A - Anatomy for Historic Areas' (Tamborrino et al., 2021; see subsection 4.4, pages 34-48). Within this deliverable, the authors distilled four preliminary governance typologies defined from a review of the relevant literature. These governance typologies were defined as:

- Hierarchical Governance
- Participatory or Collaborative Governance
- Networking and multi-level Governance
- Community Led Governance.

The structure of this book chapter is presented in Figure 1. The book chapter begins by briefly exploring the broader literature around CH governance and the idea of the trading zone as defined by Gustafsson (2010). These concepts are presented so the reader can appreciate the conceptual boundaries of the book chapter. Second, the authors present the key outcomes from the two topics of research outlined above. These key outcomes include a comprehensive list of relevant stakeholder groups and their perceived role in CH governance. Finally, a refinement of the four governance typologies outlined previously in the D2.3 PART A - Anatomy for Historic Areas (Tamborrino et al., 2021) within the SHELTER Project.

The Chapter culminates in an exploration of these outcomes in the context of urban transformational literature. The final section of the chapter focuses specifically on the potential value of these research outcomes in the development of the trading zone defined by Gustafsson (2010; 2011). Building on

the assumption that greater clarity around *who does what, how they do it, and when they do it* within climate change, especially disaster events, would help identify potential situations where such trade-offs exist. Stakeholders can negotiate conflicting or contradictory objectives within this trading zone with a greater appreciation of the different experts' roles in the urban transformation, overcoming scales within climate change. In addition, all parties will be better equipped to develop more practical and workable solutions, which all stakeholders appropriately incentivise.

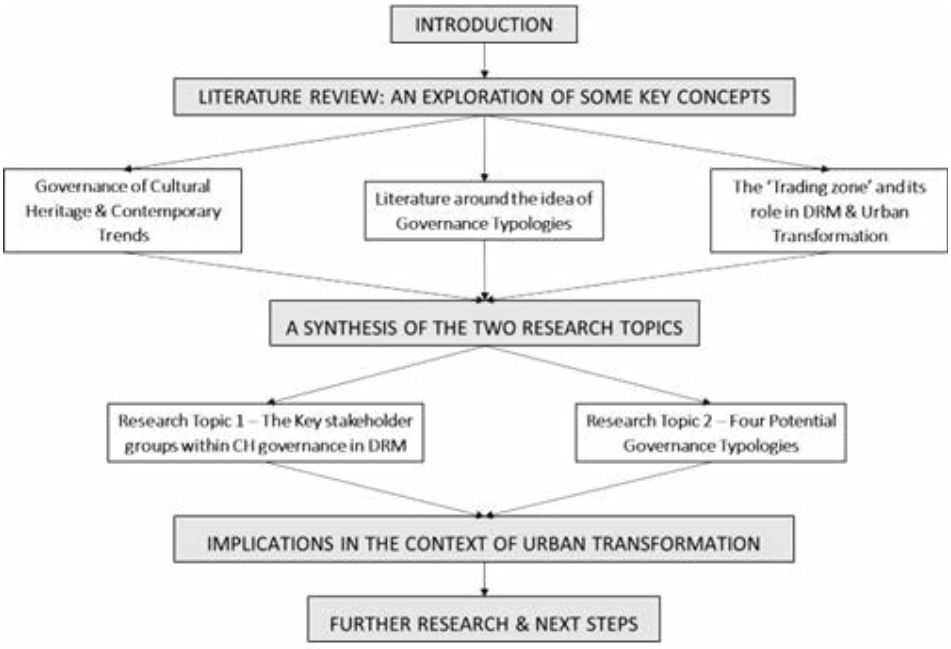


*Figure 1 - Structure of the Book Chapter.*

## 2. Literature Review: An exploration of some key concepts

This section introduces some overarching concepts and contemporary research that underpin the contents of the book chapter. Namely, the concepts explored include governance of CH sites. In this section, the authors outline the research around the governance of CH sites and the increasing momentum within this avenue of study. Secondly, the section explores the innovative idea of governance typologies, including what it means, what they are, and their perceived value. Finally, the research introduces the trading zone that Gustafsson (2010; 2011) defined within the context of urban transformation.

### *2.1. Governance of Cultural Heritage & Contemporary Trends*

The concept of governance lacks a unified definition (Ruhanen et al., 2010; Fukuyama, 2013) and continually evolves (Kjaer, 2008), making this challenging. It is essential for any research dealing with the concept of governance to establish, or at the very least, align with a definition (Fukuyama, 2016). There is an abundance of suitable, all-encompassing, definitions provided by institutions such as the United Nations Development Program (UNDP) (UNDP, 2011), the International Institute of Governance (IoG) (IoG, 2023), the European Commission [EC, 2023] and the United Nations Education and Scientific Organisation (UNESCO) (UNESCO, 2023). Many of these definitions share overlapping ideals and perspectives. Therefore, aligning with one another does not have a theoretical implication for the discussions in the rest of the chapter. However, it is essential to select a definition of governance that CH experts will recognise. As a result, we chose to align with the definition provided by UNESCO on their website. Namely,

> "*Governance has been defined to refer to structures and processes that are designed to ensure accountability, transparency, responsiveness, rule of law, stability, equity and inclusivity, empowerment and broad-based participation. Governance also represents the norms, values, and rules of the game through which public affairs are managed in a manner that is transparent, participatory, inclusive and responsive*." UNESCO (2023)

UNESCO forms a critical central management authority for large parts of the Western world's CH sites. It is, therefore, safe to assume that this is the definition of governance with which CH stakeholders will be familiar. Crucially, UNESCO's definition of governance appears to encapsulate many ideals perpetuated across the plethora of research literature. By way of example, the definition acknowledges the structures and processes, not just explicitly defined governance mechanisms such as laws. By doing so, the definition allows experts to engage with adaptive forms of governance that require flexibility not traditionally found in highly administrative governments and laws (Cosens et al., 2017). Second, the definition by UNESCO enforces the notions of empowerment, participation, and inclusivity. The shift from hierarchical governance to more participatory and collaborative forms has become increasingly popular in the shift of CH research (Gonzalez et al., 2018; Sokka et al., 2021). This is because greater emphasis is being placed on the importance of local sources of knowledge and communities' role in disaster recovery.

Now that we have an agreed definition of governance as a starting point for the book chapter, we can explore the idea of governance typologies. Namely, where this collaborative idea started and who has already attempted to explore governance typologies' theoretical and operational applications.

