

# The relativity of perspective: exploring the disconnect between Indigenous and Western paradigms of disaster risk perception

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## Abstract

**Purpose** – This article demonstrates how psycho-sociological concepts have a place in disaster risk sciences. It draws attention to the relationship between risk perception and disaster management from Western and traditional viewpoints.

**Design/methodology/approach** – This paper is conceptual and draws from published works. The systematic literature review (SLR) methodology was adopted to analyse existing literature on the subject matter.

**Findings** – Risk perception evolved over centuries and disciplines until it found applicability in modern times. Despite the proliferation of western science-based approaches to risk perception, Indigenous knowledge systems still hold sway over communities' understanding of risk. These perspectives are enshrined in religious and cultural convictions that become the lenses through which a society assigns cause, effect and remedy to risk events. A deeper understanding of these convictions enables disaster risk management strategies to be better accepted by those at risk and to align with their lived realities.

**Originality/value** – Risk perception becomes the lens through which we better understand the realities and complexities of populations at risk. Indigenous knowledge systems have a strong influence on society's perception of risk and if they are not harnessed and studied, they will stand in conflict with Western approaches. Hence, the study of the nexus between risk perception and disaster management presents an opportunity for policymakers and practitioners to design risk management solutions that have a higher chance of acceptance and sustainability.

**Keywords** Risk perception, Indigenous knowledge systems, Western-based knowledge, Disasters and religion, Disaster paradigms

**Paper type** Literature review

## Introduction

The German quantum physicist, Warner Karl Heisenberg (1901–1976) once said “What we observe is not nature herself, but nature exposed to our method of questioning” (Heisenberg, 1958). This means that as we observe nature and the phenomena within it, our understanding of it is both limited and shaped by the lenses we use to filter and observe. This is how Heisenberg dispels the myth that the scientific approach discovers truth in a way that other modes of knowing, including the metaphysical, do not. Heisenberg calls this the delusion of scientism. This raises a couple of questions, namely: What then, is reality? And what role



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does perception play in defining that reality? Heisenberg's assertion seems to align well with ancient Greek philosophers' position that perception is an epistemological question of whether a physical world exists independent of our experience of it (Perreira-Gandarillas, 2011; Levers, 2013; Main, 2023). Does reality exist, or is it merely crafted by our subjective interpretation of our world? Although such discussions might appear largely philosophical in nature, they do also have implications for the field of disaster risk studies as, often, there seems to be a contradiction between the technical assessment of risk and how people exposed to risk perceive it (Sjöberg, 1999). Therefore, to apply Heisenberg's logic, when people experience hazardous events and disasters, it becomes important to understand which lenses shape their perception of that phenomenon, as individuals and as a collective. Arguably, as risk deals with complex socio-ecological systems, they cannot solely be perceived through technical parameters and probabilistic numbers, but should also consider psychological, social, religious, and cultural contexts.

In cases in which people have poor or no perception of a particular risk, their reaction might be inappropriate or even harmful, for example, building houses in flood-prone areas (Manez *et al.*, 2016). Risk perception can be defined as "an assessment of the probability of a hazard and the probability of the results (most often—the negative consequences) perceived by the society" (Lechowska, 2018). The specific interests and varied perceptions of actors can often give rise to conflicts during the elaboration of disaster risk reduction strategies (Dynes and Quarantelli, 1975). When solutions implemented to deal with a given risk are not adequate or not accepted by all actors within the territory, the risk can increase and new risks can emerge (Texier-Texixera and Edelblutte, 2017). A social conflict can arise in disaster risk management from socio-psychological dynamics such as opposing values, interests, and needs (Jeong, 2008). By understanding the roots of perception and risk perception studies, we understand why people perceive risk differently and why their realities differ when faced with a risk event. Risk perception is therefore important in policy making (Sjöberg, 1999) and plays a vital role in Disaster Risk Management (Manez *et al.*, 2016).

