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# Scope and limitations of heritage-based resilience: some reflections from Nepal

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## Abstract

Recent risk preparedness and recovery frameworks have focused in particular on the themes of heritage and resilience. It is generally agreed among heritage professionals that heritage can play an important role in postdisaster recovery and resilience. However, heritage (monuments or sites or even intangible heritage) in general is perceived as a fragile resource that needs to be saved instead of as a source of resilience. This raises a question on what resilience means for the conceptualisation of heritage – is it about ‘building back’ the same heritage there was before, or is it also about making heritage relevant to the changed situation (due to disaster etc.)? Is resilience an inherent quality of heritage, or can it also be a process for reconsidering heritage in the postdisaster period? Instead of pursuing heritage as a passive recipient of any response and resilience building process, we can ask (i) how heritage provides refuge in times of crisis, (ii) how heritage can be an agent of distress in some situations, and (iii) what heritage and resilience mean together. Scholars have begun to raise questions about the meaning of heritage for building resilience and the meaning of resilience in relation to heritage. Taking built heritage as an example, while many aspects of built heritage, such as construction techniques, open spaces or resilient materials, may contribute to resilience and recovery, there are also situations where narrow streets and dense built fabric add to disaster risks. Similar dilemmas may be observed in the case of intangible heritage associated with urban areas and everyday life. Thus, this paper challenges the romanticisation of heritage values and explores rationales and critical perspectives that will enable us to conceptualise heritage as a potential source of resilience and recovery. By examining these critical issues, the paper hopes to help enhance the notion of heritage-based urban resilience and recovery rather than loosely promoting it. In doing so, references are made to global frameworks as well as local realities related to the 2015 earthquakes in Nepal.

**Keywords** Heritage resilience, Heritage-based resilience, Heritage-based recovery, Critical heritage thinking, Postearthquake response, ‘Heritage agency’, 2015 Gorkha earthquake

## 1 Introduction

Resilience is conceptualised as the adaptability of social and ecological systems to adverse situations and disruptions (Saldin 2018; Holtorf 2018). Saldin (2018) identifies the first use of the term in the material sciences as indicating the ability of materials to withstand adverse conditions,

and since then, the concept has become widely developed in disciplines like the physical and environmental sciences, psychology, and international relations. In recent decades, the concept of resilience has been increasingly explored and applied in the culture and heritage sector – particularly in the contexts of disasters, climate change and sustainability. However, it seems that the term ‘resilience’ is yet to be widely discussed in the culture and heritage sector (Saldin 2018), leading to uncritical assumptions about the intersections of heritage and resilience in the context of any sources of adversity such as armed conflicts, natural disasters and pandemics. Professionals and institutions

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generally agree that culture and heritage can play an important role in postdisaster recovery and resilience (Jigyasu 2013; United Nations Educational Scientific and Cultural Organisation and World Bank 2018, among others). However, scholars like Cornelius Holtorf (2018) problematise the unconditional assumption that heritage provides resilience, which many professionals subscribe to, and are interested in ‘proposing an innovative application of the concept of (cultural) resilience to the field of cultural heritage’ (Holtorf 2018, 640).

Notably, the two terms ‘cultural resilience’ and ‘heritage resilience’ often are used interchangeably, but they need to be treated as overlapping but different concepts. Melathi Saldin (2018) distinguishes cultural resilience as focusing on softer aspects – akin to the intangible cultural heritage discourse after the United Nations Educational Scientific and Cultural Organisation 2003 convention (United Nations Educational Scientific and Cultural Organisation 2003), whereas ‘heritage resilience is more extensive as it also explores the impacts of harder forms of heritage, such as archaeological heritage, policy, and practice’ (Saldin 2018, 2). She further defines heritage resilience as ‘a constellation of heritage consciousness (embedded in either material forms of heritage or cultural expressions), [and a] shared sense of identity and community, contingent on a network or support system of individuals, groups, institutions, or social movements, which enable groups and communities to navigate and negotiate adversities by enabling identity affirmation, empowerment, and cultural survival’ (Saldin 2018, 2).

This paper dwells on this notion of heritage resilience (I also refer to heritage-based resilience to emphasise the scope of heritage in building resilience in general) and examines the ways in which heritage can (or cannot) be a source of resilience and recovery, how far heritage can support or bring about resilience, and where it may fall short. In doing so, the paper also examines a third question that is much broader than the scope of the paper, that is, to inquire about the scope of the terms heritage and resilience themselves and contribute to their evolving discourses. The paper refers to some personal observations that are not necessarily methodologically rigorous research findings, but nonetheless shall help us identify everyday issues with the term resilience as it is applied to the heritage conservation and management in preparing for or in the aftermath of a disaster.

The paper highlights the following three points:

1. First, it recognises the increasing references to the intangible aspects of heritage (as opposed to the physical and monumental) in key global frameworks dealing with resilience, i.e., various knowledge systems, and cultural practices and so on.

2. Second, it emphasises the need to change the assumption that heritage (however it is identified and referred to in postdisaster recovery plans) is a passive recipient of any postdisaster recovery efforts. Hence, the argument is that we should move away from the notion of heritage as something that needs to be protected for the sake of its continuity and recognise that heritage can be an active contributor in resilience building processes. Here, the interest is in exploring the agency of heritage in terms of both
  - (i) how heritage provides refuge in the times of crisis, and
  - (ii) how heritage may be an agent of distress in some situations.

References to field observations during the postearthquake responses in Nepal in the aftermath of 2015 Gorkha earthquakes are made in this discussion.