### *2.2 Literature around the idea of Governance Typologies*

As stated previously, the concept of governance lacks a unified definition. Similarly, the notion of governance 'typologies' is equally as fragmented. Using the word typologies, we refer to the idea that standard and replicable governance structures can be observed across different countries, regions, spatial scales and even between different CH sites. The standard governance typologies can be quantified into a series of common governance types. The idea of common governance typologies is not novel. Experts from different disciplines explored and attempted to identify different governance types in many ways. By way of example, Cortés-Vázquez et al. (2017) and Garzillo et al. (2019) refer to different '*models*' of governance. Borrini-Feyerabend *et al*. (2018) and Hall (2011) use four broad '*types*' and several sub '*forms*' of governance within heritage areas. Finally, Bouwma *et al*. (2011) refer to governance '*styles*' and '*approaches*'. To better understand the development of literature in this area and the four governance typologies proposed later in this chapter, it is essential to explore some of them in greater detail. As part of their work exploring governance in protected areas in 2008, Borrini-Feyerabend et al. (2018) identified four distinct 'types' of governance within protected areas:

- Type A: Governance by Government – In this governance type, a government body, agency or ministry has the overarching power in decision-making.
- Type B: Shared Governance – In this type, governance is based on an institutional mechanism and the responsibility of the decision-making processes is shared across a myriad of different stakeholders.
- Type C: Private Governance – within this governance type, the decision-making proof is held under the responsibility of an NGO or private Organisation.
- Type D: Governance by indigenous peoples and local communities – This is a type of governance where the local communities or indigenous peoples hold the governance and responsibility.

Similarly, in 2010, Hall (2011) identified four governance typologies in the context of sustainable tourism. These were defined as Hierarchical – Gov-

ernance by the national state and supranational institutions, which are hierarchical in steering mode by public actors. Markets - Marketisation and privatisation of state instruments are hierarchical with private actors. Networks - Public-private partnerships, which are non-hierarchical with public actors. Communities – Private-private partnerships communities.

Finally, as a third in-depth example, in A Natura 2000 report entitled '*Current Practices in Solving multiple use issues of Natura 2000 Sites: Conflict management strategies and participatory approaches*', Bouwma *et al.* (2021) outline three main 'styles' of governance. Within the context of more participatory governance approaches. These are as follows:

**Hierarchical policy styles and top-down approaches** – *"a small set of government actors prepares a policy […]and assume the possibility of a smooth implementation of well-considered plans. The government, as the dominant actor, imposes instruments for policy implementation directly on other actors.*

**Networking policy styles** - *"Stakeholders and regional actors, mutually dependent on each other, participate in networks on specific policy issues. Decisions are the result of decision-making processes that are characterised by negotiating and striving for consensus. In these networks, power is shared, although the government can still be a dominant actor."*

**Communicative styles of governance** - *"Focuses on bottom-up processes for policy making and policy implementation in which citizens and communities are involved. Planning, according to the approaches, should be a process of facilitating community collaboration and consensus building […]. A characteristic of these arrangements is that citizens and interest groups are actively involved in the definition of problems and their solutions."*

The examples outlined above are only a few from the broader academic literature. However, they serve the valuable role of highlighting the different types of governance observed within the context of protected areas. Furthermore, even if we compare these few examples, we start to see apparent similarities between the observations made by the different authors. Finally, and more recently, Johansson et al. (2021) have yielded four types of CH governance based on theoretical observations. These four types of CH governance are defined as follows.

1) **Governmental governance -** implies an institutionalised definition of cultural heritage and a lower rate of citizen participation in its protection and management. In Governmental governance, Johansson et al. (2021) state that traditional hierarchical are reinforced.

2) **Corporatist governance -** implies an institutionalised definition of cultural heritage and a higher rate of citizen participation. In this form of governance, the management of CH is often shared between the state and civil society.

3) **Service-led governance** – "*implies a hybrid definition of cultural heritage and a lower rate of citizen participation.*"

4) **Co-creative types of cultural heritage governance – "***The co-creative type of cultural heritage governance implies a hybrid definition of cultural heritage and a higher rate of citizen participation, where citizens contribute knowledge and other resources to solve problems efficiently."*

The first axis expresses the type of definition used to define the CH within a specific case. This definition ranges from an institutionalised definition of CH defined by large overarching institutions. A hybrid definition of CH incorporates local, more fluid perspectives. The other axis expresses the level of citizen participation within the type of governance system. This axis ranges from a low to a high level of participation. A broader version of this literature review can be found within deliverable 2.5 – Anatomy of Historic Areas within the SHELTER Project. However, for this book chapter, the next critical aspect to explore is the concept of the trading zone.

### *2.3 The 'Trading Zone' and its Role*

Finally, it is essential to reflect on the trading zone proposed by Gustafsson (2010). The idea of the trading zone is conceptualised within the Halland Model (Gustafsson, 2011; Gustafsson & Ilja, 2017). The Halland Model states that a trading zone can be used as a democratic meeting place (Gustafsson & Ilja, 2017). This trading zone can catalyse holistic decision-making for sustainable development and is a space for innovation where different stakeholder groups can negotiate, explore, and discuss topics and issues. Gustafsson and Ijla (2017) state that developing such a trading zone could lead to more collaborative forms of governance.

## 3. Methodology of the two research topics

As stated above, this book chapter draws upon two extensive research areas conducted by the University of Liege. Before proceeding with the findings, it is essential to define how the results were derived for the validity and reliability of the contents herein. The section briefly outlines the methodologies behind the two research topics.

### *3.1 Research topic 1 – Defining the key Stakeholder groups*

The initial list of stakeholders was developed and refined in collaboration with European experts through a four-phase semi-empirical qualitative approach (Durrant et al., 2021). The semi-empirical approach took two years and was designed to co-create, explore, refine, and reflect upon disaster risk management governance maps. However, before detailed governance maps could be created, it was important for the stakeholders to co-create a list of key stakeholders to form the building blocks of the governance maps (Durrant et al., 2021). The list of stakeholders outlined below has been taken directly from the list co-created by the European experts within Durrant et al. (2021). It has been edited and validated several times since 2021.