This article will explore the foundations of risk perception to lay bare the origins of the concept and how it has evolved to find applicability within disaster studies. The paper seeks to explore paradigmatic contradictions in risk perception and explore the different interpretations of cause and effect in disaster events, that is, the difference between scientific influences on risk perception versus the social and Indigenous influences. Based on the foregoing, the research questions that were used to guide this paper are as follows: (1) What are the philosophical foundations of risk perception? (2) What are the main paradigms governing disaster risk? (3) What are the differences between scientific and indigenous influences on risk perception? and (4) Can scientific and Indigenous knowledge systems be effectively integrated? To answer these questions, it was necessary to apply a methodology that is suited to a theoretical investigation, and this is discussed in the following section.

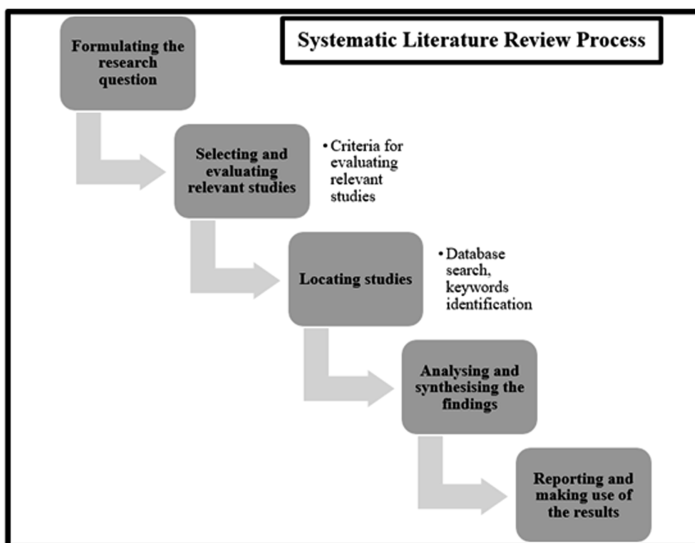
### Methodology

A systematic literature review (SLR) methodology was used to guide this study, which aims to synthesise areas of conceptual knowledge that can contribute to a better understanding of an issue under investigation, and in a transparent and reproducible way (Lamé, 2019). The main objective of the SLR approach is to reduce the risk of bias and to increase transparency at every stage of the review process by relying on explicit, systematic methods to reduce bias in the selection and inclusion of studies, to appraise the quality of the included studies, and to summarise them objectively (Liberati *et al.*, 2009). This methodology aims to provide an overview of the literature in a given field, including the main ideas, models, and debates

(Petticrew and Roberts, 2006). Figure 1 below illustrates the five basic steps of the SLR process as guided by the writings of Denyer and Tranfield (2009). However, it should be noted that although the process is depicted as linear, in practice it was iterative, with multiple feedback loops at each stage.

The research questions outlined in the introduction provided the guiding campus for the line of enquiry. They defined the investigation, set boundaries, provided direction, and functioned as a frame of reference for assessing the study (O’Leary, 2020). The next step of the study was to create criteria for evaluation and inclusion of reference works. The following criteria were applied. To be included in the study, the piece of literature needed to contribute to answering each of the research questions. For questions 1 and 3, there was no time limit for exclusion since the interrogation of paradigmatic and theoretical foundations of a concept would require that historical literature be considered, and often necessitates the researcher to explore foundational literature that is a few decades or centuries old. However, where contemporary arguments exist, these were considered to enable comparative analyses and trace the evolution and progression of thought on risk perception over time. Next, the reference works had to specifically address risk perception as applied to disaster risk management, except for those that were used to trace the evolution of the field over time. Thirdly, the referenced works used for the contrast between science and Indigenous knowledge systems had to reflect an African context. Studies whose focus was not on Africa were included only to provide a contrast or comparison.

