DECIPHERING COMMUNITY RESILIENCE: A COMPREHENSIVE ANALYSIS OF DEFINITIONS

Pooja Lalit Kumar, Research Scholar, Faculty of Architecture & Ekistics, Jamia Millia Islamia, New Delhi.
Dr. Qamar Irshad, Professor, Faculty of Architecture & Ekistics, Jamia Millia Islamia, New Delhi.
Dr. Ila Gupta, Professor, Amity School of Architecture and Planning, Gurgaon

Abstract
Community resilience is a multifaceted concept that isn't easily refined into explicit knowledge. Researchers generally agree that it relies on various elements that shape a community's overall resilience to disaster risks. While there's growing attention from academic, governmental, industrial, and charitable sectors on initiatives aimed at bolstering community resilience against disasters, there's still on-going debate about the precise definition and fundamental traits of community resilience. In our systematic literature review focusing on definitions of community resilience concerning disasters, we analysed a total of 70 relevant papers using inductive thematic analysis. This method enabled us to flexibly explore and extract insights from the data, particularly valuable for investigating novel or under-explored topics where established theories may be insufficient.
Although a universally accepted definition of community resilience remained abstract, our research undertook a systematic review to explore the diverse interpretations of this concept within the context of disasters. Our objective was to comprehensively examine the array of definitions found in the literature and identifies the various constituent elements proposed to underpin community resilience. To achieve this, we initially categorized the definitions into three primary parameters for further analysis. These parameters encompassed definitions that portrayed community resilience as an on-going 'process' of adaptation and change, those focusing on the 'characteristics' inherent to resilient communities, and those delineating 'attributes'—specific qualities or factors contributing to a community's overall resilience..
Our research findings highlight that community resilience is interpreted and utilized diversely across various research groups, contributing to its ambiguous nature. However, despite these differences in interpretation and application, certain aspects are consistently recognized as crucial for building resilience within communities. This nuanced distribution shows the multifaceted nature of resilience, emphasizing that it is not a singular concept but rather a combination of various dimensions. The paper further focuses on understanding and interpreting these parameters and their interplay which is crucial for developing effective interventions and strategies to enhance community resilience. Thus the authors further confirm that instead of attempting to establish a singular definition and approach to studying community resilience, it may be more beneficial to concentrate on understanding and addressing the parameters that are widely acknowledged as essential for fostering resilience within communities.

Keywords:
Community Resilience; Disaster Risks; Hazards, Systematic Review.

I. Introduction
Disaster-response professionals, government officials, and academics are increasingly interested in operationalizing the concept of 'community resilience' in response to disasters. The frequency and intensity of disasters are on the rise due to the impacts of climate change and demographic shifts towards large cities.(1)(2) It has been observed that whenever disaster strikes, governments and aid organizations are not always in a position to help communities instantaneously. For example, in Canada, the official emergency preparedness guide urges families to "*be prepared to take care of yourself and your family for a minimum of 72 hours*" if an emergency happens in their community

because "*it may take emergency workers some time to reach you* " (3) Similarly, in the United States, states like New Hampshire and California have initiated public awareness campaigns and established websites to promote disaster preparedness activities, such as assembling household emergency kits.(4) However, even when governments and organizations offer assistance, their resources are frequently strained. Valerie Amos, Under-Secretary-General for Humanitarian Affairs and Emergency Relief Coordinator at the United Nations, highlighted in 2014 that the world's collective response capacity and resources were being stretched to the limit due to the significant number of disasters that occurred in 2013.(5) While these concerns are prominent in developed nations, they are even more pressing in developing nations. As a result, recent attention has shifted towards empowering communities to help them, with a simultaneous emphasis on understanding the factors that contribute to making a community resilient to disasters.

Researchers, government, industry, and charitable organizations have shifted their rhetoric from discussing "disaster vulnerability" to "disaster resilience." This change reflects a more proactive and positive approach to community engagement with natural hazard reduction.(6) The term 'disaster' is defined by UNISDR as "a serious disruption of the functioning of a community or a society involving widespread human, material, economic or environmental losses and impacts, which exceeds the ability of the affected community or society to cope using its own resources", while a 'community' can be broadly defined as a constituent population such as a neighbourhood, town, or city. (7) The concept of 'community resilience' is almost invariably viewed as positive, being associated with increasing local capacity (8) (9), social support (10) (11) and resources (12) (13), and decreasing risks (14)(15)(16), miscommunication (17)(18) and trauma (19)(20).

Consensus on the definition and core characteristics of community resilience remains elusive, leading to mixed definitions across scientific literature, policies, and practice. This lack of clarity is concerning as how we define community resilience influences how we measure and enhance it. (21) (22)For instance, the Communities Advancing Resilience Toolkit (CART) defines a resilient community as one capable of transforming its environment through collective action and effectively coping with and learning from adversity. (12)CART suggests measuring community resilience by assessing specific constructs such as transformative potential, connection and caring, resources, and disaster management to pinpoint areas needing improvement. On the other hand, the Conjoint Community Resiliency Assessment Measure (CCRAM) defines community resilience as the ability to withstand crises or disruptions, focusing on variables like leadership, collective efficacy, place attachment, preparedness, and social trust. (23)(24)Identical communities may receive disparate scores on these two measures, highlighting the divergence in defining what is assumed to be the same phenomenon.(24) We conducted a systematic review to explore the diverse definitions of community resilience in the context of disasters. Our aim was to capture the breadth of definitions present in the literature and to identify the various constituent elements proposed to contribute to community resilience.

II.Material & Methods

We initiated a systematic literature search with an open start date and a publication cut-off date of October 2022 for scientific peer-reviewed articles and January 2023 for grey literature. The search utilized keywords derived from the stem words "resilience," "disaster," and "definition." Our inclusion criteria encompassed English-language papers on the topic of disasters containing a description or distinct definition of community resilience. We defined "disasters" in line with the UNISDR definition, excluding acts of violence such as war, terrorism, and epidemics, focusing solely on natural disasters. Publications addressing resilience definitions pertaining solely to individuals, children, or hospital-based systems were excluded unless they explicitly related the definition to a community as a whole. We acknowledged the ambiguity surrounding the definition of "community" and accepted publications attempting to describe resilience as a population-based concept. Additionally, publications proposing broader theories that included community resilience as part of the theory were considered, provided they included a description or definition of community resilience. Screening involved reviewing

abstracts or summaries to eliminate duplicates, non-English reports, or papers not discussing resilience in a community setting in the context of a disaster. In cases where abstracts or summaries were unavailable, we conducted electronic searches within the document for mentions of "resilience" and assessed relevant sections to determine if resilience was discussed within a community setting and in relation to a disaster. Potentially relevant publications underwent full-text review.