### *3.2 Research topic 2 – Four governance typologies*

The four governance typologies proposed in this chapter result from previous research from the two EU-funded projects. The four initial typologies were developed due to a preliminary literature review. The literature review attempted to rapidly focus on research articles and papers defining or categorising governance. The literature review was narrowed to 30 core research articles, chapters, and research documents published between 1999-2020. These research and documents explicitly attempted to define different governance typologies or explore one specific type of governance of CH sites in detail. The researchers at the University of Liege synthesised the contents of 30 core research articles, chapters, and research documents into the four preliminary governance typologies (Tamborrino et al., 2021). The qualitative analysis of this material can be found in detail in Tamborrino et al. (2021, Section 4.4.1 Pp. 35- 48).

## 4. A Synthesis of the Two Research Topics

The following section explores the key outcomes from the two topics of research outlined above. These key outcomes include - A comprehensive list of relevant stakeholder groups and their perceived roles in CH governance. A refinement of the four governance typologies outlined in the D2.3 PART A - Anatomy for Historic Areas. Finally, a consolidation of the relevant material from the plethora of raw data collected on the strengths, weaknesses, opportunities, and threats identified by the five SHELTER Open labs.

*4.1 Research Topic 1 – The Key stakeholder groups within CH governance in DRM*

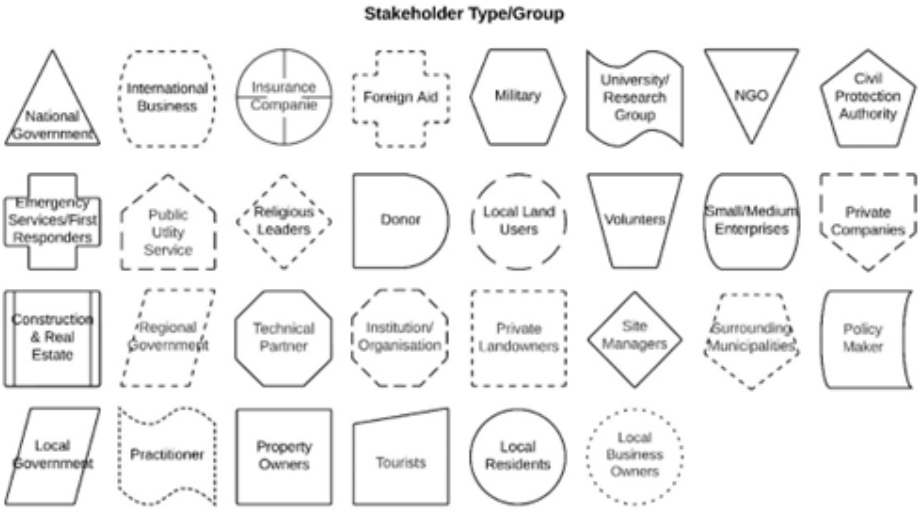


*Figure 2 - The 30 potential Stakeholder Groups important within Cultural Heritage Governance Adapted from Durrant et al. (2021)*

Table 1 describes the different roles these stakeholder groups have within DRM governance. The descriptions were observed during the development of the five Organigraphs within the SHELTER Project. For this reason, the description of each group should not be considered complete, but instead treated as a starting point for each stakeholder's role. Furthermore, it is also essential to acknowledge that the role of these different stakeholder groups may vary greatly depending on the governance typologies being used.

*Table 1 - The key stakeholder groups within the DRM governance of CH sites (listed in no order)*

| Stakeholder Group | Description of BASIC role in DRM Governance |
|---|---|
| National government | – Develop the overarching policy and regulatory framework underpinning DRM Governance.<br>– Coordinate DRM in the recovery and response phases.<br>– Form a key funding source and guidance for different stakeholder groups, including CH stakeholders.<br>– Lead the decision-making processes in hierarchical governance typologies. |
| Regional government | – Interpret or implement DRM policy at the regional spatial scale.<br>– Open lines of communication and dialogue with local communities and stakeholder groups.<br>– Serve as a valuable source of raw data for the prevention phase of the DRM cycle. |
| Local government | – Interpret or implement DRM policy at the local spatial scale.<br>– Often the first line of communication for local stakeholders and communities on issues related to DRM.<br>– Communicate stakeholders' needs and requirements at the local spatial scale to other spatial scales. |
| International Business | – Provide support and resources in the recovery phase of DRM. |
| Insurance companies | – Provide insurance against disaster events.<br>– It can provide economic data useful in the valuation of CH assets. |

| | |
|---|---|
| Foreign aid | – Provide resources from other countries in DRM's response and recovery phases.<br>– Provide long-term support in the recovery phases of DRM. |
| Military | – Support evacuation protocols.<br>– Provide protection and support in the recovery phase of DRM. |
| University/research group | – Collaborate and communicate with international bodies, experts and institutions.<br>– Sources of raw data, knowledge, and innovation.<br>– It can help to bring in external funding for solutions and tools. |
| Non-governmental Organisations (NGOs) | – Offer support and advice to ministries and national government.<br>– Provides resources in the recovery phase of DRM.<br>– Co-ordinator and empower volunteers at all phases of DRM. |
| Civil protection authority | – Responsible for protecting the local community in the response Phase of DRM.<br>– A key source of knowledge in DRM's prevention and preparedness phase. |
| Emergency services/ first responders | – Trained emergency services in the recovery phase.<br>– First responders in the event of disasters. |
| Public utility services | – Have the capacity to cut off water, gas and electricity to damaged areas.<br>– Have specific expertise and knowledge to provide disaster support and recovery. |

| | |
|---|---|
| Religious leaders | – Serve as mechanisms for communication and awareness raising in local communities.<br>– Provide support and spiritual guidance. |
| Donor | – Stakeholder group who donates resources but is not necessarily involved in the phases of the DRM cycle. |
| Local land user | – First responder in the response phase of DRM.<br>– Provide a key source of local knowledge.<br>– They are often a key stakeholder in the implementation of DRM solutions. |
| Volunteers | – Provide support in the response and recovery phase of DRM.<br>– Provide support in preparedness by implementing solutions. |
| Small/ medium enterprises (SMEs) | – Provide support and resources in the response and recovery phases of DRM. |
| Private companies | – Provide support and resources in the response and recovery phases of DRM. |
| Construction & real estate | – Implement safety measures and regulations in the prevention phases of DRM. |
| Technical partner | – Work within other international institutions. Source for innovation and tool development.<br>– Provide resources, data and tools.<br>– Collaborate with external experts. |
| Institute or Organisation | – Responsibilities and roles depending on the type of Organisation. |