In the next step of the methodology, the researcher identified and located potential articles on Google Scholar, online journal websites and libraries using keywords and phrases such as “perception”, “evolution of risk perception”, “disasters and Indigenous knowledge systems”, “western scientific knowledge in disaster management” “risk perception paradigms”, “risk perception theories”, “risk perception and disaster risk management”, and other sub-themes that emerged as the writings were analysed. Further, the researcher used the indexes of



**Figure 1.**  
5-step depiction of the  
systematic literature  
review process

Source(s): Adapted by author from the writings of Denyer and Tranfield (2009)

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journals and contents pages to identify articles related to the study objective and research questions. From there, relevant writings were selected and placed in a repository for ease of reference. It is acknowledged that SLR may result in some degree of exclusion of works that do not align with the search criteria and yet may contain relevant material. Each article was studied, and key arguments, definitions, theses, and conclusions were summarised. Connections, contradictions, deficiencies, and unique thoughts were identified and assigned to a research question and findings were collated. Themes and sub-themes such as culture, religion, science and the metaphysical emerged, as well as cause-effect relationships between perception and disaster risk, thus allowing for patterns or attributions to be established. A more in-depth look at the main findings is as follows:

### **The provenance of perception studies**

Perception as a field of study has evolved from the ancient Greek philosophers and found a place in various disciplines, including Psychology (Caston, 2014), Geography (Krimsky and Golding, 1992), Anthropology (Widalsky and Karl, 1990; de Villiers, 1993) and contemporary multi-disciplinary scientific approaches (Kasperson *et al.*, 1988). As the study of perception evolved across time and disciplines, so too did the definition of perception. To the philosopher, perception is about the relativity of reality, and as Armstrong and Pitcher assert, perception is a form of belief (Armstrong, 1968; Pitcher, 1970). The original view of perception is influenced by Plato who saw perception as something confined to the bodily organs, passive in nature and non-cognitive (Caston, 2014). In Plato's understanding, the five senses of hearing, smelling, touching, seeing, and tasting constitute perception, without any inferences regarding reasoning and cognition. However, a mid-5th Century Philosopher Heraclitus seems to expand on this view by suggesting that "eyes and ears are bad witnesses for those that do not understand the language of the senses" (Finkelberg, 2017). This can be simplified to mean that although people receive information through their senses, it is of no value if they do not understand it enough to know the meaning, the reason, and the outcome of what they are experiencing (Graham, 2023). Melissus, from the same era, concurs with this and proposes that there is a contradiction between sensory qualities and the principles of logic which can only be resolved if monism is adopted (Caston, 2014). An individual can only choose to be led by either their senses or reason, not both. In the *Phaedo*, Plato suggests that we perceive with our "souls", and the senses are simply instruments through which we access the world (Franklin, 2005). This implies that, although our senses allow us to "feel" the changes around us, reason and logic are necessary for us to understand why we feel that way and what we need to do about it. Plato also characterises perception as reflective questioning and weighing up alternatives (Franklin, 2005) and calls this a silent dialogue that the soul has with itself and guides the process of assessing a phenomenon. This view is supported by Socrates' concept of Protagorean Relativism, which is the view that the world is real only from the perspective of the person that perceives it (Meiland, 1979; Keeling, 2023).

To a physiologist, perception is mere sensory registration under complex information processing (Burge, 2010). It is the process by which physical processes are transformed into perceptual experiences (Freeman, 1991). Therefore, it is the physical interaction of an event with an individual's sensory organs, with the brain being the main processing centre of sensory information. The author further suggests that the brain moves beyond the mere extraction of features. It combines sensory messages with experience and with the expectation to identify both the stimulus and its meaning to the individual. Within the context of risk, this statement may be clarified to mean that individuals receive risk stimuli through the sense organs, but then decide its severity and impact based on the brain's recollection of past events. Similarly, Opperman in his analysis of Aristotle's works, concurs that perception is primarily a process through which sensory information is processed to

understand the world better (Opperman, 1992). In this case, perception is understood primarily from a biological and physiological standpoint. When this is applied to risk studies, an individual receives risk stimuli from their environment through their different senses and then uses their brain to process the information and understand better what value to ascribe to the information.

In Anthropology, perception reflects a culture, a societal point of view that is taught, experienced and nurtured (de Villiers, 1993). The author further notes that, although perceptions differ in the way they represent reality, to be meaningful they must somehow be linked with it. The environment and experience are particularly important in shaping perceptions, but of greater importance are the sociocultural factors that influence experience and therefore, perceptions (Dietz and Shwom, 2017). From this, it can be deduced that society influences how an individual interprets risk by assigning causality, value, and remedy. In this way, perception is linked to the daily way of life. At this point, it is necessary to connect with the main paradigms of risk perception since these tend to influence how risk is systematically examined and understood as discussed in the following section.