The initial screening process categorized the definitions into three main parameters for further analysis. These parameters included: *i) 'process'* definitions, which portray community resilience as an ongoing process of change and adaptation; definitions focusing on the *ii) 'characteristics'* of resilience, describing fundamental traits inherent to resilient communities; and *iii) 'attributes'* definitions, which include specific qualities or factors contributing to a community's overall resilience.

i) **'Process' Definitions:** The definitions that frame community resilience as a dynamic and ongoing course characterized by adaptation and transformation have been categorized under this head.(25) (26) These types of definitions emphasize that resilience is not a static state but rather a journey marked by continuous change and evolution. (14) Communities showing resilience are seen as actively engaged in navigating challenges,(27) learning from experiences, (28) and adapting strategies to better cope with adversity.(29)

ii) **'Characteristics' Definitions:** This category focuses on the inherent traits and qualities that symbolize resilient communities. These definitions delve into the fundamental attributes that enable communities to withstand and recover from various stressors and shocks. Traits such as cohesion,(19) (15) resourcefulness,(9) innovation, (30) and adaptability(16) (31) are often highlighted as key characteristics of resilient communities. These characteristics shape the community's capacity to respond effectively to challenges and emerge stronger from adversity.

iii) **'Attributes' Definitions:** Here, the emphasis is on specific qualities or factors that contribute to a community's overall resilience. Unlike characteristics, which highlight inherent traits, attributes encompass tangible elements or aspects that can be identified and cultivated within a community. This may include infrastructure resilience, (31) social capital, (32) governance structures,(33) economic diversity, (33) environmental sustainability,(34) ,access to resources and support systems.(35) Attributes definitions provide a framework for understanding the tangible components that bolster a community's capacity to bounce back from adversity and thrive in the face of challenges.

By categorizing definitions (refer Table 1) according to these parameters, we were able to gain a deeper understanding of the multifaceted nature of community resilience, allowing for more targeted analysis and intervention strategies tailored to the specific needs and contexts of different communities. These parameters also served as lenses through which to understand the multifaceted nature of resilience within communities.

III. Results and Discussions

Recent studies (as shown in Table 1) have tended to adopt the first type of definition which mainly describes the process. For instance, in an article discussing response enhancements to climatic and ecological hazard, Lemyre and colleagues (36) described resilience as "a process or the attainment of positive outcomes at the individual, family, and community levels despite adversity (e.g., natural disaster, man -made hazard)." Similarly, in a review paper on community resilience, Pfefferbaum and colleagues (12) defined it as "a process linking a set of networked adaptive capacities to a positive trajectory of functioning and adaptation in constituent populations after a disturbance." Additionally, citing publications by researcher Paton (28) and Pfefferbaum,(12)(37) Cox and Perry(38) defined community resilience as "a reflection of people's shared and unique capacities to manage and adaptively respond to the extraordinary demands on resources and the losses associated with disasters." Furthermore, in a recent literature review on resilience, while scholar Castleden (39) defined community resilience as "a capability (or process) of a community adapting and functioning in the face of disturbance."

In continuation to the process based definitions, the definition of community resilience, derived from a publication in 2015 and summarized in a review article by Pfefferbaum, (12) portrays community resilience as the capacities, skills, and knowledge that enable a community to actively participate in the recovery process following disasters. Additionally, through an epidemiological study focusing on violence, injury, and resilience among low-income communities South Africa, Ahmed(40) defined community resilience based on the features of a community. They identified key defining dimensions of community resilience specific to their study, including household relationships, levels of education and literacy, employment-seeking behaviors, social support networks, ability to access support services, sense of communal safety and hope, and implementation of physical security measures.

Table 1: Parameters of Community Resilience Definitions

Definition	Year(s) of Publication(s)	Sources	Process	Characteristics	Attributes
It is proposed that mediating structures (e.g., schools, peer groups, family) and activity settings moderate the impact of oppressive systems and provide contexts for resilience and consciousness raising	1998	(25)			
A resilient community is one that takes intentional action to enhance the personal and collective capacity of its citizens and institutions to respond to, and influence the course of social and economic change	2000	(26)			
The personal and community characteristics and processes that promote a capability to "bounce back" and to use physical and economic resources effectively to aid recovery following exposure to hazard activity.	2001	(28)			
Community seismic resilience is defined as the ability of social units (e.g., organizations, communities) to mitigate hazards, contain the effects of disasters when they occur, and carry out recovery activities in ways that minimize social disruption and mitigate the effects of future earthquakes.	2003 &2007	(41) (42)			
Community resilience is the ability of a community to stick together and to help itself as a group, as well as the families and individuals in its midst.	2003	(43)			
In the context of hazards, the concept spans both pre-event measures that seek to prevent disaster-related damage and post-event strategies designed to cope with and minimize disaster impacts	2003	(44)			
We define community resilience as including those features of a community that in general promote the safety of its residents and serve as a specific buffer against injury and violence risks, and more generally, adversity.	2004	(40)			
Resilience to loss and trauma pertains to the ability of adults in otherwise normal circumstances who are exposed to an isolated and potentially highly disruptive event, such as the death of a close relation or a violent or	2004 and 2007	(19) (15)			

Definition	Year(s) of Publication(s)	Sources	Process	Characteristics	Attributes
life-threatening situation, to maintain relatively stable, healthy levels of psychological and physical functioning... as well as the capacity 9for generative experiences and positive emotions					
Effective recovery can be achieved only where the affected community participates fully in the recovery process and where it has the capacity, skills and knowledge to make its participation meaningful. A community's capacities, skills, and knowledge that allow it to participate fully in recovery from disasters.	2004	(45)			
Community resilience refers to "the capacity of a human community, whether a city, a region, or some other collectivity, to sustain itself through crises that challenge its physical environment and social fabric"	2004	(9)			
Thus, community resilience is defined in this paper as individuals' sense of the ability of their own community to deal successfully with the ongoing political violence.	2004	(29)			
The construct of resilience can be defined as a process or the attainment of positive outcomes at the individual, family, and community levels despite adversity (e.g., natural disaster, terrorist attack)	2005	(30)			
Recovery is defined as 'decisions and actions taken after a disaster with a view to restoring or improving the pre-disaster living conditions of the stricken community, while encouraging and facilitating necessary adjustments to reduce disaster risk'	2005	(16)			
Disaster resilience could be viewed as the intrinsic capacity of a system, community or society predisposed to a shock or stress to adapt and survive by changing its non-essential attributes and rebuilding itself	2006	(46)			
The ability of community members to take meaningful, deliberate, collective action to remedy the impact of a problem, including the ability to interpret the environment, intervene, and move on. More than the ability of members to cope individually, community resilience involves interactions as a collective unit.	2007	(47)			
Disaster resilience as the ability of social units (e.g., organizations, communities) to mitigate hazards, contain the effects of disasters when they occur, and carry out recovery activities in ways that minimize social disruption and mitigate the effects of future disasters Resilience can be measured by the functionality of an	2007 &2015	(42) (12)			

Definition	Year(s) of Publication(s)	Sources	Process	Characteristics	Attributes
infrastructure system after a disaster and also by the time it takes for a system to return to pre-disaster levels of performance .					
System or community resilience can be understood as: capacity to absorb stress or destructive forces through resistance or adaptation, capacity to manage, or maintain certain basic functions and structures, during disastrous events, and capacity to recover or 'bounce back' after an event	2007	(15)			
Resilience - the ability to go through trauma and to interject meaning into one's own life	2008	(6)			
Resilience is the ability of a social system to respond and recover from disasters and includes those inherent conditions that allow the system to absorb impacts and cope with the event, as well as post-event adaptive processes that facilitate the ability of the system to re-organize, change, and learn in response to the event	2008	(48)			
A process linking a set of networked adaptive capacities to a positive trajectory of functioning and adaptation in a constituent populations after a disturbance	2008	(49)			
A new body of work is attempting to expand the focus on resilience as a characteristic of the individual to one of resilience as a community and cultural process. This new focus on "community resilience" looks at how people overcome stress, trauma and other life challenges by drawing from the social and cultural networks and practices that constitute communities. At the same time, it draws attention to the resilience of the community itself.	2009 & 2017	(31)(50)			
Provides various definitions across disciplines and offer 10 defining characteristics of resilient systems as follows1) a high level of diversity in community 2) effective governance and institutions which may enhance community cohesion 3) the inevitable existence of uncertainty and change is accepted 4) there is community involvement and the appropriation of local knowledge in any resilience-building projects; communities enjoy ownership of natural resources; communities have a voice in relevant policy processes 5) preparedness activities aim not at resisting change but preparing to live with it 6) high degree of social and economic equity exists in systems 7) importance of social values and structures is acknowledged because association between individuals can have a positive impact on cooperation in a community	2010 & 2012	(32) (51)			