| | |
|---|---|
| Private landowners | – Act as first responders in the response phase of DRM.<br>– Essential source of knowledge and innovation for DRM's prevention and preparedness phases.<br>– Responsible for the implementation and maintenance of DRM measures. |
| Site Managers | – Management and preservation of CH sites.<br>– Implement the World Heritage Convention.<br>– Collaborate with UNESCO and other international institutions. |
| Surrounding municipalities | – Potential collaborators.<br>– Provide additional support in the response and recovery phase. |
| Policymakers | – Develop an array of Policies, including policies related to DRM.<br>– Provide expert knowledge and support in the Preparedness phase of DRM. |
| Practitioners | – She was involved in the practical implementation of resilient strategies and solutions.<br>– Source of knowledge and expertise. |
| Property owners | – Own property or land within an area. |
| Tourists | – Tourists and visitors to a specific area.<br>– Source of funding and resources. |
| Residents | – Emergency responders.<br>– Sources of knowledge. |

| | |
|---|---|
| Local business owners | – Can provide first aid and shelter to individuals affected by the disaster.<br>– It can serve as a community hub for resources and first aid supplies.<br>– Can provide places to share news and information about flood events with isolated community members |

### *4.2 Research Topic 2 – Four Potential Governance Typologies*

Within the SHELTER Project researchers broadly attempted to explore and define the characterisation of historic areas. As part of this work, the University of Liege explored the notion of governance typologies. Governance typologies refer to replicable DRM governance blueprints that experts can employ. This work aimed to allow other CH sites and experts to understand better how CH governance operates in the event of a disaster. This research used a broader literature review (outlined above) to capture relevant published material, which attempted to explore or define different governance 'types', 'structures', and 'forms. After consolidating the literature across these different sources, the researchers preliminarily identified four broad governance typologies: Hierarchical Governance, Participatory and Collaborative Governance, Networking in Multi-level Governance and Community-Led governance. This section of the book chapter briefly explores these different governance typologies. It is important to note that common governance typologies are not necessarily novel. Researchers such as Borrini Feyerabend et al. (2008), Hall (2011), and Bouwma et al. (2013) have historically attempted to define different forms of governance. In particular, Hall (2011) defined four governance types, forming the basis for this chapter's governance typologies. However, the researchers aimed to revisit, refine and apply the four governance typologies. Hall (2011) and the other researchers defined within the context of CH research as well as attempt to encapsulate the refined governance typologies into accessible and replicable figures, utilising what we have learnt around the research governance Organigraphs (Durrant et al., 2021). As a result, each of the four revised governance typologies is accompanied by a figure to help visualise how the typology functions in practice with different stakeholder groups. It is this figure and the discussion points that it yields that offer new insights to research.

*4.2.1 Hierarchical Governance within Disaster Risk Management*

The first governance typology distilled from the overarching literature is Hierarchical governance. Hierarchical governance encapsulates the typical top-down form of governance cited in broader academic literature. By way of example, some critical sources that cite forms of hierarchical governance include Hall (2011), in which they refer to governance by government. As well as Bouwma et al. (2013) refer to hierarchical or top-down governance approaches. This typology of governance and how it can function in CH has been encapsulated using the elements of the standardised key in Figure 3 below.

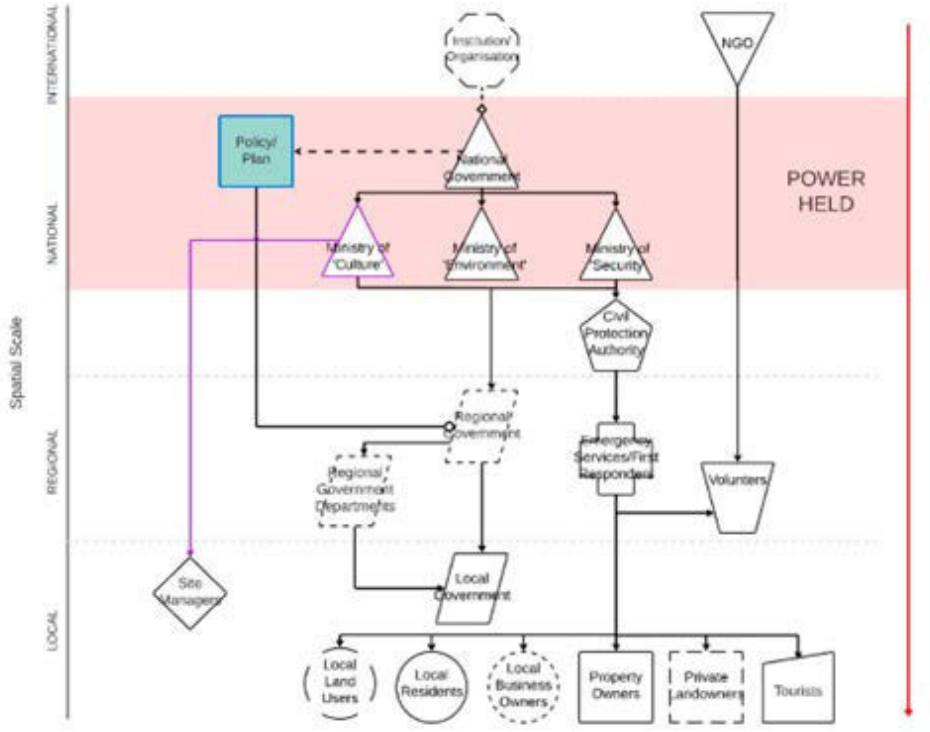


*Figure 3 – One of the four potential governance typologies defined in The SHELTER Project - Hierarchical Governance Typology.*

The hierarchical governance typology remains commonly employed within heritage and tourism (Wang et al., 2022). This form of governance has been recognised and researched for decades across academic literature (Hall, 2011; Bouwma et al., (2013), and there is seemingly a clear consensus around

hierarchical governance and how it functions in practice. The key feature within hierarchical governance is that one or very few stakeholder group(s) hold the power and decision-making responsibility. This stakeholder group is typically at a higher spatial scale, predominantly at the national spatial scale, and guides policy development and decision-making. In the researcher's experience within the scope of CH and DRM, the national government often serves as the critical stakeholder within the hierarchical governance typology. They create and reinforce the policy and regulatory framework, which is then disseminated to lower spatial scales and implemented by lower regional authorities or organisations. Furthermore, they often serve as the overarching authority of specific departments or organisations directly involved in heritage management and disaster responses.

