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EMBEDDING FOUR INDICATORS OF RESILIENCE TO MAKE CITIES AND COMMUNITIES SUSTAINABLE IN PAKISTAN

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Abstract

The United Nations Agenda 2030 for achieving Sustainable Development Goals (SDGs) requires a concrete approach for effective implementation of SDGs as these global goals provide a blueprint to achieve a prosperous, better, and more sustainable future. However, SDG-11 – sustainable cities and communities – holds an imperative place among all the seventeen goals as it targets social, economic, and ecological sustainability and development, and this can be achieved through building community resilience. Resilience is the capacity to prevent, mitigate, absorb, and adapt in pre and post-disaster or crises, and a resilient community – having all the said capacities and capabilities – can sustain any kind of uncertainty. The objective of this paper is to highlight the significance of resilience in making cities and communities sustainable and to identify the possible outcomes of embedding the four indicators of resilience – healthy and active community resources, elevated priority to lifeline functions, resilience measurement and risk management, and partnership and executive management – in the development framework and policy structure of Pakistan. The findings and results have been supported through past pieces of literature such as research papers, annual reports, project documents, journal articles, websites, policy frameworks, and other documents on SDGs, resilience building, community resilience, and the importance of resilience in achieving SDG-11. The findings reveal that integrating the four indicators of resilience can increase risk knowledge at the local level to make the public well-prepared, enhance connectedness and cohesion to make healthy community networks, ensure availability and fair distribution of community resources and lifeline functions, and create an appropriate governing structure for effective and expeditious execution of policies and strategies.

Keywords: resilience, community resilience, SDGs, sustainable cities and communities.

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Introduction

The idea of sustainable development has various dynamics that led to a fundamental change in the agenda of a sustainable world over the past decade. Initially, globalization has instilled a deeper understanding within people that all the societies and communities throughout the world are interconnected through economic and social systems, but the last couple of decades have revealed the fact that the societies and communities are also interconnected through the environmental system - the biophysical life of planet Earth (SRC, 2009).

Therefore, the present agenda of sustainable development advocates the development without compromising the environment and without disturbing the ecological balance of this world, and to make this place worth living, sustainability is highly required in every sphere. The United Nations Agenda 2030 of achieving Sustainable Development Goals (SDGs) comprehensively defines the significance and need of sustainability in every sector, every field, and every domain, and to comply with this agenda, 193 states throughout the globe are working diligently to bring in practice the outlined seventeen global goals(Joydeep G. and Bhaskar C., 2019).

All the global goals are distinctively important, however, SDG-11 figure out prominently for the fact that the targets and indicators of this goal engulf everything under its shelter, from safe and affordable housing, transportation, sustainable urbanization to national and regional development, disaster risk reduction and making least developed countries sustainable and resilient(UN, Make cities and human settlements inclusive, safe, resilient and sustainable, 2018). Among all the indicators of SDG-11, resilience building occupy an important place. The contemporary world is highly vulnerable to the effects of unforeseen and unpredictable crises and disasters and to ensure the sustainability of cities and communities, resilience building is eminently required as resilient cities proficiently plan for their citizens' safety as well as effectively plans precautionary measures to avoid any disruption in economic, environmental and social development(UN-Habitat, 2021).

Resilience fundamentally refers to "positive adaptation, or the ability to maintain or regain mental health, despite experiencing adversity (Herrman et al., 2011)." Moreover, the most common expression that is used to define resilience is 'the ability to bounce back from difficult or adverse experience(DSMP, 2017).' Definitions of resilience have evolved with time due to increasing scientific knowledge and research, and now the term is studied from diverse disciplines, including ecology, psychiatry, psychology, sociology, and recently added development studies (Herrman et al., 2011).

From the lens of development studies, the term refers to the capacity and degree of change a system can sustain and still reserve the same structure, identity, and function. Moreover, the term implies the extent to which a system possesses the

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capability to reorganize after facing disturbance, and the strength of a system for learning and adaptation (Quinlan, 2003).

Owing to the above-discussed concept of resilience, a state, city, and community should be resilient in nature as such city or community can plan ahead of time and act accordingly, and would be well-prepared to respond to as well as to tackle all hazards, whether expected or unexpected. Resilience enhances the capacity of cities and communities to protect the lives of people, ensures stability and security of development gains, enriches the environment, and fosters optimistic conditions through propelling positive change (Allan et al., 2021). Moreover, resilient communities can easily integrate the available resources and can respond efficiently to crises (EV, 2020).