Definition	Year(s) of Publication(s)	Sources	Process	Characteristics	Attributes
which may lead to more equal access to natural resources and greater resilience 8) non-equilibrium dynamics of a system are acknowledged and building resilience should not work with idea of restoring equilibrium 9) continual and effective learning is important 10) resilience systems take a cross-scalar perspective of events and occurrences. Resilience is built through social, political, economic and cultural networks that reach from the local to the global scale					
We also propose a more expanded definition of community that explicitly includes the resources, social links, and social climate of state and federal actors in relation to the community. Disasters often overwhelm the local community's ability to respond, and modifying the framework as we propose recognizes the need for considering resources such as the National Guard, the VHA, and the social climate of the country as it observes the impact of a disaster on television [Inferred definition of community resilience]	2010	(33)			
The capacity of a system to absorb disturbance and reorganize while undergoing change so to still retain essentially the same function, structure and feedbacks, and therefore identity, that is , the capacity to change in order to maintain the same identity	2010 & 2012 & 2013	(10)(51)(23)			
Resilience is not a process, it is not a management system standard, nor is it a consulting product. Resilience is a demonstrable outcome of an organization's capability to cope with uncertainty and change in an often volatile environment. Resilience is thus a product of an organization's capabilities interacting with its environment	2010 & 2016	(52)(18)			
Communities and individuals harnessing local resources and expertise to help themselves in an emergency, in a way that complements the response of the emergency services	2010	(53)			
Resilience is not an end state but a dynamic process of interdependent forces - at the individual, family, group, and community levels - that continually shape and reshape the organism . Community resilience consists of both reactive and proactive elements that join recovery from adversity with individual and group efforts to transform their environments to mitigate future problems or events. Thus, community resilience is not simply the	2010 & 2016 & 2018	(54)(55)(56)			

Definition	Year(s) of Publication(s)	Sources	Process	Characteristics	Attributes
return to homeostasis, but rather implies a potential to group from adversity that derives, in part, from deliberate, meaningful cooperation and action					
Resilience may be defined as a function indicating the capability to sustain a level of functionality or performance for a given building, bridge, lifeline network, or community, over a period defined as the control time	2010	(34)			
The capability (or process) of a community adapting and functioning in the face of disturbance	2011	(57)			
Community resilience entails the ongoing and developing capacity of the community to account for its vulnerabilities and develop capabilities that aid that community in (i) preventing, withstanding, and mitigating the stress of a health incident; (ii) recovering in a way that restores the community to a state of self-sufficiency and at least the same level of health and social functioning after a health incident; and (ii) using knowledge from a past response to strengthen the community's ability to withstand the next health incident	2011 & 2022	(17)(58)			
Rather than define disaster resilience, the Strategy focuses on the common characteristics of disaster resilient communities, individuals and organisations. These characteristics are functioning well while under stress, successful adaptation, self-reliance, and social capacity...Resilient communities also share the importance of social support systems, such as neighbourhoods, family and kinship networks, social cohesion, mutual interest groups, and mutual self-help groups.	2011 & 2017	(59)(35)			
The construct of resilience is generally understood as the capability of a community to face a threat, survive and bounce back or, perhaps more accurately, bounce forward into a normalcy newly defined by the disaster related losses and changes. Community resilience is, in effect, a reflection of people's shared and unique capacities to manage and adaptively respond to the extraordinary demands on resources and the losses associated with disasters	2011 & 2022	(38)(60)			
Disaster resilience is the ability of countries, communities and households to manage change, by maintaining or transforming living standards in the face of shows or	2011	(61)			

Definition	Year(s) of Publication(s)	Sources	Process	Characteristics	Attributes
stresses - such as earthquakes, drought or violent conflict - without compromising their long-term prospects.					
Resilience can be thought of as attribute (an ability or capacity), a process, and/or an outcome associated with successful adaption to, and recovery from adversity. Building a resilient community involves more than assembling a collection of resilient individuals. Community resilience requires that the community as a whole must cope effectively with and learn from adversity. A resilience community has the ability to transform the environment through deliberate, collective action. Community resilience entails the ability of community members to take deliberate, purposeful, and collective action to alleviate the detrimental effects of adverse events.	2011 and 2013	(14)			
The characteristics of resilient communities identified in the literature incorporate core dimensions of social capital: such as the centrality of networks and social relationships (connections for groups to work collaboratively) and norms of trust and reciprocity (essential for networks and collaboration to exist). Resilient communities are those with well-developed networks and strong social relations as well as norms of trust and reciprocity .	2011	(59)			
'Resilience' is a relative term that can look wildly different in different contexts and according to different developmental stages of community life. Likewise, 'community' is a contested idea that makes different kinds of sense according to the value, location and perspective of the reader .	2011	(62)			
Beyond the resilience of individuals or individual organisations, your community will prove resilient in the event of a severe emergency or disaster when members of the population are connected to one another and work together, so that they are able to: i) function and sustain critical systems, even under stress; ii) adapt to changes in the physical, social or economic environment; iii) be self-reliant if external resources are limited or cut off; iv) learn from experience to improve over time.	2012	(63)			
The ability of an entity - asset, organization, community, region - to anticipate, resist, absorb, respond to, adapt to, and recover from a disturbance. Community/regional resilience is a function of the resilience of several	2012	(64)			

Definition	Year(s) of Publication(s)	Sources	Process	Characteristics	Attributes
subsystems, including but not necessarily limited to, the community/region's economy, civil society, critical infrastructure, supply chains/dependencies, and governance (including emergency services).					
Resilience: the ability to prepare and plan for, absorb, recover from or more successfully adapt to actual or potential adverse events	2012	(65)			
Resilience can be defined as capacity of a dynamic system to withstand or recover from significant challenges that threaten its stability, viability, or development	2012 & 2015	(66)(67)			
Reducing disaster losses and restoring the life of communities are essential to any meaningful definition of sustainability. The capacity to speed recovery by taking action in advance to identify and reduce vulnerabilities is known as resilience	2012 & 2020	(51) (68)			
This report focuses on CR [community resilience] as the ability of a community to fortify itself so that it is able to prevent, respond to, and recover from a natural or intentional public health disaster	2012 & 2013	(66)(69)			
Within preparedness phase, resistance is defined as the ability of an individual, a group, an organization, or even an entire population to withstand manifestations of clinical distress, impairment or dysfunction associated with critical incidents, terrorism, and disasters. Within immediate post event phase, resilience is defined as the ability of an individual, a group, an organization, or even an entire population to rapidly and effectively rebound from psychological perturbations associated with critical incidents, terrorism, and disasters. For the population who have not bounced back and continue to have problems well after the disaster event, recovery is defined as the ability of an individual, a group, an organization, or even an entire population to restore their adaptability and function, both psychologically and behaviourally, in the wake of significant clinical distress, impairment, or dysfunction subsequent to critical incidents such terrorism, acts of violence and disasters.	2012 & 2014&2015 & 2021	(70)(4)(67)(71)			
Disaster Risk Reduction is the concept and practice of reducing disaster risks through systematic efforts to analyse and manage the causal factors of disasters, including through reduced exposure to hazards, lessened vulnerability of people and property, wise management of	2012 &2013 & 2014	(64)(72) (5)			

