ADVANCE SOCIAL SCIENCE ARCHIVE JOURNAL
Available Online: https://assajournal.com
Vol. 04 No. 01. July-September 2025.Page#.3398-3411
Print ISSN: 3006-2497 Online ISSN: 3006-2500
Platform & Workflow by: Open Journal Systems

Status & Effectiveness of Disaster Risk Governance: The Public Perspective from the North-West Balochistan

Shabana Faiz
Assistant Professor, Sardar Behdour khan Women's University, Quetta
Abidda Sher Mohammad
Department of Geography, University of Balochistan
Sumra Sajida Tufail
Department of Geography, University of Balochistan
Syed Ainuddin
Professor, Department of Disaster Management and Development Studies, University of Balochistan, Quetta

Abstract
The contemporary literature on disaster shows a number of examples from countries where, legislative and institutional mechanisms are set as priority in the national and local level planning and implementation for achieving sustainable development goals for resilience. This part of the system is always murky in developing countries. In this paper, we tried to investigate the public perspective and perception on efficient disaster risk governance system. For the purpose, we took a sample of 200 households through household questionnaire survey, using stratified random sampling with proportionate allocation method. The study was conducted in the capital city of Quetta, Balochistan. The results reveal that disaster risk governance for risk reduction lead to a complete failure in Balochistan where, disasters are so far controlled at the provincial level despite having a decentralized policy approved as part of the disaster management act of Pakistan. The results further reveal that disaster institutions are not yet fully implemented at the district and community levels which increase the community's vulnerabilities to a considerable level. The paper recommends the establishments of disaster institution, advocacy at the higher level and above all the political will is needed. The paper concludes that disaster management authorities should create transparency to implement public oriented programs and policies properly to empower communities for disaster risk reduction under good governance system.
Key-words: *Disaster Risk Governance, Public perception, Policy Implementation, Balochistan.*

1. Introduction

Risk of various types of disasters accompanied by their financial losses has been increasing across the world in the last two decades and will continue to persist due to global environmental change

(Abenir et al., 2022). For an effective management of disaster risk, governments and civil societies at all levels need risk governance to increase resilience to such hazards and disasters (Djalante, Holley, and Thomalla 2011). Current patterns of governance integrate people and institutions across different policy sectors and different levels of government to reduce the risk (Briceño, 2015). However, risk is not the only issue but the governance and the nature of institutionalism is the way to reduce the risk. (Carreño et al., 2007) have explored that risk management performance and effectiveness reflect the disaster resilience that has the capacity, to prevent, mitigate and prepare for crisis plus respond to and recover efficiently from the impacts of disasters. This illustrates an increasing demand from governance side more than management aspects in the recent time. As for a long time the management was considered to be purely the solution of risk but now it is increasingly appreciated to involve the skills of governance as well (Paton & Johnston, 2001). In the contemporary literature of disaster management, risk governance is central to disaster risk reduction in the 21st century (Djalante & Lassa, 2019). There has been a significant shift taking place from top down to bottom up, re-active to pro-active and pro-active to reflective approaches (Alam & Ray-Bennett, 2021). Disaster risk governance refers to the system of institutions, mechanisms, policy, legal frameworks and other arrangements to guide, coordinate and oversee disaster risk reduction and related areas of policy (Gulati, 2006). And it should also emphasize the effective coordination between the horizontal and vertical levels. While UNDP defines disaster risk governance as the technique to deal with and reduce disaster allied risks. Where numerous stakeholders including public experts, Media, Private sectors plus civilians and civil servants collaborate at various levels covering community, national and regional levels (UN OCHA, 2011).