3. Third, it acknowledges the growing interest in conceptualising heritage-based resilience, which actually builds on the first two issues and uses the adaptation mechanisms as a way forwards that at times also (re) defines what heritage can mean. Hence, it is not a linear connection between heritage and resilience but rather an entangled relationship and process that is the outcome. This suggested process attempts to (re)frame the notion of heritage (particularly in preservationist and past-oriented discourses) to suggest that studying heritage-based resilience requires engaging with the broad notion of heritage that not only facilitates coping with adversity but also involves ways of doing heritage that positions it in innovative ways.

Accordingly, the paper is structured in three main sections:

1. Heritage and Resilience: Evolving Concepts
2. Heritage-Based Resilience and Building Resilience for/with Heritage: Limitations of Current Practices in Nepal (mostly with reference to observations in Nepal)
3. Adaptation to Change as a Possible Way Forward in Framing Heritage Resilience

## 2 Part 1: heritage and resilience: evolving concepts

There are a few terms recurrently used in the literature, such as risk, risk management, resilience, heritage, change, and adaptation. A full discussion on these

terms is beyond the scope of this paper but I will briefly refer to some working definitions as adopted in global frameworks currently in wide use, i.e., the report of the Intergovernmental Panel on Climate Change (IPCC) and the United Nations Office for Disaster Risk Reduction (UNDRR) and its Sendai Framework for Disaster Risk Preparedness.

In a 2014 IPCC report, 'risk' is defined as.

*'the potential for consequences where something of value is at stake and where the outcome is uncertain, recognising the diversity of values. Risk is often represented as probability or likelihood of occurrence of hazardous events or trends multiplied by the impacts if these events or trends occur' (IPCC 2014, 127)*

The website of the UNDRR – at the time of the writing this paper – provides a further nuanced perspective on risk, which is worth quoting here:

*'Risk is ultimately the result of decisions that we make. We make decisions about the hazards to which we are willing to expose ourselves, we make decisions about where to build schools, factories, dams and dykes and how much to invest in disease surveillance and we make decisions about how our societies organise and care for vulnerable people and assets.*

*'Most existing approaches to understanding risk are based on the largest and most historically tractable risks for humans, rather than on the full topography of risks. Most models draw on historical data and observations, assuming that the past is a reasonable guide to the present and the future. The sheer number of people on earth, the changing climate and the dynamic connectedness of requires that we revisit assumptions about the relationship between past and future risk. Because the planet is a network of interconnected systems, risk is complex.' (UNDRR n.d., emphasis in the source)*

It is useful to see the relationship between 'our decision' and the prospect of risk and understand that this is a complex system.

The IPCC report defines risk management as 'the plans, actions or policies to reduce the likelihood and/or consequences of risks or to respond to consequences' (IPCC 2014, 127), and adaptation is defined as 'the process of adjustment to actual or expected climate and its effects' (IPCC 2014, 118). Furthermore, the report expands on the definition of adaptation to suggest the following:

*'In human systems, adaptation seeks to moderate or avoid harm or exploit beneficial opportunities. In some natural systems, human intervention may facilitate adjustment to expected climate and its effects' (IPCC 2014, 118).*

This is an important concept to relate to resilience, as I argue later in this paper that resilience should be based on the acceptance of change and therefore on adaptation. The UNDRR relates risk management to resilience:

*'...the idea of reducing risk, not just preventing disasters... building resilience and making risk-informed investment – social, economic and environmental – the norm. It recognises that resilience is not just about bouncing back and that investment is not just about building back better. Radical transformation is needed.' (UNDRR n.d., emphasis in the source)*

The above paragraphs on risk indicate that the notions of risk and resilience are also evolving in global frameworks. This requires us to critique the perception and use of the term heritage and its relation to the idea of resilience.

At present, the United Nations' Sendai Framework for Disaster Risk Preparedness (SFDRR) is a key global policy reference. The SFDRR (2015–2030) was adopted at the Third United Nations World Conference on Disaster Risk Reduction, held in Sendai, Japan, in 2015. It was a follow-up document to the previously adopted Hyogo Framework for DRR (2005–2015).

In its priority area 3, the Sendai framework refers explicitly to the term 'cultural heritage':

- (iv) To protect or support the protection of cultural and collecting institutions and other sites of historical, cultural heritage and religious interest; (United Nations 2015, 14)

It is clear in this priority point that these sites need to be protected, but it is not clear if references to these sites are also meant to consider them as possible sources of resilience. I will show later that national policies and actions are typically stuck on this notion of heritage sites and institutions being in need of 'protection'. However, section V of the Sendai framework addresses the role of stakeholders and articulates the following:

- (iv) Older persons have years of knowledge, skills and wisdom, which are invaluable assets to reduce disaster risk, and they should be included in the design of policies, plans and mechanisms, including for early warning;

- (v) Indigenous peoples, through their experience and traditional knowledge, provide an important contribution to the development and implementation of plans and mechanisms, including for early warning (United Nations 2015, 19).

However, as I discuss later, policies and actions at the national and local levels do not translate these points beyond a broad and vague term of ‘community’ or ‘stakeholders’.