### *Conventional paradigms of risk perception*

This section will explore four distinct paradigms governing disaster risk. The proponents of the *Western Scientific Paradigm* of disaster risk management prefer the natural science approach (Fernandes, 2021). Scholars such as Gaillard and Mercer (2013) and Di Baldassarre *et al.* (2018) tend to use the terms “Dominant” or “Hazard paradigm” to refer to the Western Scientific paradigm. Scholars such as Guo (2016) refer to it as the Engineering Paradigm and contend that this was the dominant paradigm in the 20th Century. Under this paradigm, disaster is perceived as resulting from natural causes. Catastrophes are created by nature (Guo, 2016). Therefore, a disaster occurrence is seen as nothing more than random patterns of nature, governed by the laws of natural science (Agrawal, 2018). For that reason, advocates of the Western Scientific Paradigm will look to the natural sciences for a solution (Fernandes, 2021). The philosophy and risk management approaches under the Western Scientific Paradigm tend to be of an engineering or mechanistic nature that focuses on hazard exposition and vulnerability (Di Baldassarre *et al.*, 2018). This paradigm emphasises the study of the natural processes that trigger disasters and suggests solutions to reduce impacts on exposed people, assets, and critical infrastructures (Blöschl *et al.*, 2013). This paradigm underpins quantitative assessments of disaster risk, broadly defined as a combination of the probability of extreme events and their potential adverse consequences (Gaillard and Texier, 2010). When estimating the effects of structural measures to reduce hazard levels, this paradigm often does not consider the societal responses that can produce unintended consequences (Burby, 2006). Solutions tend to be technical and of a command-and-control nature, for example, hazard-based land use planning, engineering structures and hazard awareness campaigns (Gaillard and Texier, 2010).

Critics of the Western Scientific Paradigm emerged to question its focus on the causes of disasters and not the outcomes or impacts. This gave rise to the second paradigm called the *Radical Paradigm* which rose in the 1970s (White and Haas, 1975). Scholars such as Reghezza-Zitt and Rufat (2019) refer to this as the social paradigm or the radical critic paradigm. In this radical approach, disasters could no longer be explained by technical failure. Disasters were perceived as anchored in a system of complex and dynamic causes, interacting with social and environmental inequities (Cutter, 1996). The ability to cope was thought to determine vulnerability, a concept introduced in the mid-1970s (White and Haas, 1975). Vulnerability allowed the “denaturalisation” of disasters and the establishment of social conditions that enable disasters (Wisner *et al.*, 1976). Disasters were thus perceived and understood as the result of failures of political and economic systems, through the production

of inequalities, marginality and inaction (Eakin and Luers, 2006). Under the Radical Paradigm, disasters are viewed mainly as social phenomena and need to be managed as social problems (Drabek, 2007). Solutions to disasters under the Radical Paradigm therefore tend to be of a social services approach focussed on non-structural solutions such as poverty reduction, fair access to resources and greater investments into social protection systems (Gaillard, 2021). Fernandes (2021) adds that vulnerability to risk is perceived as socially produced and evolves from political, economic, and social processes such as underdevelopment, and solutions are mainly non-structural such as poverty alleviation and promotion of participation of the vulnerable. Approaches under this paradigm tend to be integrated, where disasters are treated within patterns of daily life and livelihoods (Fernandes, 2021) and are viewed as non-routine social problems (Drabek, 2007). From this, disasters are perceived as social constructs (Lechowska, 2022).

A third paradigm is the *Religious Paradigm*. According to Holmgaard (2018), religious beliefs can shape how people perceive disaster risk, and how they respond to disasters and recover from their impact. Under the Religious Paradigm, disasters are generally perceived as “Acts of God,” reflecting punishment by deities (Chester, 1998, 2005). This paradigm is therefore associated with fatalistic and submissive attitudes resulting in a low perception of risk, leading to often inappropriate or helpless behaviours towards disasters (Gaillard, 2021). However, Reale (2010) here cautions that the tendency is to reduce the Religious Paradigm to Judeo-Christian ideals dominant in the Western world, and yet some studies have identified vast differences in beliefs regarding disasters between different religions and even denominations in the same religion.