Risk governance is strictly allied with disaster governance that is an incipient conception in disaster related explorations (Tierney, 2012). In fact, governance structure in the context of disaster risk play a very important role in disaster prone countries for risk reduction (Siddiqi et al., 2009). According to (Ahrens & Rudolph, 2006), these features are essential in attaining comprehensive and maintainable disaster risk reduction outputs. Which eventually enables successful public policy implementation and is highly encouraging in risk reduction plans and policies to promote development. (Birkmann, 2007) examines that institutional vulnerability outlines disaster risks and disaster reduction policy and the information provided is pertinent to highlight the work and mandate of institutions and their performance in implementing disaster laws and activities at different levels. In this way, the merit of institutions and governance both influence the level of disaster risk. Otherwise institutional failure promotes vulnerability to disasters (Hewitt, 2013). But at present time the rising level of susceptibility as well as disclosure and knowledge of community to disaster risk at all levels require a grave paradigm shift today than any other time particularly in developing countries (Ismail-Zadeh et al., 2017). A modern adopted paradigm shift of disaster risk reduction to traditional disaster risk management is overwhelming in the recent past and is widely embraced in developed countries (Nunn et al. 2014; Cadag and Gaillard 2012).

The idea of global sustainability started by the year 2015. The Sendai framework for disaster risk reduction is adopted followed by sustainable development goals and Paris agreement on climate change. For them the disaster risk governance as priority 2 is the potential avenue for risk reduction (Djalante & Lassa, 2019). Therefore Sendai Framework for Disaster Risk Reduction (2015-2030) addresses knowledge based issues and provides the opportunity to highlight the critical role of knowledge in disaster risk reduction, and proposes a significant standpoint for GDRR(governance disaster risk reduction) programs (Wahlström, 2015). The ever-increasing complexity of disasters demands extraction of knowledge and information generated by disasters itself plus sharing of knowledge among various actors but unfortunately in developing countries there are gaps in transforming knowledge into action (Gaillard & Mercer, 2013). But if the knowledge gap is reduced at all levels between various stakeholders and actors then it will not only promote policy development and practice but also increase strength and relevancy of decision making process for disaster risk reduction (Shi, 2012). The activities of disaster risk reduction can not be undertaken by insividual country or local level in the ecosystem of disaster managmnegt rather it requires coordination, resources, countries, organiantions and financial institutions to get involved for mutual coordination and implementation of prority 2 of the Sendai framwork across the countries for sustainable development and achieving resilience (OCHA 2013: Lassa 2015).

Research studies have investigated various causes of disaster impacts in Pakistan particularly at community level. But still population at local level is suffering from the extreme damages of both man and material due to the poor funding, political will and lack of coordination across the disaster management bodies. Moreover, most of the emphasis is on response and rescue instead of pre-disaster. Disaster impacts in disaster prone areas are controlled by provincial level organizations in Balochistan. Up to now there is no implementation of preparedness activities at local levels by disaster management authorities which focus more on reactive and top-down approaches. Alternatively, public at community level is highly vulnerable to various hazards particularly with earthquakes and unfortunately the existing institutional framework does not encounter community needs and their implementation is poor at all level. This kind of poor governance at local level leads to failure of both policy development and its implementation. It needs the decentralization of both governance and development on priority basis. Decentralization brings decision-making closer to the people and therefore yields programmes and services that better address local needs (Nunn et al., 2014). So, there is serious need for a change in existing disaster risk reduction practices through integrated process for bridging gaps in Disaster Risk Reduction on the basis of the relevant local and more scientific knowledge, so decision makers would be able to take positive initiatives towards disaster risk reduction at community level. Many other scholars have made related analyses in their studies (Scale & Diss, 2018). Therefore, this paper explores the public perception about many aspects of disaster governance role particularly its institutional set up and the real-world implementation in disaster prone countries of the world specifically at local level in Pakistan.

2. Materials and Methods

2.1 Selection of the Study Area

This research study was conducted in Quetta district, the most populous and the largest district in province as well as the 19th largest district of Pakistan, located on the west edge of Pakistan, also a provincial capital of Balochistan, Pakistan.