Definition	Year(s) of Publication(s)	Sources	Process	Characteristics	Attributes
land and the environment, and improved preparedness for adverse events. Resilience is the ability of a system, community or society exposed to hazards to resist, absorb, accommodate to and recover from the effects of a hazard in a timely and efficient manner, including through the preservation and restoration of its essential basic structures and functions.			�		
Resilience is defined as adaptation and coping despite collective adversity in a system (individual, family, organization, community, country).	2012	(51)	▓		
Resilient people conceptualise the world as being organized understandable and prevents them from developing symptoms of trauma.	2013 & 2017	(73)(74)		▓	
A community's ability to rebound to a healthy state following a major disruption such as a disaster . As applied to disasters, resilience entails the ability of a community to rebound following a hurricane, earthquake, or other disturbance.	2014 & 2017	(37)(75)		▓	
The National Policy enthusiasm for re-envisioning the preparedness agenda around community resilience (the ability to prevent, withstand, and mitigate the stress of a disaster) raises questions among local health departments (LHDs) about how to build or strengthen community resilience and how to integrate the "whole of community approach (a community-integrated model to involve a diverse set of stakeholders) in usual disaster-planning activities.	2013 &2016	(17)(76)	▓		
The term Community Resilience is used to describe the community's ability to deal with crises or disruptions.	2013 & 2017	(23) (74)		▓	
Community resilience is the capability to anticipate risk, limit impact, and bounce back rapidly through survival, adaptability, evolution, and growth in the face of turbulent change	2018	(77)	▓		▓
Community resilience refers to the capacity or ability of a community to anticipate risk, prepare for, respond to and recover rapidly through survival, adaptability, evolution and growth from experiencing disasters and their impacts.	2013& 2018	(78)(79)		▓	
The capacity of a community to change and develop following the challenge ; involves empowering the local informal and formal leadership and training citizens in neighbourhoods and institutions, including schools,	2015 & 2018	(80) (81)			

Definition	Year(s) of Publication(s)	Sources	Process	Characteristics	Attributes
regarding home and institutional preparation, medical and psychological first aid and community and family resilience.					
Disaster mitigation beings long before impact and is defined as the actions taken by a community to eliminate or minimize the impact of a disaster...The resilience of a community overwhelmed by a disastrous situation may be measured in the difference between a response with a sense of hope, community pride, and resourcefulness and one filled with despair, hopelessness, and blame. A community's assessing vulnerabilities, developing resilient infrastructure, establishing memoranda of understanding, and planning for a sustainable response leads to mitigation of an event long before the actual impact.	2013, 2018 &2022	(82)(83) (84)	▓	▓	
The sustained ability of a community to withstand and recover from adversity (e.g., economic stress, pandemic influenza, manmade or natural disasters)	2019 &2021	(85) (1)			▓
For clarity purposes, here we adopted the same definition as the Intergovernmental Panel on Climate Change, which describes resilience as "the ability of a system and its component parts to anticipate, absorb, accommodate, or recover from the effects of a hazardous event in a timely and efficient manner, including through ensuring the preservation, restoration, or improvement of its essential basic structures and functions"	2019	(86)(87)	▓		
Resilience has been defined in many ways but they all refer to the capacity of a community to assess its risks, needs, resources, and skills accurately, and to reallocate resources and attention to meet changing demands with timely action.	2019	(88)	▓		
Resilience refers to the capacity of an individual, household, population group or system to anticipate, absorb, and recover from hazards and/or effects of climate change and other shocks and stresses without compromising (and potentially enhancing) long-term prospects.	2019	(89)		▓	
Ultimate vision of CR [community resilience]: communities that are able to withstand and recover from adversity.	2020	(90)			▓
Building capacity for CDR [community disaster resilience] requires an approach suitable to integrating	2020 & 2022	(91) (7)			▓

Definition	Year(s) of Publication(s)	Sources	Process	Characteristics	Attributes
and coordinating the perspectives and skills of diverse stakeholders, including historically vulnerable groups, first responders, and experts in evidence-based approaches to improving outcomes, including for mental health consequences of disasters.					
The ability of a system and its component parts to anticipate, absorb, accommodate or recover from the effects of a hazardous event in a timely and efficient manner, including through ensuring the reservation, restoration or improvement of its essential basic structures and functions.	2020	(92)			
Community Resilience can be understood as the capacity of a system, community or society to adapt in the face of hazards by taking action in order to reach and maintain an acceptable level of function and structure. In part, this is determined by how much a community is capable of self-organisation to maximise risk reduction measures and apply learning from past disasters to forward-looking disaster preparedness.	2021	(61)			
The foundation of the Resilience Activation Framework (RAF) is grounded in distinguishing resilience processes (the ability to withstand, adapt, or recover quickly from a disaster), individual and community resilience attributes, and the factors which facilitate the activation of those resilience attributes. Community resilience can be defined as the enduring capacity of geographically, politically, or affinity-bound communities to define and account for their vulnerabilities to disaster and develop capabilities to prevent, withstand, or mitigate for a traumatic event	2014, 2021 & 2023	(93) (94) (84)			
Community resilience describes the collective ability of a neighbourhood or geographically defined area to deal with stressors and efficiently resume the rhythms of daily life through cooperation following shocks.	2021	(95)			
Overall, as a process, community resilience is not an outcome. Rather, community resilience is indicated by evidence of community well-being fooling a disaster or crisis. Thus community provides an opportunity for a collective to adaptively cope with the experience of a potentially traumatic event.	2022	(7)			
Resilience, defined as a trajectory of low levels of symptoms or problems in a given outcome over time, with minimal elevations that are limited to the time period	2021 & 2022	(96) (7) (58)			

Definition	Year(s) of Publication(s)	Sources	Process	Characteristics	Attributes
during the disaster and its immediate aftermath...We differentiate between this general definition of wellness, which we label general wellness, and mental health wellness, which we define as resilience across various conditions within the mental health domain (e.g. PTSS and depression) specifically					
Psychological resilience, defined as the ability to "bounce back" from disaster, sustaining low levels of psychological symptoms over time...Given the proposed interdependence of resilience at multiple levels, it is likely that community-level resources and exposure exert direct effects on individual-level psychological resilience, as well as influence the relationship between individual-level disaster exposure and resilience....Far less attention has been paid to the characteristics of communities that influence responses. This is an important limitation given that the resilience of individuals is inextricably linked to the resilience of the communities in which they live	2021	(11)(97)			
Ability of a system, community, or society exposed to hazards to resist, absorb, accommodate to and recover from the effects of a hazard in a timely and efficient manner including through the preservation and restoration of its essential basic structures and functions	2021 & 2023	(98) (84)			
Resilience can be defined as an attribute (e.g., ability, capacity), a process, and/or an outcome associated with successful adaption to, and recovery from adversity. Definitions differ depending on context and purpose.	2023	(99)			
As described in the current online CART manual, the CART Assessment Survey is based on a four-factor model of community resilience characterized by four interrelated CART domains: (a) Connection and Caring (including relatedness, participation, shared values, support and nurturance, equity, justice, hope, and diversity); (b) Resources (including natural, physical, information, human, social, and financial resources); (c) Transformative Potential (deriving from the ability of communities to frame collective experiences, collect and analyse relevant data, assess community performance, and build skills); and (d) Disaster Management (addressing prevention and mitigation, preparedness, response, and recovery). Recognizing the importance of information and communication in community resilience, one goal of the current study was to confirm the existence	2013 & 2015 & 2022	(14) (100) (7)			