A fundamental paradigm of risk perception that is largely underexplored is *Indigenous Knowledge Systems* (IKS) which hold sway in many regions of the non-Western world. Many societies across the globe use Indigenous knowledge as the main point of reference when interpreting disaster events and assigning remedies. The following section explores an Indigenous knowledge-based perspective on risk perception more deeply.

### **The search for meaning: the perception of cause and effect in Indigenous knowledge systems**

Depending on their views and life experiences, researchers have viewed Indigenous knowledge in diverse ways. Purcell (1998) views Indigenous knowledge as the body of historically constituted knowledge that is essential for long-term adaptation of a community or human groups to the biophysical environment. It relates to the way humans have understood themselves in relation to their natural environment. Bruchac (2014) defines it as a network of knowledge, beliefs, and traditions that are intended to preserve, communicate, and contextualise Indigenous relationships with their culture and landscape over time. IKS therefore is a systemic reference to the knowledge and practices of Indigenous communities constitutive of their meaning and belief systems, as well as their practices and customs (Nel, 2005). Accordingly, IKS is about the knowledge, practices, values, and ways of knowing and sharing that communities have used for centuries.

IKS are theoretically supported by two important theories: Vitalism and the Indigenous Standpoint Theory (IST). In this paper, these theories are employed to show how IKS, like knowledge systems based in the West, can effectively filter the perception of disaster risk, and serve as a means for communities to learn about, prepare for, and mitigate disasters. According to Vitalism, there is a vital life-force present that provides an additional explanation for life beyond the principles of physics and chemistry (Hewson, 2015). Vitalism provides a unique perspective on how humans perceive and engage with their surroundings. While Western science focusses on developing theories and conducting empirical research, Indigenous knowledge is more concerned with portraying humanity’s relationship with



nature in both the physical and metaphysical sense. For instance, Indigenous Africans hold onto the ontological belief that there is a universe that is composed of both the physical and spiritual realms (Nkhata *et al.*, 2019). They exercise their faiths, beliefs, and ceremonies and relate to nature in a way that reflects a diversity of spiritual traditions.

The Indigenous Standpoint Theory (IST) is the second theory governing IKS. It contends that actions should be taken by Indigenous people for their own benefit and that when working or conducting research in a community, it is important to involve and respect the local people's cultural, social, spiritual, and moral ethos. IST was described by another proponent, Williams (2007), as an investigational methodology and a way to organise and make sense of "the corpus of objectified knowledge about us". Instead of using predefined concepts to explain experiences, IST explores "actualities of every day lived experiences" of Indigenous communities (Kwaymullina, 2017). In IST, a research's ontology and epistemology should represent the local community, who must benefit from this kind of knowledge. Despite the prevalence of Western-based techniques, it is clear from these two theories that communities' perceptions and lived experiences play a significant role in determining how people respond to and interpret disasters. Next, a few African cases are discussed and used to illustrate the influence of Vitalism and IST in shaping risk perception.