This paper aims to highlight the significance of resilience in making cities and communities sustainable as such states and nations can survive, adapt, transform and grow no matter what sort of chronic stresses, crises, and disasters they experience (Knuth, 2019). Additionally, the study discusses the possible outcomes of embedding the four indicators of resilience – healthy and active community resources, elevated priority of lifeline functions, resilience measurement and risk management, and partnership and executive management – to make communities resilient consequently achieving SDG-11.

Research Objective

The objective of this research is to identify the significance of resilience to make cities and communities sustainable and to evaluate the impact of four indicators of resilience – healthy and active community resources, elevated priority of lifeline functions, resilience measurement and risk management, and partnership and executive management – to achieve SDG-11

Literature Review

Significance of Resilience to Achieve Sustainability

The reality the world is facing today is very bleak and unprecedented due to frequent disasters, crises, and epidemics and is resulting in strained social and economic systems, and these kinds of gradual changes pose far-reaching impacts globally. This level of incalculable events and unpredictability requires a different approach to ensure a safe, secured, and prosperous life of people, therefore, resilience is essential for sustainable development as well as to achieve SDGs (GRP, 2018).

A study observes that resilience-building across the 5 dimensions – physical, social, natural, human, and economic –is crucial for a sustainable city, community, business, or industry. Sustainability primarily refers to ensuring long-term prosperity while contributing to economic and social development, a healthy and fostered environment, and a thriving and integrated society. Whereas, the ability of homo-

sapiens to withstand, recover, transform, and adapt to upsets and blows is critical to the concept of sustainable development. Thus, to achieve sustainability, society or system must be resilient(Moloney, 2020).

A study conducted by Our WDM opined that to pursue sustainability, it is imperative to create and maintain such surroundings and conditions in which humans and nature can subsist in harmony to invigorate present and strengthen future generations. Sustainability is not only associated with the environment and ecological conditions, but also engulfs social and economic needs under its sphere, and these needs can only be viable through resilience building as resilient communities are capable enough to minimize any sort of disruption to everyday life and their local economies. Resilient communities are well-prepared to prevent or lessen the damage to life, property, and the environment as well as they have the ability to expeditiously retain everything in every sector from getting people back to work, reopening of businesses, and restoration of other essential services required for a full and timely economic recovery (WDM, 2019).

To workout and expand the concept of urban resilience, the Rockefeller Foundation initiated a project called 100 Resilient Cities (100RC). This project advanced the development of resilient cities and communities to make them sustainable, and currently, more than fifty cities around the globe have successfully developed resilience strategies under the umbrella of the 100RC network. The very foundation defines urban resilience as:

"The capacity of individuals, communities, institutions, businesses, and systems within a city to survive, adapt, and grow no matter what kinds of chronic stresses and acute shocks they experience(100RC)."

This definition of urban resilience gives a broad understanding that the challenges don't just popup on an immediate basis and only for a short span, but they can also be slow-moving, that can fray the social fabric consequently making individuals and whole communities vulnerable. That being the reason, resilience specific strategic framework is an obligation to make cities and communities sustainable(Knuth, 2019).

Components of Resilience

The first component of resilience is knowledge at the local level. The effects of a crisis or disaster can be lessened or mitigated if a community is well-aware of probable threats and understands its vulnerabilities as these vulnerabilities if addressed before or at the preliminary level of a disaster, can instill resilience within a community(Patel et al., 2017). Additionally, Moore proposed the idea that practice can be an important element to educate the community about resilience through activities like community training and exercises to build and enhance local knowledge and capacity (Moore et al., 2012). Another researcher opined that for making a community resilient, the emphasis should be on imparting the knowledge on how to respond effectively to an emergency(Cutter et al., 2008).

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Another component of resilience is community networks and relationships. Cohesion and the well-connectedness of community members pose positive effects on a community a mida crisis. The connectedness among community members refers to the linkages within a community, and these links are based on social relationships. This social connectedness and cohesion among members count as important aspects of preserving social capital, which will consequently lead to a resilient community (Patel et al., 2017).

The other component is effective communication. The establishment of an effective communication framework is a necessity to make a community resilient. The appropriate structure of communication is required to coordinate in pre or post-disaster management (Norris et al., 2008). Moreover, communication networks should possess diverse modes and mediums to coordinate with people and to promote emergency messages for the public. Chandra and colleagues also noted that before and during a disaster, an appropriate structure of crisis and risk communication is essential to provide accurate information regarding possible threats (Chandra et al., 2011).