Definition	Year(s) of Publication(s)	Sources	Process	Characteristics	Attributes
of a fifth domain, Information and Communication, addressing the availability of information and trust in public officials.					
We hypothesize resilience as a protective process with the capacity for orienting and leading coping abilities toward a successful outcome in a population exposed to a natural disaster.	2021	(101)			
Resilience describes attributes and capabilities that enable an entity to dynamically adjust and positively adapt to adverse forces or impacts and emerge afterward in a positive functional state.	2021	(102)			

The definitions which clearly depict the fundamental traits or properties that are inherent to resilient communities have categorized under 'characteristic' showing definitions. For example, characteristics of community resilience might include social cohesion, adaptive capacity, robust infrastructure, effective leadership, and preparedness all crucial for maintaining stable functioning as their foundation. The scholar Bonanno (19) examined the evidence on resilience based on loss and trauma among adults and defined it as an ability of adults to "*maintain relatively stable, healthy levels of psychological and physical functioning.*" In Contrast to the first type of definition, Gibson(52) stated in a paper exploring the 2009 Victorian Bushfire in Australia that "*resilience is not a process, it is not a management system standard, nor is it a consulting product. Resilience is a demonstrable outcome of an organization's capability to cope with uncertainty and change in an often volatile environment. Resilience is thus a product of an organization's capabilities interacting with its environment*." Other scholars and researchers have also embraced the concept of community resilience as a characteristic outcome, emphasizing the importance of identifying and strengthening community abilities.

This has led to the emergence of a third type of definition that focuses on the range of positive 'attributes'. An example of such definitions can be found in a publication by the UK Cabinet Office (103), which defines community resilience as communities and individuals utilizing local resources and expertise to aid themselves in emergencies, complementing the response of emergency services. This report underscores the idea that community resilience primarily involves the responsive and collective action of local support to assist the community after an incident. Research conducted by Coles and Buckle (45) on community resilience in Australia and the United Kingdom led them to view resilience as a multidimensional attribute that, in its various forms, contributes in different but equally important ways to disaster recovery.

Furthermore, some definitions blend one or more of these general types. In a recent review on assessment models and tools of community disaster resilience, Scholars like Ostadtaghizadeh (100) created a definition of community resilience now adopted by the United Nations International Strategy for Disaster Reduction: (35) the ability of a system, community, or society exposed to hazards to resist, absorb, accommodate, and recover from the effects of a hazard in a timely and efficient manner, including through the preservation and restoration of its essential basic structures and functions. This definition merges ***characteristics and attributes*** based definitions. Expanding on this, scholars like Pfefferbaum (12) generally define resilience as an attribute, process, and/or outcome associated with successful adaptation to and recovery from adversity, acknowledging that it varies depending on context and purpose.

Consequently, community resilience emerges as an amorphous concept, understood and applied differently by various research groups. Essentially, depending on one's perspective, community resilience may be viewed as an ongoing process of adaptation, the mere absence of negative effects, the presence of a range of positive attributes, or a combination of all three. Nevertheless, common aspects of community resilience were identified across the literature despite these diverse definitions.
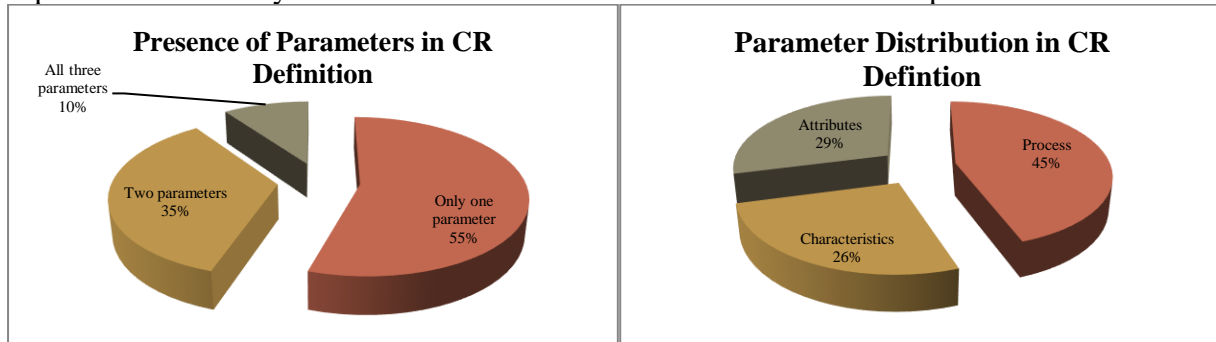

Figure 1: Graphs showing the Parameter Presence & Parameter Distribution in CR Definitions under Study.

Our observation revealed a diverse distribution of focus among the community resilience definitions under review regarding the identified parameters. (Figure 1) Surprisingly, only a minority, constituting 10% of the total definitions, addressed all three parameters—***process, characteristics,*** and ***attributes***— highlighting the holistic nature of community resilience. Conversely, a majority, comprising 55% of the definitions, concentrated solely on one parameter, indicating a tendency for researchers to emphasize specific aspects of resilience rather than its entirety. This could suggest a partial understanding or a preference for exploring resilience from a particular angle. Additionally, 35% of the definitions delved into two parameters, indicating a moderate level of consideration for multiple facets of resilience but still falling short of encompassing the complete spectrum.

This distribution highlights the complexity of conceptualizing community resilience and suggests the need for a more comprehensive approach that acknowledges the interplay between various dimensions of resilience within communities.

Building on the distribution of focus among the definitions,(Figure 1) it's notable that 45% of the definitions centered on the ***'Process'*** parameter, indicating a significant emphasis on viewing community resilience as an ongoing journey of adaptation and change. This suggests appreciation among researchers of the dynamic nature of resilience, highlighting the importance of understanding how communities navigate challenges and evolve over time. Following closely, 29% of the definitions highlighted ***'Attributes***, highlighting the significance of specific qualities or factors that contribute to a community's resilience. This focus suggests an acknowledgment of the tangible elements and characteristics that play a crucial role in shaping a community's capacity to withstand and recover from adversity. Meanwhile, 26% of the definitions discussed ***'Characteristics,'*** illustrating the attention given to integral traits and fundamental qualities intrinsic in resilient communities. This indicates recognition of the essential attributes that enable communities to thrive in the face of adversity, emphasizing cohesion, adaptability, and resourcefulness as key factors.

Overall, these percentages provide insight into the varying degrees of emphasis placed on different parameters within the conceptualization of community resilience. While 'Process' emerges as the most prevalent focus, 'Attributes' and 'Characteristics' also play significant roles in shaping our understanding of resilience within communities. This nuanced distribution highlights the multifaceted nature of resilience and underscores the importance of considering various dimensions in research and practice.

IV.Limitations & Conclusions

We confirm that our review may have several potential limitations. Firstly, confirmation bias could have influenced the selection of publications for review, as a single researcher made the decisions. To mitigate this, we established explicit inclusion criteria. Secondly, the reliability of the thematic analysis

may be questioned since only one researcher conducted it. Another analyst might have reached different conclusions. Thirdly, there could be selection bias based on language, as valuable studies in languages other than English may have been overlooked. Whether other factors contribute to the resilience of non-English-speaking communities remains uncertain, as does the potential conceptualization of community resilience in different cultures. Fourthly, it's unlikely that we identified every relevant study, especially in the grey literature. However, updating the literature search didn't significantly change our results, indicating that missing studies wouldn't drastically alter our findings. Fifthly, not all authors in our review intended to provide an original or specific definition of community resilience. For some, it was briefly mentioned as part of another theory or concept. Nonetheless, these interpretations are valuable as they represent practical usage in the literature. Lastly, our results are based on the original authors' definitions, categorized through thematic analysis.