Within the SHELTER Project, a form of the hierarchical governance typology was observed explicitly in the Open Lab of Seferhisar (Durrant et al. 2021). Seferhisar is a small port town located in Izmir, Turkey. The town of Seferhisar is exposed to various hazards because of climate change (Koçer and Ünal, 2023). However, within the SHELTER project context, the local experts were trying to enhance earthquake resilience. The local experts co-created an Organigraph showing an explicit hierarchical governance typology. Within this governance typology, the national government department called AFAD' Disaster and Emergency Management Authority' formed a centralised entity responsible for much of the decision-making processes around DRM. However, it is essential to note that in the SHELTER project, the experts at Seferhisar chose to map the governance structures up to the national spatial scale. As a result, the governance typologies will undoubtedly differ if we change the parameters or scope of the research.

### *4.2.2 Participatory and Collaborative Governance within Disaster Risk Management*

The second governance typologies distilled from broader literature is Participatory and collaborative governance. Participatory forms of governance have been defined and explored by many researchers (Bouwma et al., 2013; Okada et al., 2018). Furthermore, a large body of scientific research explicitly identifies participatory forms of governance in practice (Nkombi & Wentick, 2022). Contemporary research has noted the value of shifting to these governance typologies (Ruszczyk et al., 2020; Sokka et al., 2021). Some researchers even attempt to take advantage of advancing digital technolo-

gies (Llovido & Palaong, 2020). At its core, this governance typology holds the decision-making processes within collaborative, multiscale governance mechanisms. In which the participation of different stakeholder groups from across different spatial scales is valued. By way of example, the stakeholders meet in conferences, workshops or meetings to share knowledge, discuss issues, and develop solutions and policies. These policies are then created and implemented throughout the DRM governance structure. Therefore, the power within the governance type is not held by a single stakeholder group but within these governance mechanisms in w3hich stakeholders participate. These mechanisms facilitate avenues for participation across spatial scales between different stakeholders. As a result, the outcomes from these mechanisms led to co-created policy developments and solutions. Figure 4 below uses the elements of the standardised key developed by Durrant et al. (2021) to demonstrate how participatory and collaborative forms of governance operate in practice.

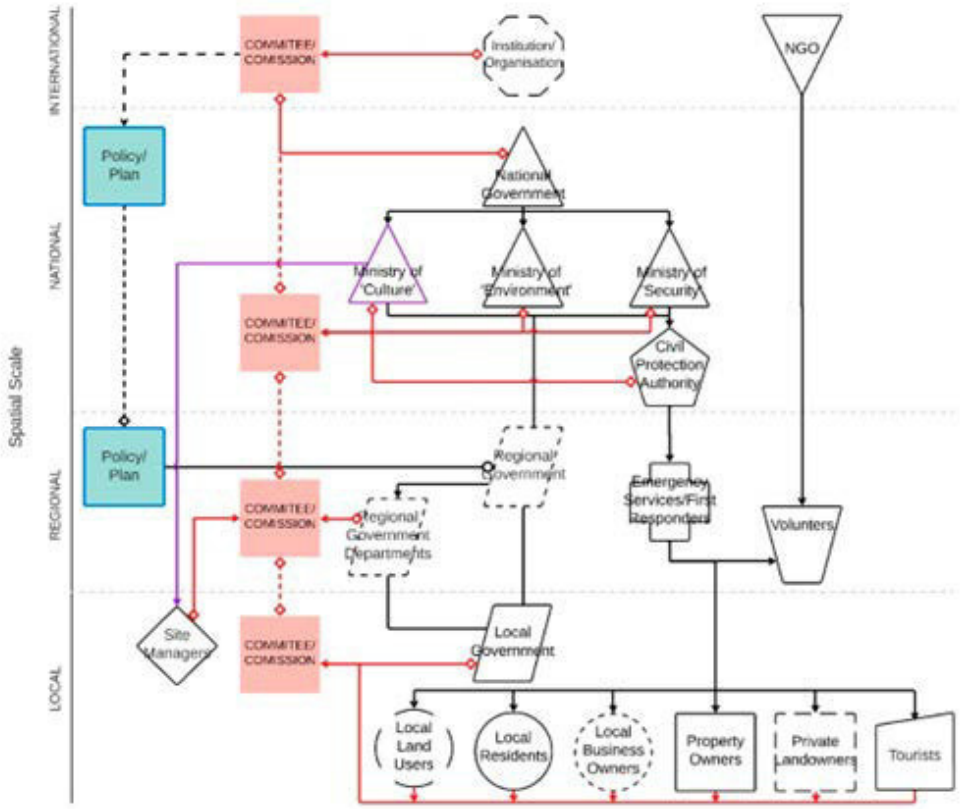


*Figure 4 – One of the four potential governance typologies as defined in The SHELTER Project - Participatory and Collaborative Governance Typology*

This governance typology was observed within the SHELTER Project within the living lab of the Sava River Basin. The Sava River basin is a large water catchment in southeastern Europe. It covers 97,200 km2, extending into the territory of 6 countries: Slovenia, Croatia, Bosnia and Herzegovina, Serbia, Montenegro and a small part of northern Albania (ISRBC, 2023). The International Sava River Basin Commission (ISRBC) (ISRBC, 2023) is a joint supranational organisational body that facilitates some countries' collaboration across the Sava River Basin. The collaboration of the countries is mandated through different legal instruments. Crucially, ISRBC does not have authority over any of the countries or the participating stakeholders. The ISRBC facilitates the collaboration of the different countries through expert group meetings, workshops and European projects at the supranational scale.

### *4.2.3 Networking in Multi-level Governance within Disaster Risk Management*

The third governance typologies are entitled networking and multi-level governance. In this type of governance, the power is distributed across different spatial scales between stakeholder groups. As a result, not one stakeholder group holds complete authority in coordinating the DRM response. Instead, the power and decision-making processes are distributed amongst stakeholder groups at different spatial scales or across multiple levels. This form of governance typologies differs from Hierarchical governance because each stakeholder can act independently from one another and is not reliant on the stakeholders at higher or lower spatial scales. Secondly, this governance typology differs from participatory or collaborative governance because the power is not in a mechanism for collaboration and participation. Instead, the power is held by one stakeholder group. Hall (2010) referred to this form of governance and has been observed across contemporary academic literature (Frey and Ramírez, 2018). Figure 5 below uses the standardised key from Durrant et al. (2021) to construct an example of networking and multi-level governance.