According to Nhamo and Chikodzi (2021), many Indigenous Africans draw a very thin line between "the sacred, secular, and scientific," so traditional belief systems frequently influence how disasters are interpreted. It does not matter if a myth has a scientific foundation. Myths emerge to explain situations, social behaviours, or religious acts when disaster strikes (Rudhardt, 1981) and there is a strong faith in the ability of the spirit to control disaster (Kugara *et al.*, 2021). In the Chimanimani District of Zimbabwe, Nhamo and Chikodzi performed a post-Cyclone Idai study and found that the community of Kopa believed that mermaids were to blame for the devastation brought by the storm as they were tracking ill-gotten wealth from Mozambique into Zimbabwe. The storm is also blamed on the Apostolic Faith sect which is believed to have destroyed sacred clay pots that had been left as a sacrifice to the ancestors in the mountains. Another perspective is that the cyclone resulted from human remains from the liberation struggle that were buried in mass graves at the Heroes' Acre in Ngangu township. This stems from the belief that deceased human bodies should be buried separately to avoid a clash of spirits in the afterlife. The community therefore believes that the cyclone and associated landslides resulted from the unquiet spirits of those buried in one grave. Ironically, the areas of Chimanimani that were not affected are believed to have been protected by rituals done by their chiefs and spirit mediums. Grandjean *et al.* (2008) assert that such rituals to appease the ancestors provide one example of communities trying to reconcile with disasters in a way that aligns with their belief systems. In some cases, even witchcraft is attributed as the cause of disasters. These examples illustrate Vitalism since these communities in Chimanimani perceive cyclonic activity to result from spiritual causes rather than the physics of the atmosphere. Such supernatural attributions do not just help them to infer meanings to why the disaster happened; they also give a feeling of control and allow for the development of disaster management strategies that incorporate the community's point of view.

Chirikure *et al.* (2017) provide another example from Zimbabwe, pointing out that some people still believe in the idea of "rain making". During the annual rain-making ceremony, traditional leaders and spirit mediums ask their god for favour for the upcoming season through their ancestors. It is thought that rain only occurs because of the community's ardent prayers to their ancestors, with little regard for scientific explanations. When rains do not arrive for a long time, locals send messengers to shrines such as Mabweadziva or Matonjeni in the Matobo Hills of Matabeleland South region, and spirit mediums are asked to appease the ancestors. Additionally, it is thought that people's neglect of these rituals is what causes droughts to occur more frequently. It is also believed that the increased frequency of drought

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is a result of the proliferation of Christian beliefs. IST therefore expects that such perspectives are systematically accounted for in studying communities to ensure that their point of view is acknowledged, and their proposed solutions are considered. This will ensure that IKS is integrated into routine scientific endeavours in disaster management, and more suggestions are outlined in the next section.

### **Bridging indigenous knowledge and western scientific systems**

According to (Mosurka *et al.*, 2023) it is necessary to understand how Indigenous people construct or frame disasters to avoid a repetition of the colonial research practices that silenced their perspectives. To bridge the divide between Indigenous knowledge and western knowledge systems in disaster risk management, it is important to first understand its building blocks. Despite the simplistic view that is often associated with IKS, it is a distinct philosophical and epistemological worldview that shapes education systems, disaster management practices, and disaster governance systems (Lebakeng and Payle, 2003; Senanayake, 2006; Gaillard and Mercer, 2013; Banda and Banda, 2019; Seddiky *et al.*, 2020; Bwambale *et al.*, 2023). All these components make up a complex system that offers both a theoretical and practical scaffold for disaster risk management. Breaking down IKS into these different components also enables better identification of the points of integration with western-based knowledge systems. The following recommendations are made:

Firstly, there must be a decolonisation of discourse where Indigenous perceptions are seen as valid and equal to the Western worldview (Datta and Starlight, 2024). This is especially important in contexts where large-scale disasters bring together managers from various parts of the world, each with their own convictions. This fosters mutual respect, promotes social justice, and creates the right platforms where meanings can be negotiated between responders and disaster-affected communities. As noted by Kelman *et al.*, no single knowledge form can be a solution for disaster risk reduction, and Indigenous knowledge has the potential to contribute far more than is usually accepted (Kelman *et al.*, 2008). Further, Berkes (1999) argues that Indigenous knowledge already encompasses resource management systems, social institutions (rules and codes of behaviour), and a worldview that can be at the disposal of disaster managers. Secondly, if, according to Gersham (2022), there is a correlation between IKS-based explanations such as witchcraft and the occurrence of disasters, poverty, and disease in some countries, then in such instances, witchcraft accusations can be a good indicator of underlying socio-economic and political problems that exacerbate vulnerabilities. Addressing underlying causes of poverty and social conflict could lead to a community that is more resilient to disasters through better coping mechanisms. Dein (2016) adds that in many societies, IKS-based explanations for disasters reflect the social inequality profile of a community where women, children, and the elderly are the most vulnerable groups. In such societies, disaster mitigation and response need to be accompanied by robust social protection systems to reduce vulnerabilities.