The research primarily examined the definitions of community resilience, aiming to identify the foundational parameters commonly utilized in these definitions. Through this pursuit, we uncovered the diverse interpretations and applications of community resilience across various research groups, contributing to its inherent ambiguity. Despite this variability, certain aspects consistently surfaced as essential for fostering resilience within communities. This nuanced perspective underscores the multifaceted nature of community resilience, emphasizing that it encompasses various dimensions rather than a singular concept. However, it's crucial to note that none of these definitions can be applied as is, given the contextual nuances and complexities involved.

Instead of striving for a unified or universal definition, our findings suggest that focusing on parameters widely acknowledged as crucial for resilience provides a more pragmatic approach. By prioritizing these key elements, researchers and practitioners can tailor interventions to address the diverse needs and contexts of communities more effectively, ultimately enhancing their ability to withstand and recover from adversity. Moreover, further research can delve into analyzing the domains and indicators of community resilience, considering factors such as context, type of disaster, community culture, and timing of measurement. These variables may influence the classification of indicators and offer valuable insights into the dynamic nature of resilience within different contexts. By understanding these nuances, researchers can refine their approaches and develop more contextually relevant strategies for building and strengthening community resilience.

V. Acknowledgment

Reference
1. Cowan T. The village as urban infrastructure : Social reproduction , agrarian repair and uneven urbanisation. Environ Plan E Nat Sp. 2021;4(3):736–55.
2. Friend R, Moench M. What is the purpose of urban climate resilience? Implications for addressing poverty and vulnerability. Urban Clim [Internet]. 2013;6:98–113. Available from: http://dx.doi.org/10.1016/j.uclim.2013.09.002
3. Public Safety Canada. Your emergency preparedness guide : 72 hours - is your family prepared? Ottawa - Ontario : Public Safety Canada c2012.; 2012.
4. Chou JS, Wu JH. Success factors of enhanced disaster resilience in urban community. Nat Hazards. 2014;74(2):661–86.
5. UN P. Multiple emergencies pose great test of the global humanitarian system, UN official says. UN News. 2014;
6. Cutter SL, Finch C. Temporal and spatial changes in social vulnerability to natural hazards. Proc Natl Acad Sci. 2008;105(7):2301–6.
7. Pörtner H-O, Roberts DC, Tignor MMB, Poloczanska E, Mintenbeck K, Alegría A, et al. IPCC:

Climate Change 2022: Impacts, Adaptation, and Vulnerability. Working Group II Contribution to the IPCC Sixth Assessment Report of the Intergovernmental Panel on Climate Change. Cambridge University Press, Cambridge, UK and New York, NY, USA, 3056. 2022.

8. Kennedy G, Richards M, Chicarelli M, Ernst A, Harrell A, Stites D. Disaster Mitigation: Initial Response. South Med J. 2013;106(1):13–6.

9. Dawes SS, Cresswell AM, Cahan BB. Learning From Crisis. Soc Sci Comput Rev. 2004;(September 2014).

10. Folke C, Carpenter SR, Walker B, Scheffer M, Chapin T, Rockström J. Resilience Thinking : Integrating Resilience , Adaptability and. Ecol Soc. 2010;15(4).

11. Branas CC, Abkowitz MD, Langston L, McGuire RK, Sanders M. Enhancing Community Resilience through Social Capital and Connectedness : Stronger Together ! Committee on Applied Research Topics for Hazard Mitigation and. 2021.

12. Pfefferbaum B, Pfefferbaum RL. Community Resilience Interventions : Participatory ,. Am Behav Sci. 2015;(February 2015).

13. Carri. DEFINITIONS OF COMMUNITY RESILIENCE : AN ANALYSIS DEFINITIONS OF COMMUNITY RESILIENCE : Community Reg Resil Inst. 2013;

14. Pfefferbaum B, Klomp RW, Services H, Reissman DB. The Communities Advancing Resilience Toolkit (CART): An Intervention to Build Community Resilience to Disasters. Public Heal Manag Pract. 2013;(May).

15. Twigg J. Characteristics of a Disaster-resilient Community. Vol. 1, DFID Disaster Risk Reduction NGO Interagency Coordination Group. 2007.

16. Rego A, Mehta S. Opportunities and challenges in risk resilient recovery. World Hosp Heal Serv. 2005;41(4):33–5.

17. Chandra A, Plough A, Fielding JE, Chandra A, Williams M, Eisenman D, et al. Building Community Disaster Resilience : Perspectives From a Large Urban County Department of Public Health. Am J Public Health. 2013;

18. Pauwelussen A. Community as network: exploring a relational approach to social resilience in coastal Indonesia. Marit Stud [Internet]. 2016;15(1):1–19. Available from: http://dx.doi.org/10.1186/s40152-016-0041-5

19. Bonanno GA. Loss, Trauma, and Human Resilience. Am Psychol. 2004;59(1):20–8.

20. Bhamra R, Dani S, Burnard K. Resilience : The Concept , a Literature Review and Future Directions. Int J Prod Res [Internet]. 2011;49(18):5375–93. Available from: http://dx.doi.org/10.1080/00207543.2011.563826 PLEASE

21. Etinay N, Egbu C, Murray V. Building Urban Resilience for Disaster Risk Management and Disaster Risk Reduction. Procedia Eng [Internet]. 2018;212(2017):575–82. Available from: https://doi.org/10.1016/j.proeng.2018.01.074

22. Gillespie -Marthaler L, Nelson K, Baroud H, Abkowitz M. Selecting Indicators for Assessing Community Sustainable Resilience. Risk Anal [Internet]. 2019;39(11):2479–98. Available from: doi: 10.1111/risa.13344

23. Cohen O, Leykin D, Lahad M, Goldberg A, Limor Aharonson-Daniel. The conjoint community resiliency assessment measure as a baseline for profiling and predicting community resilience for emergencies. Technol Forecast Soc Chang. 2013;80(9):1732–41.

24. White R, Plodinec J. A Practical Approach to Building Resilience in America ' s Communities. Am Behav Sci · . 2015;59(2):200–19.

25. Rowcliffe P, Lewis M, Port A. Sense of community: Community resilient responses to oppression and change. In: Journal of Community Psychology [Internet]. Journal of Community Psychology; 1998. p. 457–72. Available from: http://communityrenewal.ca/

26. Wenger-Trayner E. Communities of practice and social learning systems. Organisations. 2000;

27. Cutter SL, Ash KD, Emrich CT. The geographies of community disaster resilience. Glob Environ Chang. 2014;29.

28. Paton D, Millar M, Johnston D. Community resilience to volcanic hazard consequences. Natural Hazards. Nat Hazards Earth Syst Sci. 2001;

29. Kimhi S, Shamai M. Community resilience and the impact of stress: Adult response to Israel's withdrawal from Lebanon. J Community Psychol. 2004;32(4):439–51.

30. Theodori GL. Community and community development in resource-based areas: Operational definitions rooted in an interactional perspective. Soc Nat Resour. 2005;18(7):661–9.

31. Kirmayer LJ, Whitley R. Community Resilience : Models , Metaphors and. Int J Indig Heal. 2009;5(December):62–117.

32. Bahadur A. The resilience renaissance ? Unpacking of resilience for. Inst Dev Stud. 2010;(July).

33. Teka O, Vogt J. Social perception of natural risks by local residents in developing countries—The example of the coastal area of Benin. Soc Sci Journal. 2010;47:215–24.