Both of these sets of points are integrated in a similar interinstitutional report that aptly states that ‘resilience applies to both people and the built and natural environment and is shaped by both physical and social factors’ (Jigyasu 2013, 21). The same report sums up the resilience argument as follows:

*Therefore, the protection of cultural heritage should be promoted, not only because of its intrinsic historic or artistic value, but also because of the fundamental spiritual and psycho-social support and the sense of belonging it provides to communities during the disaster recovery phase, as well as the contribution it makes towards building resilience to the increasing frequency and intensity of disasters and adaptation to climate change.<sup>17</sup> The virtues of heritage should be recognised and built upon, while at the same time, those aspects of heritage that contribute to physical, social and attitudinal vulnerability should be appropriately addressed through efforts to promote a robust culture of prevention (Jigyasu 2013, 22).*

However, it is also to be noted that many global policies – such as the World Bank’s knowledge note on building disaster-resilient cultural heritage (Stanton-Geddes and Anees Soz 2017) – do not go much beyond prescriptions for protecting heritage monuments in the face of possible disasters in their interpretation of ‘building resilient cultural heritage’.

In the context of climate change, resilience is defined as.

*‘the capacity of social, economic and environmental systems to cope with a hazardous event or trend or disturbance, responding or reorganizing in ways that maintain their essential function, identity and structure, while also maintaining the capacity for adaptation, learning and transformation’ (IPCC 2014, 127).*

These documents are sufficient reminders to refer to the idea of heritage in the intangible cultural heritage and indigenous knowledge systems framework rather than a typical built or physical heritage framework.

However, the key issue often noted is the narrow application of both the idea of heritage and the interventions around it. In building resilience, I argue that we must be able to distinguish between heritage as a process – as living practices, knowledge and social systems – and the widespread perception of heritage as a product – as particular physical forms and space. While physical forms and spaces – the products – can be used as support systems in recovery processes, resilience can be built or derived from cultural practices, knowledge and community institutions. Hence, the prevalent resilience framework needs to be clear on these distinctions within the heritage scope and emphasise building human capacity by respectfully incorporating community-based human agencies and systems in the resilience framework.

In these discussions, we also need to pay attention to ethical and logistical issues related to power, interpretation, agency and structure, among others. The recent online petition titled ‘Power, Prestige & Forgotten Values: A Disaster Studies Manifesto’ (Disaster Studies Manifesto 2019) opens up some key points in relation to disaster research that also apply to how disaster resilience is framed and practised. Underlined in these arguments is the question of voice – who decides what heritage is, what heritage is resilient, what heritage to invoke in case of disasters, and what is appropriate to do in a heritage setting, among other questions. Perceiving disaster-prone or disaster-hit areas or communities as ‘subjects for protection’ is conceptually problematic. Even if they need protection, a resilience framework needs to perceive and promote them for what they are capable of in the first place and build additional mutually recognised capacities. I argue that this mutual recognition is missing in most resilience and recovery frameworks. A resilience framework today needs to move away from a one-way dichotomised relationship, such as saviour–saved, expert–local, or rescuer–rescued. Unless it is reconceptualised in a collaborative, context- and community-driven framework, community- or heritage-based resilience becomes only a wishful proposition because heritage exists through the people and the place (that seemingly need protection), and by seeing them merely as the subjects of protection, we imply that they do not have resilience potential.

This argument is supported by the UNDRR, which puts it clearly and boldly on its website:

*‘At the heart of UNDRR’s approach is the idea of reducing risk, not just preventing disasters; building resilience and making risk-informed investment – social, economic and environmental – the norm. It recognises that resilience is not just about*



*bouncing back and that investment is not just about building back better. Radical transformation is needed' (UNDRR n.d., emphasis in the source).*

Through the next two sections, this paper briefly touches on what 'transformations' are needed in our conceptualisation and practice of heritage-based resilience or heritage resilience.

### **3 Part 2: heritage-based resilience and building resilience for/with heritage: limitations of current practices in Nepal**

In this part of the paper, I raise some questions on the perceptions and actions in the convergence of resilience and heritage, as seen in the postdisaster response processes – particularly with reference to the 2015 Gorkha earthquakes in Nepal. In doing so, I refer to the key questions flagged earlier in the paper:

- (i) how heritage provides refuge in times of crisis, and
- (ii) how heritage may be an agent of distress in some situations.

While heritage today is considered a broader umbrella concept by heritage scholars and sensitive practitioners, the dilemma of heritage being perceived merely as the physical and monumental obscures the uses and implications of heritage ideas in various initiatives. The postdisaster response and recovery process in the aftermath of the 2015 earthquakes in Nepal is a case in point of being stuck in such a limited perception and use of the heritage concept. This narrow conventional way of perceiving heritage as the physical and monumental has caused postearthquake recovery and rebuilding processes to miss opportunities to tap into heritage-based resilience and thereby build future resilience in the affected communities in Nepal.

#### **3.1 Some observations in Nepal after the 2015 earthquakes**

On 25 April 2015, an earthquake with a magnitude of 7.8 hit Nepal, with its epicentre at Barpak village in Gorkha District in western Nepal. On 12 May of the same year, another tremor (considered an aftershock of the 25 April earthquake), with a magnitude of 7.3, shook the country again. It was the largest earthquake since the 1934 earthquake. While the estimates of the impact vary from source to source, the 2015 Gorkha earthquake resulted in fatalities of almost 9,000 people and the injury of approximately 22,000 people.<sup>1</sup> The physical damage was significant in