A third strategy is to ensure that disaster governance systems leverage existing social structures and Indigenous laws at national and subnational levels. A proper understanding of the structural setup of the Indigenous community will add significant value in implementing a disaster risk management programme (Seddiky *et al.*, 2020). This also ensures that strategies that are intended to mitigate against disasters are not derailed by contradictory philosophies. As Maunganidze and Halsall (2016) put it, individual understandings of reality promote differences in expectations and ambitions, making it difficult to mobilise coordinated responses. Therefore, using and investing in existing community governance systems also paves the way for a more cohesive community. Local communities already have an inherent self-governing system that determines how resources are used, how disasters are mitigated and who is responsible for decision-making.



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Maintaining traditional governance systems is crucial as they are sometimes more trusted than externally imposed systems. For example, where there is resistance to evacuations due to fear of disconnecting with the roots, or fear of leaving the ancestral land, traditional leaders can provide recommendations for how such processes can be culturally sensitive and respectful, and therefore acceptable.

Further, the integration of traditional beliefs and practices like cleansing ceremonies into post-disaster interventions facilitates closure, community healing and recovery. In post-genocide Rwanda, King *et al.* (2017) noted the value of Indigenous knowledge in promoting recovery and healing. Indigenous communities already have the social capital that can be leveraged to support the post-disaster psychological needs of affected communities. According to Elsass (2001), cultures that prioritise a collective and traditional approach to healing from an event may find it difficult to implement models that individualise and medicalise trauma to promote rehabilitation. In the aftermath of a disaster, the first responders are from within a community and therefore the first knowledge deployed for search and rescue, mitigation and other interventions are Indigenous in nature. This aligns well with the African concept of Ubuntu in which the wider community is seen as social capital for the affected. Also, recovery and rehabilitation rely heavily on existing social networks and psychological support from within. Finally, Indigenous knowledge should be an integral part of disaster response planning. Specifically, when structural solutions such as evacuation centres, warehouses and bridges are constructed to mitigate against disasters, technical officials must consult Indigenous community leaders and ensure that such assets are not installed in sacred areas or areas with other significant spiritual or cultural value. This ensures that structural disaster mitigation interventions are not perceived to conflict with the community beliefs and therefore deemed unacceptable. If these two approaches are not integrated in modern African societies, science becomes abstract and delinked to the lived realities of the people affected.

### Conclusions and remarks

Risk perception is important to understand how communities interact with disaster risk and understand it. Perception becomes reality, and past experience, socio-cultural convictions and knowledge modulate that perception over time. The philosophical foundations of risk perception originate in classical times, to their application in physiology, anthropology, and multi-disciplinary studies until their integration into disaster studies. Four main paradigms – Western Scientific, Radical, Religious and IKS – emerge to explain the lenses with which people at risk filter and analyse risk information. Despite the rise of Western scientific paradigms that promote natural science-based approaches to disaster management, there is still a strong inclination towards Indigenous social and religious belief systems that offer an alternative knowledge system of disaster management that is rooted in the traditional way of believing and doing things. The challenge for practitioners is integrating these complementary systems, and scholars such as Gaillard, Burkes, Seddiky, Halsall and King have recommended strategies for policy and practice. These recommendations start with the recognition of IKS as a unique system of knowing and doing, that has an inbuilt system of disaster governance, and technical knowledge for mitigation, response, recovery, and research. Considering and implementing IKS as an alternative approach to disaster risk management is crucial because often, when western-rooted solutions are applied to communities with a different belief system and a different perception of cause and effect, disaster management interventions may not be readily accepted. A science-based approach of hazard exposition and structural interventions has limited effect on a community that believes that disaster occurs because of supernatural intervention or interference with the traditional way of life.

For many disaster-affected communities, effective disaster risk management strategies will need to find the point of intersection between the “science, the secular and the sacred” for them to be accepted by communities at risk, while avoiding the colonial and “aloof” interventions that silence the important voices of these communities.

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