34. Renschler CS, Frazier AE, Arendt LA, Cimellaro GP, Reinhorn AM, Bruneau M. Proceedings of the 9th U.S. National and 10th Canadian Conference on Earthquake Engineering Compte Rendu de la 9ième Conférence Nationale Américaine et 10ième Conférence Canadienne de Génie Parasismique July 25-29, 2010, Toronto, Ontario, Canada • Paper N. https://www.researchgate.net/publication/285176222. 2010;(1827):1–10.

35. World Bank. An Evaluation of the world Bank Group's Evolving Approach Background and Context. In 2017. p. 1–28. Available from: http://documents.worldbank.org/curated/en/609841516898374978/pdf/122900-WP-PUBLIC.pdf

36. Lemyre L, Clément M, Corneil W, Craig L, Boutette P, Tyshenko M, et al. A psychosocial risk assessment and management framework to enhance response to CBRN terrorism threats and attacks. Biosecur Bioterror. 2005;3(4).

37. Pfefferbaum B, Wyche ÆKF, Pfefferbaum RL. Community Resilience as a Metaphor , Theory , Set of Capacities , and Strategy for Disaster Readiness Community Resilience as a Metaphor , Theory , Set of Capacities , and Strategy for Disaster Readiness. Am J Community Psycology. 2014;(April 2008).

38. Cox R, Perry K. Like a Fish Out of Water: Reconsidering Disaster Recovery and the Role of Place and Social Capital in Community Disaster Resilience. Am J Community Psychol. 2011;48(3):395–411.

39. Castleden M, McKee M, Murray V, Leonardi G. Resilience thinking in health protection. J public Heal (Oxford, England). 2011;33(3):369–77.

40. Ahmed R, Seedat M, A VN, Bulbulia S. Discerning community resilience in disadvantaged communities in the context of violence and injury prevention. South African J Psychol. 2004;34(3):386–408.

41. Street KG, Yehuda M. Community resilience: lessons derived from gilo under fire. J Jewish Communal Serv. 2003;105–8.

42. Bruneau M, Tierney K. A Key to Disaster Loss Reduction. TR News. 2007;14–7.

43. Cutter SL, Boruff BJ, Shirley WL. Social vulnerability to environmental hazards. Soc Sci Q. 2003;

44. Eguchi RT, Reinhorn AM, Tierney K. A Framework to Quantitatively Assess and Enhance the Seismic Resilience of Communities. Earthq Spectra. 2003;(November):733–52.

45. Coles E, Buckle P. Developing community resilience as a foundation for effective disaster recovery. Aust J Emerg Manag. 2004;19(4).

46. Van Aalst MK. The impacts of climate change on the risk of natural disasters. Disasters. 2006;30(1):5–18.

47. Hertzler G. Adapting to climate change and managing climate risks by using real options. Vol. 58, Australian Journal of Agricultural Research. 2007. 985–992 p.

48. Cutter SL, Barnes L, Berry M, Burton C, Evans E, Tate E, et al. A place-based model for understanding community resilience to natural disasters. Glob Environ Chang. 2008;18(4):598–606.

49. Dawes J. Do data characteristics change according to the number of scale points used? An experiment using 5-point, 7-point and 10-point scales. Int J Mark Res. 2008;50(1):61–77.

50. Maclean K, Ross H, Cuthill M, Witt B. Converging disciplinary understandings of social aspects of resilience. J Environ Plan Manag. 2017;60(3).

51. Zakour M, Gillespie D. Community Disaster Vulnerability: Theory, Research, and Practice. In: Michael J. Zakour DFG, editor. Community Disaster Vulnerability [Internet]. 1st ed. Springer New York, NY; 2012. p. 180. Available from: https://www.researchgate.net/publication/287383986_Community_Disaster_Vulnerability_Theory_Research_and_Practice/stats

52. Gibson C. An integrated approach to managing disruption-related risk: life and death in a model community. Bus Contin Emerg Planning. 2010;4(3).

53. Erol O, Sauser BJ, Mansouri M. A framework for investigation into extended enterprise resilience. Enterprisw Inf Syst. 2010;4 :2(May):111–36.

54. Peters E, MacGregor DG, Slovic P, Finucane ML. Risk as Analysis and Risk as Feelings: Some Thoughts about Affect, Reason, Risk and Rationality. In: The Feeling of Risk. 2010.

55. Romero-Lankao P, Gnatz DM, Sperling JB. Examining urban inequality and vulnerability to enhance resilience: insights from Mumbai, India. Clim Change. 2016;139(3–4):351–65.

56. Aldrich DP. Social Capital and Community Resilience. Am Behav Sci · Febr 2015 DOI. 2018;(February 2015).

57. Cumming GS. Spatial resilience: Integrating landscape ecology, resilience, and sustainability. Landsc Ecol. 2011;26(7):899–909.

58. UNDRR. Global Assessment Report on Disaster Risk Reduction 2022: Our World at Risk: Transforming Governance for a Resilient Future [Internet]. GLobal Assessment Report on Disaster Risk Reduction. 2022. Available from: https://www.undrr.org/gar2022-our-world-risk-gar

59. Shirani F. The Centrality of Social Capital - Concepts of Community in the Era of the Big Society. Cardiff Sch Soc Sci. 2011;

60. Aravind R. Our Health , Our Voice. Particip Res Asia. 2022;(January).

61. Parsons M, Reeve I, McGregor J, Hastings P, Marshall GR, McNeill J, et al. Disaster resilience in Australia: A geographic assessment using an index of coping and adaptive capacity. Int J Disaster Risk Reduct [Internet]. 2021;62:102422. Available from: https://doi.org/10.1016/j.ijdrr.2021.102422

62. Wilding N. Exploring community resilience in times of rapid change. Trust; CU, editor. Carnegie UK Trust; 2011.; 2011.

63. Arbon P, Gebbie K, Cusack L, Perera S, Verdonk S. Developing a model and tool to measure community disaster resilience. Aust J Emerg Manag I. 2014;29(4):12–6.

64. Lavell A, Rica C. Climate Change : Vulnerability , and Resilience Coordinating Lead Authors : Review Editors : Contributing Authors : 2012;25–64.

65. Cutter SL. Vulnerability to environmental hazards. In: Hazards vulnerability and environmental justice. Routledge; 2012.

66. Tyler S, Moench M. A framework for urban climate resilience. Clim Dev. 2012 Oct;4(4):311–26.

67. Barrett G. Deconstructing Community. Sociol Ruralis [Internet]. 2015;55(2):182–204. Available from: https://doi.org/10.1111/soru.12057

68. Copeland S, Comes T, Bach S, Nagenborg M, Schulte Y, Doorn N. Measuring social resilience: Trade-offs, challenges and opportunities for indicator models in transforming societies. Int J Disaster Risk Reduct [Internet]. 2020;51(July):101799. Available from: https://doi.org/10.1016/j.ijdrr.2020.101799

69. Ann C. Resilience in the Social and Physical Realms : Lessons from the Gulf Coast 2013 Global Assessment Report on Disaster Risk Reduction. Int J Disaster Risk Reduct. 2013;

70. Nucifora F, Subbarao I, Hsu E. Changing the paradigm: a novel framework for the study of resilience. Int J Emerg Ment Health. 2012;14(2):73–6.