central Nepal, with the Kathmandu Valley World Heritage Site hit the worst in terms of impact on listed cultural heritage. The damage to the World Heritage sites was so extensive that the UNESCO World Heritage Committee debated putting the entire Kathmandu Valley World Heritage Site on the World Heritage in Danger list numerous times in its annual meetings (see, for example, United Nations Educational Scientific and Cultural Organisation World Heritage Centre 2016a, the drafted decision to put it on the danger list). However, the decision was never passed by the committee (see, for example, United Nations Educational Scientific and Cultural Organisation World Heritage Centre 2016b, the adopted decision), although I would argue that the conceptualised 'Outstanding Universal Values' were in fact compromised, as many monuments in the heritage zone were razed to the ground and required complete reconstruction. What does resilience mean in such cases? From the world heritage perspective, one might think of resilience only in terms of seismic resilience, but for living heritage sites such as Kathmandu Valley, resilience comes from the living culture, traditions and knowledge and skills of rebuilding. Had this latter concept been prevalent, most of the disaster preparedness would have focused on capacity building of human resources at all levels. This is the key challenge I observe in the postearthquake activities in Nepal. A detailed discussion of the impact and responses to the 2015 Gorkha earthquakes in Nepal can be found elsewhere (Gautam and Rodrigues 2018 – particularly chapter 4 by Weise et al. – and Chapagain 2019, among others). I bring up a few personal observations on both policies and actions related to the postearthquake responses.

Following emergency rescue operations, the Nepal government adopted a postdisaster needs assessment (PDNA) process, which was led by the National Planning Commission (NPC). The PDNA assessed the situation covering 23 sectors under four themes, namely, (i) social sectors, (ii) productive sectors, (iii) infrastructure sectors, and (iv) cross-cutting sectors. Cultural heritage was included in the social sectors alongside housing, health and population, nutrition, and education (National Planning Commission 2015a, 2015b). Based on the PDNA report, the National Reconstruction Authority (NRA) formulated the Post-Disaster Recovery Framework (PDRF), which includes a list of strategic objectives for reconstruction as follows:

1. Safe structures: restore and improve disaster-resilient housing, government buildings, and cultural heritage in rural areas and cities;
2. Social cohesion: strengthen the capacity of people and communities to reduce their risk and vulnerability and to enhance their social cohesion;

<sup>1</sup> The exact data on the magnitude and fatalities vary from source to source; one can refer to official information from the Nepal government on the Nepal Disaster Risk Reduction Portal: <http://drrportal.gov.np/>



**Fig. 1** A street in Sankhu in the aftermath of the 2015 Gorkha Earthquake (Source: the author)

3. Access to services: restore and improve access to services and improve environmental resilience;
4. Livelihood support: develop and restore economic opportunities and livelihoods and re-establish productive sectors; and
5. Capacity building: strengthen the effectiveness of the state to respond to people's needs and to recover from future disasters effectively. (National Reconstruction Authority 2016)

In the above strategic objectives, one can sense an underlying message that the new interventions need to make cultural heritage safer (because such sites did not fare well in the earthquakes). It is therefore no surprise that many of the monuments that were rebuilt or restored received new engineered solutions to strengthen them, such as inserting an RCC ring beam at the cost of forgetting or discarding traditional timber beams. The slogan of 'build back better'<sup>2</sup>, which gained popularity during the reconstruction years, was primarily based on the RCC engineering solutions on all structures rather than employing traditional techniques. Moreover, the PDNA and PDRF seem to have measured the loss of cultural heritage in monetary terms for the purpose of stimulating donor agency interest in contributing to postearthquake rehabilitation works, which may not necessarily be the best way to value cultural heritage (Weise, Gautam, and Rodrigues 2018).

The lack of adequate academic and professional references on how to deal with cultural heritage during crisis and disasters – particularly with the objective of building resilience – needs to be examined in terms of two aspects:

- (i) how heritage provides refuge in times of crisis, and
- (ii) how heritage can be an agent of distress in some situations.

Each of these aspects needs to be critically examined and broadly discussed. To enable this, I will briefly share my observations in the aftermath of the 2015 earthquakes in Nepal and reflect on how the relevant policies, including global frameworks and general professional opinions, fared in the postdisaster recovery processes.

On 19 May 2015, I visited Sankhu, a historic and traditional settlement heavily damaged by the earthquake. The streets boasting traditional facades and roofscapes had been devastated (Fig. 1). As heartbreaking as it was to see the devastation, two experiences caught my attention, and I was relieved to recognise these as signs of the community's resilience. First, I saw a small shrine on the street that had a fresh offering of flowers, grass, and red vermilion, indicating that people had continued their daily morning prayers/offerings here (Fig. 2). That was a valuable symbolic source of resilience on that otherwise devastated street, and it confirmed my belief that cultural practices, rituals and traditions can be a refuge in times of crisis. Shortly afterwards, in my exploration on the outskirts of the main Sankhu area, I understood why the town seemed mostly empty. Many of the villagers were actually out in the field, harvesting potatoes, and it seemed life was continuing as normal despite the adjacent devastation I was witnessing. The same scenario was repeated later when I reached Khokana, where people were also busy out in the potato fields. There, I had the opportunity to interact with a local lady who explained to me how important it was for them to ensure that the farming was not disrupted. Most impressive was her confidence that they would have enough potatoes and other harvested food to sustain themselves for two months

<sup>2</sup> Today, however, the UNDRR itself has argued for a correct interpretation of the 'build back better' scheme, as highlighted earlier in this paper.



**Fig. 2** A roadside shrine in Sankhu, with fresh offerings indicating that it was a lively source of resilience in the postdisaster situation, 2015 (Source: the author)

even if no relief operations from the agencies reached them. These impressions from Sankhu and Khokana offered hints of how we can rethink what we generally consider heritage resilience or, more generally, what resilience can mean and where it comes from.