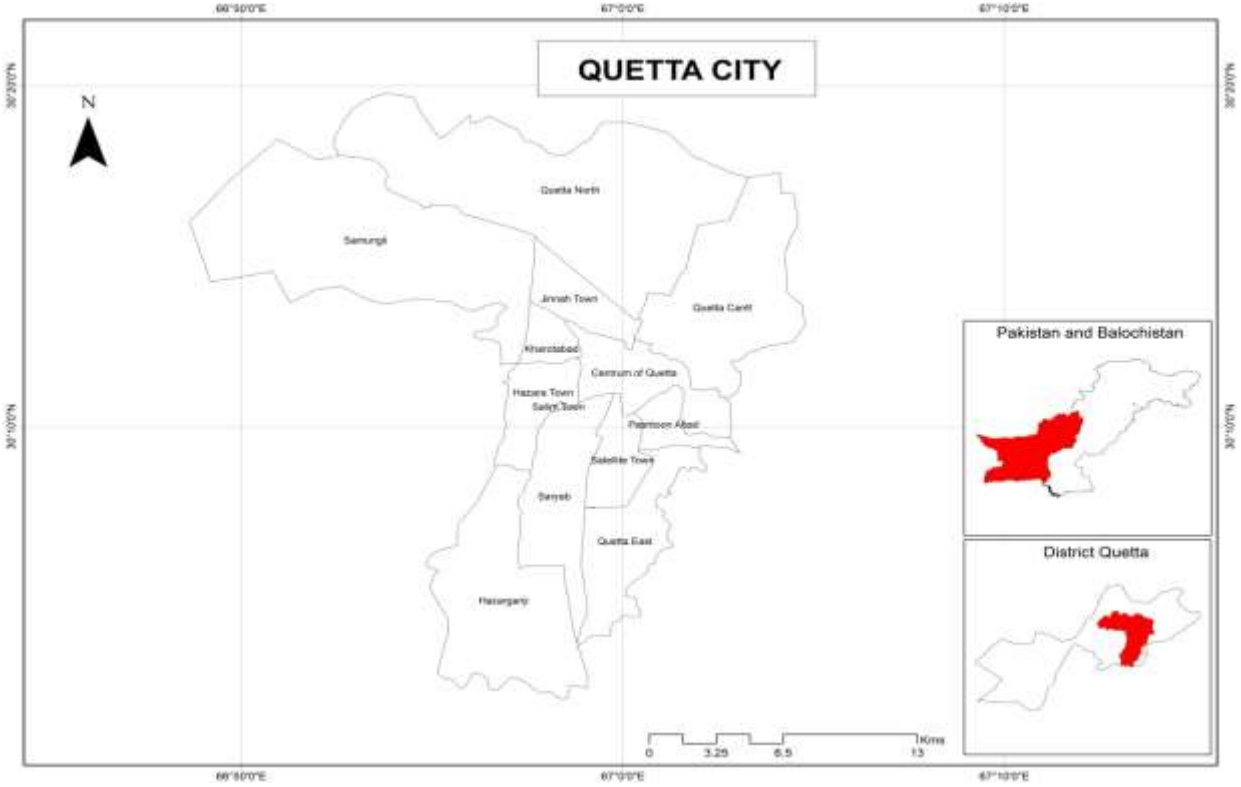

Figure.1 Location map of Quetta distric

It is located at 30° 12′ 38″ N, 67° 1′ 8″ E with an average elevation of 1,680 meters above sea level, making it Pakistan's only high-altitude major city. District is prominently mountainous. The total area of the district is 1632 square km. Average population of the city according to 1998 censuses was 759,941 need reference. But now it has a population of 1,001,205 according to the 2017 census. The present study was designed due to the following reasons that province is vulnerable to natural disasters such as an earthquake, droughts particularly (Provincial Disaster Management Authority, 2013). It is considered to be the most earthquake prone area of the country. It has already experienced many significant earthquakes in past. Second, majority of the people live in Quetta zone A and unfortunately there is very poor disaster governance system despite the fact that Quetta zone (A) population is the first victim of any hazard. According to a detailed study conducted by NESPAK (National Engineering Services Company of Pakistan), Quetta has been divided into two seismic areas, namely the extremely high seismic risk zone (A zone) and the high seismic risk zone (B zone). It is generally believed that in the extremely high seismic risk zone, the belt-shaped belt parallel to the fault trace is about 5 km. The rest of the area east of the Quetta River valley to the toe of the mountain is classified as a high seismic risk

zone. Historical data from 1935 and other major earthquakes in the area indicate that the most damage was observed in Area A.