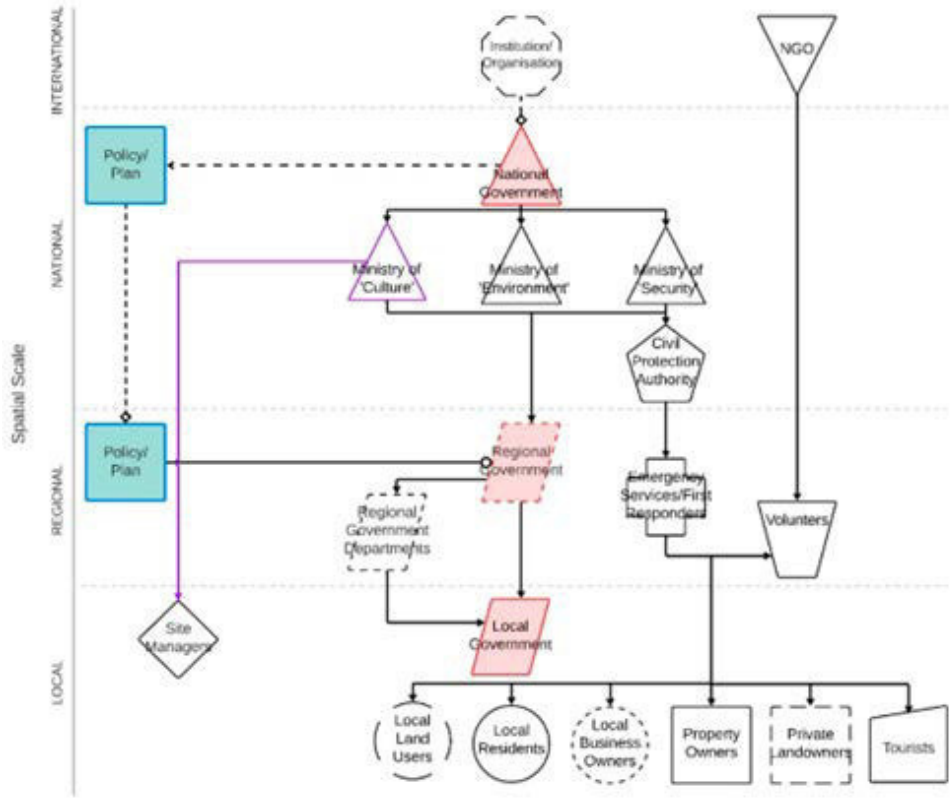


*Figure 5 – One of the four potential governance typologies defined in The SHELTER Project - Networking in Multi-level Governance Typology.*

This form of governance typology was partially observed in the autonomous community of Galicia in Spain as part of the SHELTER Project. Within this Open lab, the regional authority is responsible to the national government but has the authority to act independently.

### *4.2.4 Community-led governance within Disaster Risk Management*

The final governance typology is referred to as community-led governance. This governance typology draws from the idea of bottom-up governance perpetuated across academic literature. Key authors from the research literature reviewed included (Hall, 2010 and Bouwma et al., 2013), who both note that community-led or bottom-up governance as a form of governance. However, unlike other researchers, community-led governance is not the same as bottom-up governance. Within this governance typology, the move-

ment of knowledge and experience up to spatial scales from the local stakeholders is not required. Community-led governance denotes that the local stakeholder groups and communities lead in the decision-making processes in the event of a disaster. This typology differs from hierarchical governance because the stakeholders and communities at the local spatial scale operate without guidance or support from larger spatial scales. Figure 6 below uses the standardised key to create a model of how community-led governance can operate.

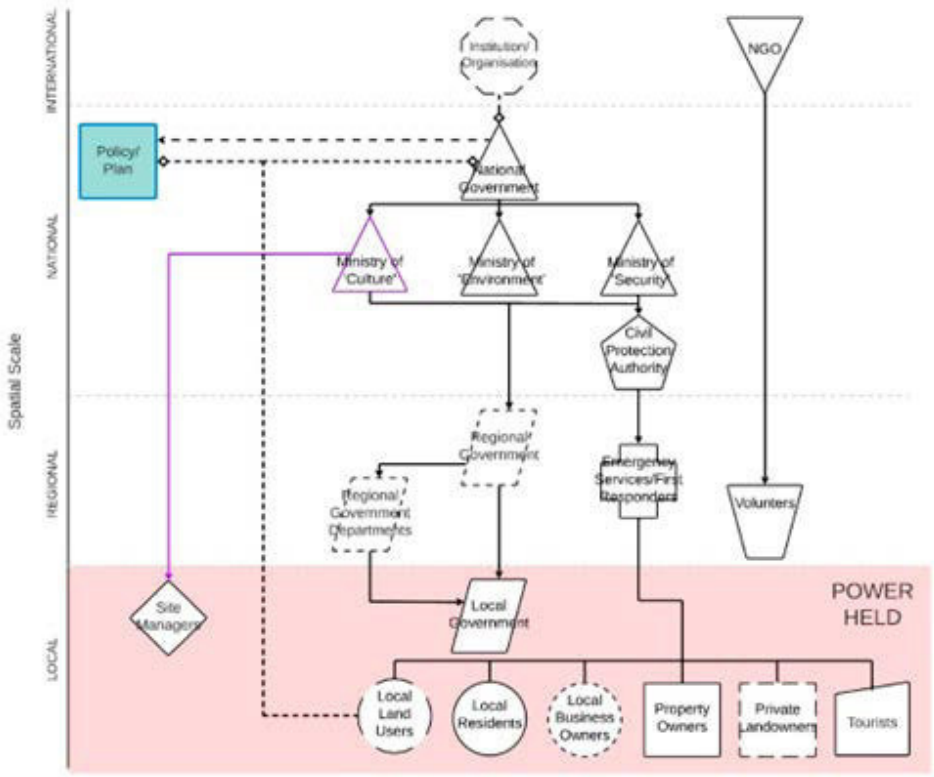


*Figure 6 – One of the four potential governance typologies defined in The SHELTER Project - Community-Led Governance Typology.*

This form of governance has been observed in the event of disasters worldwide. Examples of community-led governance include the post-earthquake response in L'Aquila, Italy, in 2009 (Alexander, 2010). In which there was a failure to build community resilience to disaster events. As a result, the local communities took it upon themselves to react to the disaster in the post-disaster phase (Alexander, 2010; Imperiale and Vanclay, 2021). Most recently, in July 2021, Western Europe flooded across Germany, Belgium

and the Netherlands. Within some Belgian municipalities, the local communities developed community associations. These community associations took it upon themselves to facilitate disaster response in places lacking support (Durrant et al. Unpublished). It is important to note that in these examples of community-led governance, the governance typologies are often a result of frustration by the lack of response or feeling isolated from support or help, driving communities to take matters into their own hands and react independently.