The importance of rituals was also observed in the case of the Char Narayan Temple in Patan, where everyday worship had to be facilitated in a temporary form until the restoration works were complete. However, when the temple was rebuilt and the old idol was being reinstated, the community opted to install a new idol, as the old one had suffered damage. This indicated the communal belief in and desire to have a perfect idol rather than one that was physically imperfect. This suggests that the physical form is a means of practice and not the focus of the practice itself. If that is the case, we can understand that the rituals themselves (whether conducted in the old place or the new place) not necessarily the physical form of the temple, offer resilience. Of course, the community wanted the temple to be rebuilt, but the temple in itself evidently did not play much of a role in building resilience if its collapse did not stop the rituals from continuing in a makeshift way. This observation does, however, signify that despite the importance of the temple in everyday life, the community has learned to cope in times of crisis. Hence, if the disaster resilience framework focuses too much on the temple alone without considering the rituals (which are often invisible except when one observes them during the action or its aftermath, such as the offerings I saw in Sankhu), the framework will not contribute to building resilience as such.

It is common across different communities in Nepal for new construction, reconstruction, maintenance and repair works, including conservation and postdisaster recovery and rehabilitation activities, to be accompanied

by certain rituals (see Chapagain 2017; Arora 2022 among others). Hence, it is important to acknowledge these rituals along with other technical processes, and I argue that the rituals themselves are an important part of the resilience framework.

On the other hand, there are also rituals and practices that may today be detrimental to disaster preparedness or resilience. The following three examples illustrate three different aspects through which we can critically examine the relationship between ‘heritage’ and ‘urban resilience’.

The following are religious/cultural practices that are prone to disaster triggers if not managed well:

- Fire issues in temples and sociocultural heritage sites
- Traditional neighbourhoods and settlements transitioning into urban hubs
- Discontinued or diluted building practices (not including improvements to inherent weaknesses)

Fire is an important element in many religious and cultural practices at home, in communal places, at shrines, and during rituals and celebrations. Fire-related disasters have been recorded throughout history in different geographic and cultural regions due to the necessity of fire or rituals related to it. Although increasing fire alarms and fire-fighting mechanisms have been devised and installed in many cultural heritage sites, fire is still unfortunately a key cause of disasters leading to significant damage and loss of cultural heritage. Examples include the following being gutted by fire: the Paro Taktsang monastery in Bhutan in 1998, the National Museum of Brazil in 2018, and Notre-Dame Cathedral in Paris, France, in 2019. Notably, while the Paro Taktsang case was due to a ritual practice involving fire, the other two incidents were not related to cultural rituals. Kathmandu Valley has long been on this



list, as recurrent fires have impacted the temples in the Swayambhunath monument zone as well as many other shrines across the valley. In such cases, resilience building should aim to introduce new mechanisms to ensure fire safety and to revisit some of the traditions if possible and desirable by the communities. However, heritage-sensitive preparedness should account for the overall space and building fabric and negotiate new interventions to make these innovations compatible with the context of the built environment. However, this is challenging, as the nature of heritage environments may not always be compatible with new needs.

Many traditional and historic settlements are designed as pedestrian-focused streets and spaces. Due to their compact urban form and high density, they face challenges in meeting modern everyday needs, and more importantly, they may sometimes add to the risk factors by not having appropriate emergency service mechanisms. In many developing economies, the adaptation of these traditional built environments into contemporary urban neighbourhoods poses challenges to the existing urban building codes—on fire resistance, fire access and emergency services, and so on. If they are retained as pedestrian areas and limited or customised urban services are offered, they may still work fine. However, when there are a mix of traditional and contemporary urban services, often generated by individual homeowners' investment and know-how, these areas can become hazards in themselves in terms of electric short circuiting, traffic congestion, fire, etc. Any improper adaptation of the built environment to contemporary urban needs may make them vulnerable to disasters and other threats, including problems in coordinating rescue and relief operations after a disaster. Hence, it is difficult to see such contemporary use of heritage environments as contributing to urban resilience in the case of disasters simply because they were built in different times and contexts. If they are not in continuous use, they can be treated accordingly by declaring them part of the historic past, but if they are living neighbourhoods and towns, then they should be discussed in light of the notion of living heritage that I refer to below.

Continuing with the above scenario, there is also another important aspect that may make heritage environments vulnerable to disasters, that is, the lack of proper maintenance and building techniques in traditional buildings. In my own assessment of traditional houses and settlements in Kathmandu Valley after the 2015 earthquakes in Nepal, I observed that traditional buildings suffered in part because of missing elements in a traditional construction (Chapagain 2018) or incompatible repairs or interventions in the past. This is in contrast to the widespread notion that traditional techniques are inherently unsafe.

The above three scenarios compel us to think that heritage is neither absolutely resilient nor absolutely weak against earthquakes and other disasters. Instead, the urban resilience argument needs to be framed with sufficient terms and conditions that qualify heritage, including emotions and practices, to be accepted as a basis for urban resilience. This argument is not meant to counter the concept of physical or monumental heritage-based urban resilience – it is possible to do so, but the argument is aimed at highlighting the need to understand and practice heritage in its living form, which may then become the heart of a relevant urban resilience strategy. This would require us to be capable of seeing heritage from new perspectives, similar to the way Trinidad Rico examined the evolution of new heritage sites in the aftermath of the 2004 Tsunami in Bandah Aceh, Indonesia (Rico 2016).