Expedient delivery of health services is another crucial component of resilience. Health services, when a disaster emerges, face the most disruption. For instance, casualties and blackouts at a bigger level could cause problems for general healthcare facilities thus leading to the suffering of the public. A study suggests that to attain resilience in the healthcare sector, it is imperative to build hospitals of higher standards of disaster resilience whether in terms of healthcare services or infrastructure of hospitals (Rego & Mehta, 2005).

One of the crucial components of resilience is governance and leadership as it is the skeleton of a state. This component includes efficient leadership role, community's infrastructure, support and services to the public. A leader holds the crucial responsibility of local-level participation and representation in strategic planning, response, recovery, and facilitating public in pre and post-disaster. Moreover, only a leader can instill a sense of community empowerment and create optimistic surroundings among the public to avoid a stressful negative environment (Patel et al., 2017).

Another component of resilience is the provision of basic resources to the public. The better the provision of resources is, the higher the level of resilience will be. Some researchers have defined basic resources as physical, natural, human, social, and financial needs and necessities. These resources can be from tangible supplies, such as water, food, and aid kits, to technical resources and services like shelter, automobiles, and machinery. To ensure resiliency within a community, the provision, allocation, and distribution of resources should be widely available (Patel et al., 2017).

The components of resilience also include preparedness. Various publications have discussed the importance of preparedness on different levels including micro

(individual and family) and macro (government). A researcher suggested the activities that can be carried out to prepare and to take precautionary measures. He opined that the emergency management system should make plans on how the disaster response processes would work. Besides, the findings and data of risk assessment entities can help in framing out preparedness strategies. Additionally, the execution of practice drills and exercises focusing on risk management can contribute heavily to make a resilient community(Tierney & Bruneau, 2007). The other component worth mentioning here is mental outlook. This component refers to the attitudes, feelings, perceptions, and views before, amid, and after an uncertain and unpredictable event or disaster. After facing a disaster, uncertainty is a common and mutual feeling of the affected population, and this uncertainty moves from an individual in the form of anxiety about what future will unfold for their families to group boundaries in the form of concerns about long-term impacts on the community. A study discusses that hope is and should be a vision of any community as it depicts the expectation and belief of a better future after a disaster. Moreover, adaptability is another prerequisite to survive unfavorable events as adaptability is known as an inherent characteristic of resilience (Ganor & Ben-Lavy, 2003).

Theoretical Underpinning

The definition of the term resilience has greatly evolved with time. Initially, the term was only used in the domain of environment and ecological studies, but now it engulfs a wide range of disciplines including, psychological, social, economic, and development studies, and this paper is discussing resilience from the lens of development studies. The term refers to “the capacity of a system to adapt successfully to disturbances that threaten the viability, function, or development of the system.” This definition applies to diverse systems at both micro and macro levels, including individuals, families, businesses, communities, economies, and ecosystems (Masten, 2019).

Masten opines that resilience is an integral part of the concept of sustainability. The theorist noted that increasing the resilience of a system consequently makes the system more sustainable, however, an increase in sustainability does not surely result in more resilience. Additionally, certain assertions suggest that in the absence of resilience, a system can only possess fragile sustainability. Thus, to make a system sustainable, it is important to consider and understand vulnerabilities and possible threats that can cause any kind of disruption or disturbances (Marchese et al., 2017).To achieve sustainability and to make cities and communities sustainable, it is significant to have the ability to adapt, transform, and recover and this can only be achieved through resilience-specific strategies.

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Research Methodology

To address the fundamental research objective, the qualitative method has been used followed by secondary sources to conduct copious document reviews and reports in both online and offline modes. Moreover, the data have been gathered from various works of literature regarding resilience, community resilience, sustainable cities and communities, and the significance of resilience in making cities and communities sustainable. Besides, the study has been supported by the resilience theory presented by Ann S. Masten. The area of study is limited to Pakistan but the findings and results of this paper can be complied by developing countries. Online and desk review has been conducted to collect data from various sources and scholarly networking sites; like Research Gate, Sage Publications, and JSTOR, furthermore, the data has been collected from reports and project documents of SDGs published by United Nations and SDG Pakistan.

Discussion

Resilience – A Way towards Sustainability

"Global health threats, more frequent and intense natural disasters, spiraling conflict, violent extremism, terrorism, and related humanitarian crises and forced displacement of people threaten to reverse much of the development progress made in recent decades(UN, Transforming our world: The 2030 agenda for sustainable development, 2015)."