2.2. Data Sources and sample size selection

The present study of public perception on disaster governance system in district Quetta has accumulated detailed information based on both primary and secondary sources of data. In this way, the most significant secondary data were assembled from numerous public sectors, institutions and organizations working on disaster management in Balochistan with the aim of knowing the general background of the study area as well as its population. For this purpose, a structured questionnaire on public perception about disaster governance system were carried out for data collection amongst 200 residents of Quetta district. The analysis is basically exploratory and descriptive in nature in the context of both primary and secondary basis of data sets. These data sets were further set up and presented in both qualitative and quantitative research perspectives. Fundamentally the prime aim of the research is to recognize the community perception on disaster governance in disaster prone district of Quetta for risk reduction. So, the sample size for the exploratory study was derived on the basis of the population size (Aggregate family unit) in two zones (Quetta is divided into two zones based on disaster risks), following the formula of sample size calculation. Nearly 200 samples were collected and further distributed to Zone A (80 households) and Zone B (120 households) in proportion. A stratified random sampling with proportionate technique was practiced for two zones more or less covering entire Union Councils (lowest unit of administration) of district Quetta.

3. Results and Discussions

3.1. Profile of the respondents

Various aspects of the socioeconomic position of the respondents are revealed through descriptive analysis in two zones of Quetta district. In this manner, the respondent's mean age is 40 and 50 correspondingly in both zones. While there are also variations in educational position in both zones. In all categories zone B has a better position than zone A. Such as Grade 1-5 to 3.92% in zone A and 7.74% in zone B, Grade 6-10 to 13.72% in zone A and 27.27% in zone B, Intermediate: zone A with 14.70% and 29.62% in zone B, Graduate: zone A with 13.72% and 19.19% in zone B, Postgraduate: zone A with 14.70% and 26.93% in zone B and particularly Illiterate: zone A with 39.2% and 2.69% in zone B. Agriculture is the most dominating primary occupation in zone A and it accounts for 52.94% while 4.04% in zone B. whereas in zone B the dominating occupation is employment it occupies 20.58% in zone A and 38.64% in zone B. income position of the respondents also vary in both zones. The average income in zone A is in the income range of up to 20,000 occupies 52.94%, while the average income of zone B is in the income ranges of 50,000-200,000 occupies 34.00% in zone B. Income above 200,000 accounts for 13.72% in zone A and 32.65% in zone B. Major discriminations in Household size are found among the respondents of both zones. Category 2-5 occupies 11.76% in zone A and 34.00% in zone B. Category second occupies 18.62% in zone A and 31.98% in zone B. While category 11-20 occupies 26.47% in zone A and 17.84% in zone B. The last category of above 20 occupies 43.13 % in zone A and 16.16% in zone B correspondingly. It proves that family size highly concentrates in zone A in the fourth category (more than 20) and similar family size in zone B focuses in the first category

(2-5), where a greater number of family size in zone A reflect the additional dependent population in the area which causes the more loss of lives in case of hazards.

4. Public Perception about Role of Institutions and its implementation

4.1 Public Perception on Role of Institutions.

Number of questions in the field on two constructs of Public Perception about role of institution plus its proper implementation in Balochistan has revealed a number of observations about the community respondents who are confronted with the risk posed by various hazards in Balochistan. Results on behalf of the public perception both on role of institutions and its implementation at community level reveals the following facts.