There are also resilience mechanisms already built into cultural practices that may be invoked at times of crisis at specific sites, such as the case of the 2013 floods at the famous Kedarnath Temple in Uttarakhand, India. When the temple in northern India was flooded, prayers could continue at Doleshwor Temple in Bhaktapur (Nepal) because of the belief that Doleshwor Temple was the head of Kedarnath Temple. Thus, the daily worship that had been taking place at Kedarnath was carried out in Doleshwor Temple in Bhaktapur until Kedarnath Temple was safe to reopen for daily prayers. For the devotees, this possibility of assuming rituals and prayers in times of disaster is indeed a measure of resilience – expressed through the adaptive measures enshrined in religious practices. In contrast, there are also instances where a damaged temple or an idol has been discarded in the aftermath of a disaster, and a completely new temple or idol has been consecrated as a replacement. These replacements have occurred for a variety of spiritual or practical reasons, but there must be an aspect of resilience that accepts change. Perhaps what this indicates is that resilience lies in the spiritual or intangible relationship rather than merely in a physical entity.

While protecting the sites of historic, cultural and religious interest may help in postdisaster recovery processes, this does not necessarily indicate that these sites in themselves must be the agents for building resilience. Instead, if the priority is to identify and integrate these institutions and heritage resources as strategic agents in supporting DRR activities, the ultimate outcomes will actually be locally situated and sustainable in multiple ways. In such a case, it appears to me that much work must be done on the idea of 'heritage-based urban resilience' before the concept can be used in any disaster preparedness and responses in contexts like that in Nepal. Additionally, there is a clear need to acknowledge that not all heritage features may be useful in



building resilience or helping in disaster responses. In fact, as I discuss in the next section, heritage resilience may require engagement with a fluid notion of heritage rather than a rigid material-centric and historic notion of heritage. As communities evolve through situations of panic and emergencies, what continues as heritage can be captured only if we are open to engaging with heritage discourses in critical ways. Hence, the issue not only concerns the responders to disaster situations but equally relates to how we frame the heritage discourse. The next section attempts to suggest a path forwards in which resilience building is perceived as a process of engagement with heritage discourse that situates heritage, resilience and change in tandem with each other.

#### 4 Part 3: adaptation to change as a possible way forward in framing heritage resilience

The above discussion has revealed that there are limitations in the ways the idea of heritage is pursued in relation to disaster risk management planning and activities. One viewpoint generally holds that heritage – whatever form it takes, tangible or intangible – needs to be preserved and returned to its ‘original’ state after a disaster or disruption. However, this need not always be the case, particularly if we are dealing with living heritage<sup>3</sup>. Here, I use the term ‘living heritage’ to refer to heritage that is evolving alongside its context and community, not something that is frozen in time. In this perception, heritage is a dynamic idea and is an integral part of everyday life and social structures. Heritage is not a thing given but a process in itself (Smith 2006). In this framework, change and continuity are the key aspects of intervention or heritage use for any purpose, including disaster preparedness or response. This framework thus requires us to conceptualise the process of change even through disasters and disaster-response processes.

Cornellius Holtorf (2018) aptly argues for the need to embrace the change in resilience framework and suggests that:

*‘An increased resilience and capacity to deal with transformation and even loss of specific manifestations of cultural heritage can help people adapt to new circumstances and absorb adversity in their own lives too. With this in mind, maybe cultural*

*heritage conservation ought not to celebrate so much the inherent values and timeless qualities of the remains of the past bequeathed to us. Instead this cultural heritage might facilitate our capability of adapting those legacies of the past to changing circumstances today and in the future: not as reminders of tribal belongings from time immemorial but as inspirations for the need to embrace uncertainty and the human potential to keep developing over time’ (Holtorf 2018, 648).*

In an extreme application, embracing change as a resilience strategy may be misinterpreted to introduce abrupt changes as a way to aim for ‘build back better’, which has been seen in a few initiatives in Kathmandu Valley after the 2015 Gorkha earthquakes – there have been examples of using steel and reinforced concrete in the restoration and rebuilding of several monuments in Kathmandu Valley (Tiwari 2016). For instance, in the 1970s, the nine-story Basantapur Tower in Hanumandhoka Durbar (Palace) Square was restored. During the 2015 earthquakes, this particular tower was significantly damaged, and architectural historians blamed the 1970s insertion of reinforced concrete tie beams as a possible cause of the damage to the otherwise relatively soft and resilient structure built of timber framing, brick masonry brick, and noncement mortar (Tiwari 2016). Similarly, there were proposals to rebuild Kasthamandap (the monument that gives Kathmandu Valley and the city their names) with new techniques to make it ‘better’ for the future, but these were opposed by local communities. The community resistance led to negotiations with the government, and a new project was adopted with provisions for conducting an archaeological investigation of the foundation, which was the only part intact after the 2015 earthquake. This suggests another dimension of resilience – archaeology itself may help build resilience by adding to the historical information, thus enhancing the community’s knowledge and association with a particular site.

A team led by British archaeologist Robin Coningham revealed that the foundation of Kasthamandapa dated back almost five hundred years earlier than was previously known (Coningham et al. 2019). Moreover, the same excavations also revealed the features of a resilient foundation building method that is not well understood in contemporary construction practice. Coningham hints that such archaeological processes can work together with community, rather than occurring in isolation (Coningham et al. 2019). I thus argue that heritage resilience can also be derived from such scientific processes combined with community participation, as it boosts community resilience while also providing scientific evidence for historical narratives and processes of appropriate construction.