The Agenda 2030 and the vision to achieve sustainability throughout the globe will imminently fail if such sort of unpredictable events, shocks, and disasters kept on emerging from time to time as in the absence of resilience, the countries – specifically developing ones like Pakistan – would not have the capacity to efficiently address these stresses. The development system in Pakistan lacks concrete strategies regarding resilience building (Rehman, 2018). That being the reason, emphasis on building resilience specific strategic frame work is the only way to protect development gains and to ensure the availability of resources and capacities within people to better prevent, mitigate, anticipate, and adapt to uncertain shocks, crises, risks and disasters (Bahadur et al., 2015).

Possible Outcomes of Integrating the Four Indicators of Resilience to make Cities and Communities Sustainable in Pakistan

Indicator 1 – Healthy and Active Community Resources:

Different studies noted that resilient communities have the capacity to address and tackle the uncertainties as the public is viably strong and well-preparedto cope with vulnerabilities and to resist victimization. Moreover, resilient communities actively contribute to the provision of essential resources and ensure healthy and active facilitation of services to the public. The components of resilience discussed above

infer that numerous resources are connected with resilient communities like expeditious transportation, quality education, healthy entertainment, financial assistance, and much more. Thus, embedding the very indicator within the development system of Pakistan can possibly pave the way to make cities and communities sustainable.

Indicator 2 – Elevated Priority of Lifeline Functions:

A bunch of studies opines that elevated priority of lifeline function is the fundamental aspect of a resilient community as this indicator focuses on delivering safety and security services to the public, provision of food, water, and shelter, finest health and medical services, affordable and clean energy, and up and running communication structure. These are the most essential lifeline functions for a state and community and any kind of disruption in these functions greatly affects other sectors and organs of the state. Thereupon, the availability of high-standard lifeline functions is dependent on the alignment of indicator two – elevated priority of lifeline functions – in the development system of the country as it is imperative to achieve sustainability within cities and communities.

Indicator 3 – Resilience Measurement and Risk Management:

Pakistan, being a developing country lacks a strategic framework to predict uncertainties and to assess the possible threats that an uncertain event can cause. Because of such unprecedented reality of the world, numerous studies highlighted the necessity of having a framework of resilience measurement and risk management. The said framework helps the communities and states to develop a risk management plan to identify vulnerabilities, assess possible threats, map-out necessary conducts, and develop collaborative action plans. Moreover, the data, models, and measurement tools help a community or state to keenly examine required actions, priorities, and opportunities to strengthen resilience. Besides, resilience measurement and risk management also help in personal and community preparedness, creates civic responsibility, invents effective responses, and makes self- and community reliance. That being the reason, indicator three – resilience measurement and risk management – is an integral part to build community resilience followed by achieving sustainability within cities and communities.

Indicator 4 – Partnership and Executive Management:

This indicator engulfs community networks and linkages, leadership roles and responsibilities of concerned authorities and governance, and executive management. For a resilient community, it is imperative to have a sound and operational governing structure to ensure smooth and expeditious execution of public as well as private sector functions. Moreover, community networks, relationships, and linkages are another integral part of indicator four as an integrated community can better deal with crises. Such communities possess the capacities to prevent, mitigate, absorb and

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adapt. When strategic planning, mitigation measures, and overall preparedness are executed in an integrated manner by the community and local representatives, the outcomes will enable cities and communities to reduce the likelihood of harm and to sustain in a greater and effective way. Thus, embedding indicator four – partnership and executive management – is essential to make cities and communities resilient and sustainable.

Conclusion

The concept of resilience building has been evolved widely and has been used through various discipline lenses, be it environment and ecological, psychological, social, economic, or development studies, but the connotation of the said term remained the same. This paper has studied resilience from the lens of development studies and highlighted the significance of resilient communities in making cities and communities sustainable. The study noted that on account to achieve sustainability within cities and communities, it is imperative to build community resilience and this can be achieved through integrating the four indicators of resilience – healthy and active community resources, elevated priority of lifeline functions, resilience measurement, and risk management, and partnership and executive management. These indicators can be said as integral parts of resilience-building as they can possibly result in escalating local knowledge to mitigate vulnerabilities, increasing connectedness and cohesion among the public to strengthen community networks and relationships, creating an effective communication structure for risk and crisis communication, helping a community in articulating, coordinating and understanding the risk and its impacts, ensuring the availability, functioning and fair distribution of community resources and lifeline functions, and defining the leadership roles, duties, responsibilities as well as the appropriate structure to execute the resilience specific strategies. The study highlights that developing countries are likely to suffer most due to uncertainties and that being the reason, it is crucial for developing countries; like Pakistan, to develop and adopt a different and renewed approach to make cities and communities sustainable and this goal can only be achieved through building community resilience and resilience can only be attained through embedding the four indicators of resilience in the development system and policy structure of Pakistan.

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