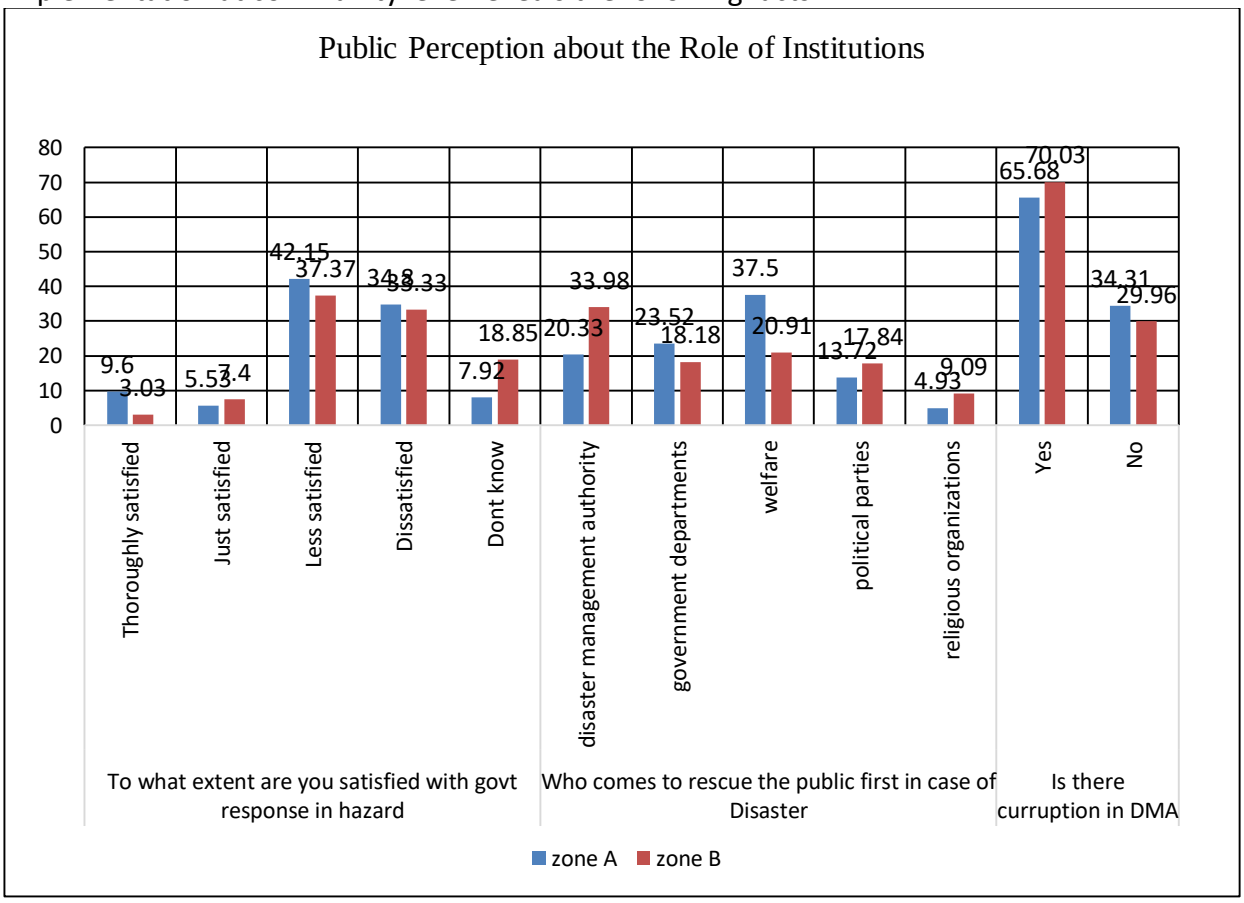

Figure 4.1: Source field Data

In figure 4.1 the extent of respondent's level of satisfaction is based on the government response. In this regard, the data shows that in zone A 1.6% of the respondents are thoroughly satisfied and 3.03% in zone B. The second category occupies 5.53% in zone A and 30.4% in zone B. Third zone occupy 50.15% in zone A and 37.37% in zone B. While 36.8% in zone A and 20.33% in zone B are dissatisfied with this response. There are 5.92% of respondents in zone A and 8.85% of respondents in zone B, who have no approach towards government response. Overall the data shows that respondents in zone A are less satisfied with the government response than zone B. A part from community satisfaction in case of hazards, community rescue has also vital role in disaster prone areas. According to figure 4.1 the first category occupies 20.33% in zone A and