## 5. Discussion: Implications in the Context of Urban Transformation

The following section discusses the outcomes of the two research topics outlined above within the context of urban transformation. Research around the urban environment is a broader and rapidly evolving avenue of research (Yung, 2010; Mookherjee, 2023). In short, urban environments are a complex melting pot in which we see a synergy between different disciplines leading to urban transformation.

Recently, Hölscher and Frantzesaki (2021) conceptualised the ongoing research within the urban transformation process into three theoretical themes: Transformation *in* cities, Transformation *of* cities, and Transformation *by* cities. At the same time, it is essential to consider the research emerging across the whole field of urban transformation. We believe that the outcomes highlighted in the research avenues above are crucial within the context of research around the Transformation *of* cities. Research on this theme attempts to understand and evaluate the emergence of new urban functions, interactions, and their implications for sustainability and resilience (Yung 2010). The research above focuses on governance and explores different stakeholder groups' roles, interactions, and functions in the urban environment. The following discussion explores three key outcomes from the above research.

1. Gustafsson outlined the potential value of a replicable standardised group of key stakeholders in developing the trading zone. Gustafsson (2021) discussed how that standardised approach could be adapted to facilitate interdisciplinary thinking between human and non-human stakeholders.
2. A practical and theoretical discussion around governance typologies. This section examines the practical added value they could provide academ-

ics, policymakers and practitioners. As well as an exploration of theoretical added value to the research around governance.

3. Finally, the discussion explores the concept of 'power' in the different governance typologies. Exploring what "power "means and its implications for governance, DRM and urban transformation.

*5.1 Outcome 1 – Key stakeholder groups*

As part of the research conducted in the SHELTER Project, the researchers at the University of Liege co-created a list of 30 core stakeholder groups (Durrant et al. 2021). The core list of stakeholder groups was co-created with European experts and practitioners from the five SHELTER Open Labs (Durrant & Teller, 2022). Durrant and Teller (2022) recorded the specific methodology behind the co-creation. These core stakeholder groups have been outlined in Figure 2 and were initially designed to help draft interactive governance maps in Organigraphs with local stakeholders (Durrant et al., 2021), building on the work of Tiliouine et al. (2018). As a result, the stakeholders had to be presented in a form that could be adapted to suit different requirements and be quickly recognisable so that they could be used to build complex structures rapidly. To achieve this, each stakeholder group was given a unique shape to facilitate the creation of the interactive governance maps. The unique shapes allow experts to edit the named stakeholder group but keep the governance map recognisable to other experts unfamiliar with the governance in that situation. This ensures the consistency between different governance maps allows experts to recognise and engage with Organigraphs from CH sites, countries, or places without being intimately familiar with them. Interestingly, this co-created list of 30 core stakeholders may have broader applicability within the research on urban transformation.

This list of core stakeholders can be considered a foundation for any experts, policymakers or practitioners attempting to explore critical stakeholders within a given context. Research around identification and engagement is extensive, and many methodologies exist to map stakeholders (Yung, 2013). However, to our knowledge, presenting the key stakeholder groups in a format using simple and recognisable shapes that can be edited to suit different contexts whilst remaining recognisable is currently not an aspect of urban transformation research.

Building upon the idea of a recognisable foundation of core stakeholders that can be tailored may benefit the development of the trading zone is outlined within the Halland Model (Yung 2010). As stated, the trading zone serves as a democratic space for innovation. As well as a catalyst for holistic decision-making for sustainable development. Creating this democratic space requires a clear understanding of the critical stakeholders and their function in the broader decision-making or governance processes so that the right stakeholders can be brought into that trading zone.

The standardised group of 30 stakeholders can be used as a starting point for experts to pinpoint key stakeholder groups to facilitate the development of this trading zone. Stakeholder mapping is not new; literature is littered with approaches that can help map stakeholders. However, some of these approaches require significant time and resources, particularly more participatory approaches (Reed et al., 2009). What this research offers are a valid list of key stakeholders which can be used to streamline this work so that limited resources can be focused on the establishment of a trading zone. We must stress that there is not a one-size-fits-all approach to stakeholders. Every situation is unique and benefits from a bespoke stakeholder mapping exercise. However, we suggest that a standardised group of stakeholders provides a foundation to springboard the development of the trading zone in urban settings. They allow experts to pinpoint the key players quickly and develop momentum around the trading zone.

The final aspect of discussion within this outcome revolves around integrating different stakeholders from a variety of disciplines. A vital aspect of the urban transformation literature is the integration of different disciplines. First, the standardised key of stakeholders provides a recognisable foundation in which experts can edit the core stakeholder groups to suit their context but remain consistent with the standardised key. A key focus of the SHELTER Project was to pinpoint the role of CH stakeholders within DRM governance. In this pursuit, stakeholders from the perspective of CH, such as World Heritage sites or the ministry culture, were colour-coded in purple. By way of example, see the Organigraphs published. The same approach could be applied to other disciplines. Building upon this, integrating stakeholders from different disciplines can be taken one step further. The recent work by Hernedez and Santin et al. (2023) highlights the importance of non-human stakeholders within urban development. Specifically, the research focuses on including biodiversity as a non-human stakeholder in discussions around ur-

ban development. This is an exciting and potentially very challenging idea fraught with difficulties. By way of example, how can non-human stakeholders be unbiasedly represented within discussions and decision-making processes? We propose expanding the methodologies used to identify the initial 30 stakeholder groups to include other non-human stakeholders, such as biodiversity or specific CH monuments or CH sites.

*5.2 Outcome 2 – The four governance typologies*

The following outcome we want to explore revolves around the four governance typologies outlined above. Namely, Hierarchical Governance, Participatory and Collaborative Governance, Networking in Multi-level Governance and Community-Led governance. These four governance typologies are in the preliminary testing and refinement phase and should not be considered their final iteration. However, because they built upon the pre-existing literature review [64] and have been supported using the extensive research conducted within the SHELTER Project, we believe they are at a stage which is suitable for presentation and wider academic scrutiny.