<sup>3</sup> The term living heritage is used by different organisations in a slightly different ways, but there is a common thread. For example, UNESCO uses the term to refer to intangible cultural h(ICH) – see United Nations Educational Scientific and Cultural Organisation 2003 (ich.unesco.org) – whereas ICCROM has been proponent of a ‘living heritage approach’ as a new paradigm beyond the values-based approach to heritage – see Poullos 2014 for a good discussion on this. Here, I refer to living heritage as heritage that is evolving or heritage that is intricately linked to people through its existence and importance.

There have been other individual works, such as that of Rabindra Puri<sup>4</sup>, who followed his passion for restoring Newari houses in Bhaktapur and building of new houses in Nepal in ways that involved traditional crafts and design, with the result that his methods perpetuated traditional elements while also responding to socio-economic rationales and meeting contemporary living standards (see Shrestha 2016, Sahina Shrestha's reporting in the *Nepali Times* for a brief account of such examples in the aftermath of the 2015 earthquakes in Nepal). To me, resilience needs to be framed through these interconnected socioeconomic and technical processes which engage with heritage in a multidimensional way. Doing so, however, requires a critical engagement discourse on heritage. I use critical engagement discourse to suggest a critical inquiry into heritage concepts and practices, but this should be done together with the concerned communities and individuals without preconceived notions of historicity and universal values. Again, Rico (2016) appropriately suggests that we should be able to perceive heritage in new forms after any disasters and be able to (re)frame heritage perceptions if necessary after each forced change or disruption. This process itself is a part of resilience building, and the heritage sector opens up ample opportunities in this process. To me, that is the true meaning of heritage-based resilience, and we must watch for such opportunities to articulate innovative but context-appropriate resilience.

## 5 Conclusion

The paper has argued that there is a need for a better conceptualisation and articulation of the notion of heritage-based resilience. This articulation (i) should be based on a critical recognition that not all heritage may contribute to resilience and (ii) acknowledge that more can be accomplished by moving beyond the 'preservation paradigm' (and perhaps in line with the 'living heritage' paradigm), and (iii) thus the 'change' or 'evolution' of heritage before or after disasters needs to be carefully regarded as an opportunity for building resilience.

Living heritage offers resilience, even in a limited way, in times of crisis. Hence, heritage-based resilience can be built mostly around living heritage, which is often called intangible heritage and includes contemporary social processes. Additionally, the processes of resilience and recovery may give rise to new forms of heritage that may further boost resilience against future disasters. Within this premise, it is important to explicitly emphasise the role of indigenous and traditional knowledge and community-based systems and processes as part of heritage

when framing the heritage-based resilience and recovery framework. Ultimately, the UNDRR rightly recognises that 'radical transformation is needed' (UNDRR n.d.) in the way we conceptualise resilience in relation to exploiting heritage-based resilience.

### Abbreviations

DRR	Disaster risk reduction
ICCROM	International Centre for the Study of Preservation and Restoration of Cultural Property
IPCC	Intergovernmental Panel on Climate Change
NRA	National Reconstruction Authority
PDNA	Postdisaster needs assessment
SFDRR	Sendai Framework for Disaster Risk Reduction
UN	United Nations
UNESCO	United Nations Educational Scientific and Cultural Organisation
UNDRR	United Nations Office for Disaster Risk Reduction
UNISDR	United Nations International Strategy for Disaster Reduction

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### References

- Arora, V. 2022. Reconstruction of heritage in Bhaktapur, Nepal: Examining tensions and negotiations between the "local" and the "global." *Disaster Prevention and Management: An International Journal* 31 (1): 41–50.
- Chapagain, N. K. 2017. Perception and management of heritage in the Buddhist context: observations from Nepal. In *Asian Buddhist Heritage – Conserving the Sacred*, edited by Wijesuriya, G. and Lee, S. Rome: ICCROM.
- Chapagain, N. K. 2018. TBI Nepal Initiative: Personal Reflections on a Post-Earthquake Volunteer Movement Concerning the Traditional Settlements. In *The Cultural Heritage of Nepal, before, during and after the 2015 Earthquakes – Current and Future Challenges*, *Oriental Cultural Heritage Sites Protection Alliance*, 64–77. Kathmandu: Vajra Publications.
- Chapagain, N. K. 2019. A Review of Policies on Preparedness, Response, and Recovery for Pre and Post-2015 Earthquakes in Nepal: Implications for The Built Heritage. In *Reflections on the Built Environment and Associated Practices: Revisiting 2015 Nepal Earthquakes: Resilience, Recovery, Rehabilitation and Reconstruction*, edited by Neel Kamal Chapagain, Subik Kumar Shrestha, Sangeeta Singh, and Kishan Datta Bhatta, 28–44. Nepal: Department of Architecture, Institute of Engineering, Tribhuvan University.