33.98% in zone B. While the government departments occupy 23.52% in zone A and 18.18% in zone B. Similarly, welfare department occupy 37.5% in zone A and 20.91% in zone B. The political parties occupy 13.72% in zone A and 17.84% in zone B. Religious part occupies 4.93% in zone A and 9.09% in zone B. The data shows that in zone A majority of the rescue work is done by welfare department followed by government department and in zone B majority of the rescue work is done by disaster management authority, who is the most concerned department of rescue and relief work. To know the corruption level in disaster management authority in figure 4.1, the field data reveals that 65.68% in zone A and 70.03% in zone B are agreed on the corruption in disaster management authority. The result shows that corruption level is high in both zones because there is no proper check and balance on the activities and power exercised by disaster management authority and mostly at the time of hazard the irrelevant departments are involved in post disaster phase that have no vision of management and it causes corruption at high level.

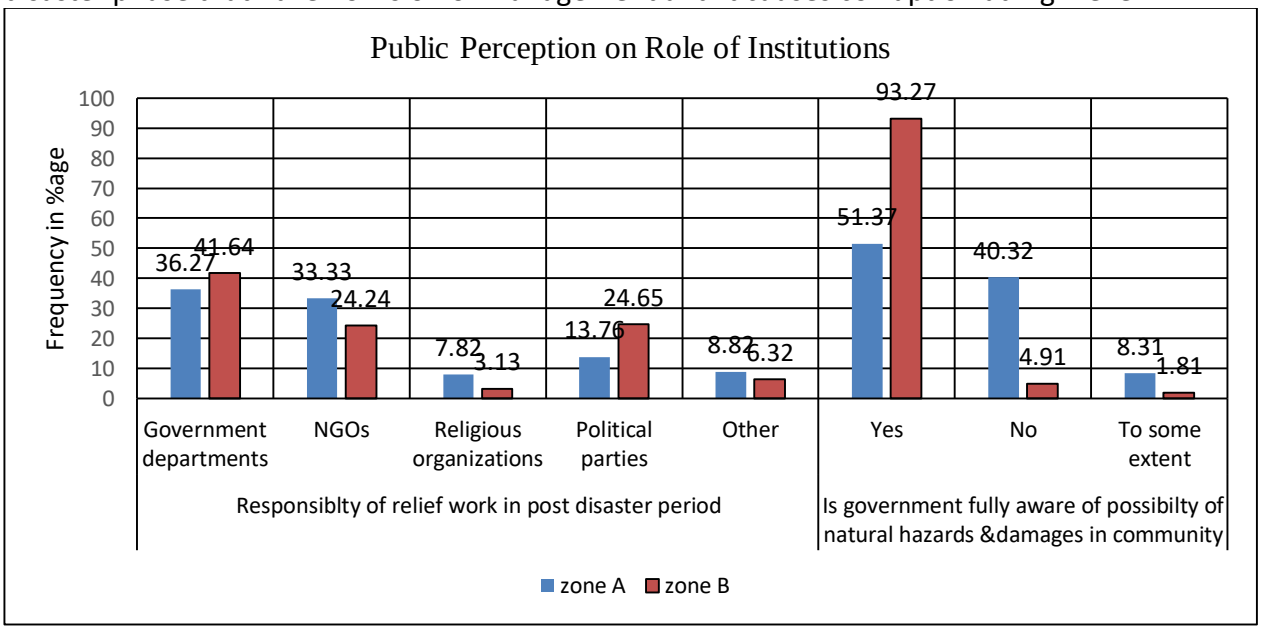

Figure 4.2 Source: Field Data

the field data shows relief work responsibility in figure 4.2, in which government department category occupies 36.27% in zone A and 41.64% in zone B. While second category occupy 33.33% in zone A and 24.24% in zone B. The