First, similar to the standardised key of the 30 core stakeholder groups, the four governance typologies provide a unified platform to explore governance within urban environments. As stated previously, the concept of governance is difficult to define, let alone observe specific forms and types of governance within unique and evolving decision-making systems. These four governance typologies provide a unifying platform for stakeholders within urban settings to identify and begin exploring governance and decision-making processes, aligning directly with potential research gaps identified by past researchers [75]. Moreover, da Cruz et al. stated that much of the research into urban governance revolves around case-by-case exploration rather than a "unifying theory of urban governance" de Cruz et al., 2009. The four Typologies presented above, alongside the standardised key, may help to facilitate a unifying theory.

From a practical perspective, a series of applicable governance typologies is a potentially attractive prospect for researchers exploring governance within urban environments. Governance within urban areas is considered a fundamental and complex process for many reasons (Raco, 2020). First, Urban areas such as cities contain a lot of diverse stakeholder groups. These stakeholder groups can often be highly fragmented despite their seemingly close

proximities. As well as have diverse and conflicting opinions exacerbated by proximity and even lack of a sense of community.

As a result, the governance typologies outlined above may provide a platform for experts to begin mapping and exploring urban governance. However, a limitation of the four governance typologies is that they potentially assume that one governance typology is taking place at a time. This leads to a broader discussion around blended and even shifting governance typologies.

The idea of blended governance typologies refers to the idea that two or more governance typologies outlined above may be expressed simultaneously. By way of example, an area may have a predominant hierarch governance structure. However, that governance structure also includes elements of collaborative and networking governance in the form of conferences and workshops - thereby making the governance within that case, a blended governance typology. Secondly, shifting governance typology draws directly from the researcher's experience within the SHELTER Project. It became apparent during mapping the five Open Labs that the decision-making processes within these open labs could change during the different phases of the DRM cycle. By way of example, during the response phase of DRM, almost all the Open labs appeared to utilise a hierarchical governance typology within which the emergency response and recovery were coordinated by stakeholders such as the national government, civil protection authorities and emergency services. However, in contrast, during the preparedness phases of the DRM cycle, the DRM governance within the SHELTER OL contained more collaborative and participatory typologies.

This is unsurprising, given that the different governance typologies have different strengths and weaknesses. By way of example, hierarchical governance leads to a streamlined decision-making process ideal in the response to a disaster event. At the same time, more collaborative and networking forms of governance facilitate innovation and collaboration between stakeholders. This collaboration can be better in the earlier phases of disaster risk management, such as prevention and preparedness. However, they do come with inherent drawbacks. By way of example, elements of collaboration tend to take time. This discussion point is essential to consider as different governance typologies can be used at different stages of the disaster risk management cycle to suit the needs and requirements of the stakeholders. Governance typologies could shift to facilitate a more effective prevention preparedness response and recovery.

*5.3 Outcome 3 - Opens the idea of power.*

Finally, we would like to discuss the concept of 'power' within the governance typologies and its implications on the urban transformation processes. The concept of power is not very often discussed within the concept of governance. In their discussions, few sources explicitly deal with the concept of power. Within this research, we define power as the ability of one of the stakeholders to influence that decision-making process.

Within disaster risk management, governance has broad implications for urban transformation. It reflected on power forces us as researchers to examine the broader scope of that disaster risk management system. It forces us to ask whether the right stakeholders or governance mechanism holds power within any given context. By way of example, if the stakeholder or governance mechanism that holds power in a disaster risk management governance structure is under-resourced, lacks knowledge, or is damaged during the event of a disaster, then the entire governance structure may collapse as a result. Furthermore, if the governance mechanism within that structure does not yield meaningful outputs or facilitate effective process collaboration, then the whole governance structure is undermined.

## 6. Conclusions

The Chapter above attempts to synthesise two avenues of research work and explore their application and implications within urban transformations, explicitly focusing on the trading zone proposed by Gustafsson (2011). The contemporary research around CH governance during different phases of DRM has direct applicability to the concept of urban transformation - especially when attempting to operationalise the idea of a trading zone between stakeholder groups within different disciplinary perspectives. Not only does the research within provide a potential foundation for mapping and exploring relevant stakeholders from different disciplinary perspectives but it also provides a series of conceptual governance typologies which can help to inform experts how DRM governance operates and shifts according to the types of hazards and phases of DRM.

However, we must finish this chapter with a caveat. The research avenues being discussed above are in their preliminary phases. The idea of stan-

dardised governance typologies. As well as exploring the concept of power within governance is a complex and highly subjective research topic. As a result, we do not suggest that the contents within are to be considered final. They are instead a platform for other researchers to test and adapt.

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Starting with a systemic understanding of cultural heritage, climate-change related urban transformation processes are analyzed through a multi-disciplinary lens and methods that blend the arts, humanities, and sciences. Governance-specific topics range from relevant cultural markers and local policies to stimulate resilience, to a typology of heritage-related governance and the vulnerability of historic urban landscapes. A variety of contributions from the Americas, Asia, and Europe describe and analyze challenges and potential solutions for climate-change related urban transformation and the role of cultural heritage. Contributions focusing on innovation, adaptation, and reuse introduce the concept of urban acupuncture, adaptive reuse of industrial heritage, and how a historical spatial-functional network system can be related to a smart city approach. The potential role of cultural traditions for resilience is analyzed, as is the integration of sustainable energy production tools in a historic urban landscape. Examples of heritage-based urban resilience from around the world are introduced, as well as the path of medium-technology to address climate adaptation and prevention in historic buildings. The contributions emphasize the need for an updated narrative that cultural heritage can also contribute to climate adaptation and mitigation.

**Matthias Ripp**, a senior heritage manager with a background of historical geography, is coordinating the "Old Town of Regensburg with Stadtamhof" site. He is active in numerous networks such as Heritage Europe and ICOMOS. He coordinated the EU HerO (Heritage as Opportunity) project and chairs the UNESCO world heritage working group on historic city centres of the German Association of Cities. Since November 2011 he has also been regional coordinator for the North West European and North-American region of the Organisation of World Heritage Heritage Cities (OWHC), is teaching at different Universities and works as a trainer, facilitator and consultant.

**Christer Gustafsson**, Ph.D. is Full Professor in Conservation at Uppsala University, Sweden. Currently, he is engaged as a member of the UNESCO Culture 2030 Indicators Expert Facility, an international expert group working with indicators for the United Nations' Sustainability Goals (Agenda 2045), Secretary-General for ICOMOS International Scientific Committee on Economics of Conservation as well as Chairman for EIT Culture & Creativity strategic topic group for Innovative, entrepreneurial and circular adaptive re-use of cultural heritage.