71. Saja AA., Teo M, Goonetilleke A, Ziyath AM. A Critical Review of Social Resilience Properties and Pathways in Disaster Management. Int J Disaster Risk Sci [Internet]. 2021;12(6):790–804. Available from: https://doi.org/10.1007/s13753-021-00378-y

72. Teo MM, Goonetilleke A, Ziyath AM. An integrated framework for assessing community resilience in disaster management. 9th Annu Int Conf Int Inst Infrastruct Renew Reconstr Risk-informed Disaster Manag Plan Response, Recover Resil. 2013;(January 2013).

73. Braun-Lewensohn O. Coping resources and stress reactions among three cultural groups one year after a natural disaster. Clin Soc Work Journal. 2013;10(5):1–9.

74. Kruse S, Abeling T, Deeming H, Fordham M, Forrester J, Jülich S, et al. Conceptualizing community resilience to natural hazards – the emBRACE framework. Nat Hazards Earth Syst Sci. 2017;17(12).

75. Oliver-Smith A, Alcántara AI, Burton I, Lavell A. The social construction of disaster risk: Seeking root causes. Int J Disaster Risk Reduct. 2017;22:468–74.

76. Turner M, Singer R. Chapter Title : Urban Resilience in Climate Change Impacts of Climate Change on Cultural Heritage and Cultural Diversity. 2016;

77. Kim D, Song SK. Measuring changes in urban functional capacity for climate resilience: Perspectives from Korea. Futures [Internet]. 2018;102(May 2017):89–103. Available from: https://doi.org/10.1016/j.futures.2018.05.001

78. Fan M-F. Disaster governance and community resilience: reflections on Typhoon Morakot in Taiwan. J Environ Plan Manag. 2013;58(1):24–38.

79. Rus K, Kilar V, Koren D. International Journal of Disaster Risk Reduction Resilience assessment of complex urban systems to natural disasters : A new literature review. Int J Disaster Risk Reduct [Internet]. 2018;31(May):311–30. Available from: https://doi.org/10.1016/j.ijdrr.2018.05.015

80. Hamiel D, Wolmer L, Laor N. Comprehensive Child-Oriented Preventive Resilience Program in Israel Based on Lessons Learned from Communities Exposed to War, Terrorism and Disaster. J Res Pract Child Serv. 2015;(August 2013).

81. Guide RP. A Risk Practitioners Guide to ISO 31000 : 2018. 2018;

82. Kennedy G, Richards M, Chicarelli M, Ernst A, Harrell A, Stites D. Disaster Mitigation: Initial Response. South Med J. 2013;13(6).

83. Dissanayake P, Hettiarachchi S, Siriwardana C. Increase in Disaster Risk due to inefficient Environmental Management, Land use policies and Relocation Policies. Case studies from Sri Lanka. Procedia Eng [Internet]. 2018;212:1326–33. Available from: https://doi.org/10.1016/j.proeng.2018.01.171

84. Global Risk Report. The Global Risks Report 2023 - 18th Edition [Internet]. 2023. 1–98 p. Available from: www.weforum.org

85. Krüger M. Building Instead of Imposing Resilience: Revisiting the Relationship Between Resilience and the State. Int Polit Sociol [Internet]. 2019;13(1):53–67. Available from: https://doi.org/10.1093/ips/oly025

86. IPCC. (Intergovernmental Panel on Climate Change). Climate change: New dimensions in disaster risk, exposure, vulnerability, and resilience. In Managing the Risks of Extreme Events and Disasters to Advance Climate Change Adaptation. A Special Report of Working [Internet]. 2012. Available from: https://www.ipcc.ch/report/managing-the-risks-of-extreme-events-and-disasters-to-advance-climate-change-adaptation/

87. Kulp SA, Strauss BH. New elevation data triple estimates of global vulnerability to sea-level rise and coastal flooding. Nat Commun [Internet]. 2019;10(1). Available from: http://dx.doi.org/10.1038/s41467-019-12808-z

88. Cinner JE, Barnes ML. Social Dimensions of Resilience in Social-Ecological Systems. One Earth [Internet]. 2019;1(1):51–6. Available from: https://doi.org/10.1016/j.oneear.2019.08.003

89. Peng L, Tan J, Lin L, Xu D. Understanding sustainable disaster mitigation of stakeholder engagement: Risk perception, trust in public institutions, and disaster insurance. Sustain Dev. 2019;27(5):885–97.

90. Bremer S, Johnson E, Fløttum K, Kverndokk K, Wardekker A, Krauß W. Portrait of a climate city: How climate change is emerging as a risk in Bergen, Norway. Clim Risk Manag [Internet].

2020;29(July 2019):100236. Available from: https://doi.org/10.1016/j.crm.2020.100236

91. Nguyen HL, Akerkar R. Modelling, measuring, and visualising community resilience: A systematic review. Sustain. 2020;12(19).

92. Almutairi A, Mourshed M, Ameen RFM. Coastal community resilience frameworks for disaster risk management [Internet]. Vol. 101, Natural Hazards. Springer Netherlands; 2020. 595–630 p. Available from: https://doi.org/10.1007/s11069-020-03875-3

93. Rumsey R. Disaster Risk Reduction and Community Resilience (DRR & CR). World Vis. 2014;1–2.

94. Lizarralde G, Bornstein L, Robertson M, Gould K, Herazo B, Petter AM, et al. Does climate change cause disasters? How citizens, academics, and leaders explain climate-related risk and disasters in Latin America and the Caribbean. Int J Disaster Risk Reduct. 2021;58.

95. Moyano PM, Morat O, Serrano-Jiménez A. Urban and social vulnerability assessment in the built environment: An interdisciplinary index-methodology towards feasible planning and policy-making under a crisis context. Sustain Cities Soc. 2021;73(May).

96. Panday S, Rushton S, Karki J, Balen J, Barnes A. The role of social capital in disaster resilience in remote communities after the 2015 Nepal earthquake. Int J Disaster Risk Reduct [Internet]. 2021;55(February):102112. Available from: https://doi.org/10.1016/j.ijdrr.2021.102112

97. Woodruff S, Bowman AOM, Hannibal B, Sansom G, Portney K. Urban resilience: Analyzing the policies of U.S. cities. Cities [Internet]. 2021;115(September 2020):103239. Available from: https://doi.org/10.1016/j.cities.2021.103239

98. Lizarralde G, Bornstein L, Robertson M, Gould K, Herazo B, Petter AM, et al. Does climate change cause disasters? How citizens, academics, and leaders explain climate-related risk and disasters in Latin America and the Caribbean. Int J Disaster Risk Reduct. 2021;58(March).

99. Dhar T, Bornstein L, Lizarralde G, Nazimuddin SM. Risk perception—A lens for understanding adaptive behaviour in the age of climate change? Narratives from the Global South. Int J Disaster Risk Reduct [Internet]. 2023;95(December 2022):103886. Available from: https://doi.org/10.1016/j.ijdrr.2023.103886

100. Ostadtaghizadeh A, Ardalan A, Paton D, Jabbari H, Khankeh HR. Community Disaster Resilience: a Systematic Review on Assessment Models and Tools. PLoS Curr. 2015;

101. Fuentealba R. Divergent disaster events? The politics of post-disaster memory on the urban margin. Int J Disaster Risk Reduct [Internet]. 2021;62(June):102389. Available from: https://doi.org/10.1016/j.ijdrr.2021.102389

102. Liu C, Huang N, Fu M, Zhang H, Feng XL, Guo J. Relationship between risk perception, social support, and mental health among general chinese population during the covid-19 pandemic. Risk Manag Healthc Policy. 2021;14:1843–53.

103. Office. C. Draft strategic national framework on community resilience. London, UK. 2010. 1–25 p.