<sup>4</sup> see <https://www.rabindra.com.np>

- Coningham, R. A. E., K. P. Acharya, C. Barclay, R. Barclay, C. E. Davis, C. Graham, P. N. Hughes, et al. 2019. Reducing disaster risk to life and livelihoods by evaluating the seismic safety of Kathmandu's historic urban infrastructure: Enabling an interdisciplinary pilot. *Journal of the British Academy* 7 (s2): 45–82. <https://doi.org/10.5871/jba/007s2.045>.
- Disaster Studies Manifesto. 2019. *Power, prestige and forgotten values: a disaster studies manifesto*. <https://www.ipetitions.com/petition/power-prestige-forgotten-values-a-disaster>. Accessed 16 June 2022.
- Gautam, Dipendra, and Hugo Rodrigues. 2018. *Impacts and insights of Gorkha earthquake*. Amsterdam: Elsevier.
- Holtorf, C. 2018. Embracing change: How cultural resilience is increased through cultural heritage. *World Archaeology* 50 (4): 639–650. <https://doi.org/10.1080/00438243.2018.1510340>.
- IPCC (Intergovernmental Panel on Climate Change). 2014. *Climate Change 2014: Synthesis Report. Contribution of Working Groups I, II and III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change*, edited by Core Writing Team, R.K. Pachauri, and L. A. Meyer. Geneva, Switzerland: IPCC. [https://www.ipcc.ch/site/assets/uploads/2018/02/SYR\\_AR5\\_FINAL\\_full.pdf](https://www.ipcc.ch/site/assets/uploads/2018/02/SYR_AR5_FINAL_full.pdf). Accessed 15 July 2022.
- Jigyasu, R. 2013. *Heritage and Resilience: Issues and Opportunities for Reducing Disaster Risks, Background paper*. [http://icorp.icomos.org/wp-content/uploads/2017/10/Heritage\\_and\\_Resilience\\_Report\\_for\\_UNISDR\\_2013.pdf](http://icorp.icomos.org/wp-content/uploads/2017/10/Heritage_and_Resilience_Report_for_UNISDR_2013.pdf). Accessed 15 June 2022.
- National Planning Commission. 2015a. *Nepal Earthquake 2015a: Post Disaster Needs Assessment; Vol. A: Key Findings*. Kathmandu: National Planning Commission and National Reconstruction Authority. <https://www.nepalhousingreconstruction.org/sites/nuh/files/2017-03/PDNA%20Volume%20A%20Final.pdf>.
- National Planning Commission. 2015b. *Nepal Earthquake 2015b: Post Disaster Needs Assessment Vol. B: Sector Report*. Kathmandu: National Planning Commission and National Reconstruction Authority. [https://www.nepalhousingreconstruction.org/sites/nuh/files/2017-03/PDNA\\_volume\\_BFinalVersion.pdf](https://www.nepalhousingreconstruction.org/sites/nuh/files/2017-03/PDNA_volume_BFinalVersion.pdf).
- National Reconstruction Authority. 2016. *Nepal Earthquake 2015 Post Disaster Recovery Framework 2016 - 2020*. Kathmandu: National Planning Commission and National Reconstruction Authority. [https://reliefweb.int/sites/reliefweb.int/files/resources/PDRFReport\\_FI-NAL10May.pdf.ports](https://reliefweb.int/sites/reliefweb.int/files/resources/PDRFReport_FI-NAL10May.pdf.ports).
- Poulios I. 2014. *The past in the present : a living heritage approach - meteora greece*. London: Ubiquity Press.
- Rico, T. 2016. *Constructing destruction*. New York: Routledge.
- Saldin, Melathi. 2018. Heritage as resilience. In *Encyclopedia of Global Archaeology*, edited by C. Smith. Springer Cham. [https://doi.org/10.1007/978-3-319-51726-1\\_3404-1](https://doi.org/10.1007/978-3-319-51726-1_3404-1).
- Shrestha, Sahina. 2016. In perfect harmony. *Nepali Times*, September 2-8. <https://archive.nepalitimes.com/article/Nepali-Times-Buzz/In-perfect-harmony>, 3251. Accessed 18 Apr 2023.
- Smith, L. 2006. *Uses of heritage*. London: Routledge.
- Stanton-Geddes, Z. and S. Anees Soz. 2017. *Promoting disaster-resilient cultural heritage*. Washington D.C.: World Bank.
- Tiwari, S. R. 2016. *Heritage in Danger*. *The Kathmandu Post*, November 12. <http://kathmandupost.ekantipur.com/news/2016-11-12/heritage-in-danger.html>.
- UNDRR (United Nations Office for Disaster Risk Reduction). n.d. *Understanding Risk*. <https://www.undrr.org/building-risk-knowledge/understanding-risk>. Accessed 11 Nov 2022.
- United Nations Educational Scientific and Cultural Organisation and World Bank. 2018. *Culture in City Reconstruction and Recovery*. Paris: UNESCO. <https://openknowledge.worldbank.org/handle/10986/30733>.
- United Nations Educational Scientific and Cultural Organisation World Heritage Centre. 2016a. Draft Decision: 40 COM 7B.41. In *Item 7B of the Provisional Agenda: WHC/16/40.COM/7B.Add: State of conservation of properties inscribed on the World Heritage List*. Paris: UNESCO. <https://whc.unesco.org/archive/2016a/whc16-40com-7BAdd-en.pdf>. Accessed 11 Nov 2022.
- United Nations Educational Scientific and Cultural Organisation World Heritage Centre. 2016b. Decision: 40 COM 7B.41. In *Report of the Decisions adopted during the 40th session of the World Heritage Committee (Istanbul/UNESCO, 2016b)*. Paris: UNESCO. <https://whc.unesco.org/archive/2016b/whc16-40com-19-en.pdf>. Accessed 11 Nov 2022.
- United Nations Educational Scientific and Cultural Organisation. 2003. *Convention on the Safeguarding of the Intangible Cultural Heritage*. Paris: UNESCO.
- United Nations. 2015. *Sendai Framework for Disaster Risk Reduction 2015–2030*. <https://www.preventionweb.net/files/resolutions/N1516716.pdf>. Accessed 15 June 2022.
- Weise, Kai, Dipendra Gautam, and Hugo Rodrigues. 2018. Response and Rehabilitation of Historic Monuments After the Gorkha Earthquake. In *Impacts and insights of Gorkha earthquake*, edited by Dipendra Gautam and Hugo Rodrigues, 65–94. Amsterdam: Elsevier.

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