religious department occupies 7.82% in zone A and 3.13% in zone B. While the political parties occupy 13.76% in zone A and 24.65% in zone B. The overall result shows that the most responsible department in relief works in both zones is government departments followed by NGOs. To recognize the government awareness on the possibility of hazard occurrence and its damages in community, field survey was conducted and it shows 51.37% agreed population in zone A and 93.27% agreed population in zone B. While the second category occupies 40.32% I zone A and 4.91% in zone B, where majority of the respondents from zone A are disagreed on the government awareness. Overall government is more aware of hazards and damages in hazards in zone B as associated to zone A.

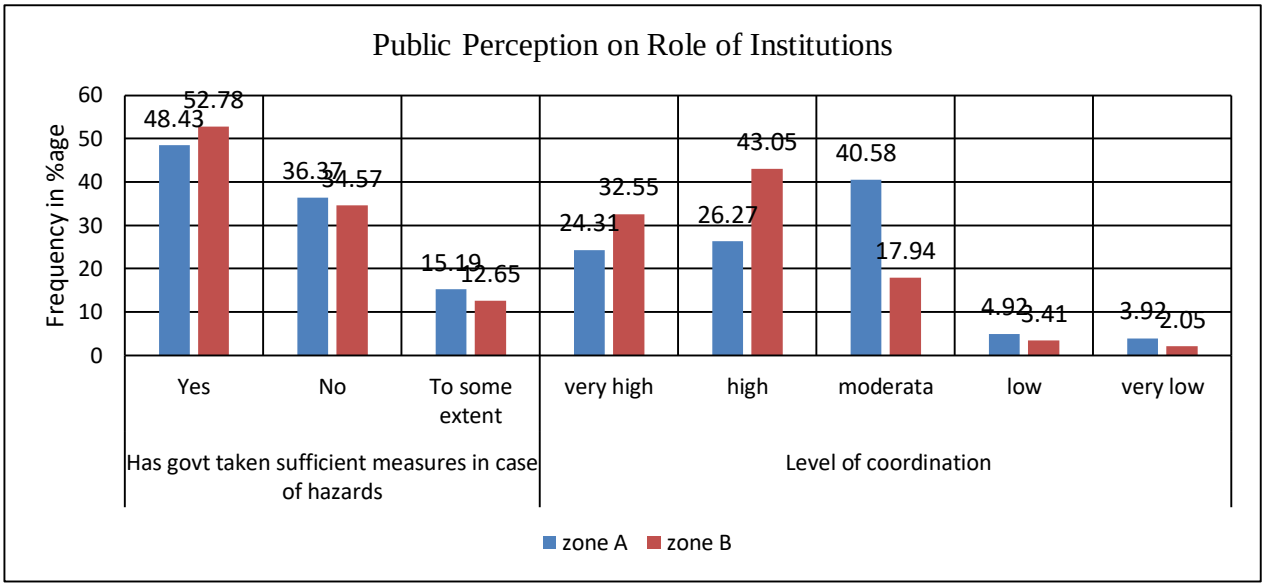

Figure 4.3. Source: Field Data

To comprehend government sufficient measures taken in case of hazards, field data reveals that 48.43% in zone A and 52.78% in zone B respondents are there who are agreed on taking government measures in case of hazard. While there are 36.37% of respondents in zone A and 34.57% in zone B, who does not gain these measures. While the rest of respondents have no knowledge about these measures. Result illustrates that government has not taken any sufficient measures in case of hazards almost in both zones. In fact, measures taken in Pakistan are based on post disaster stage that include recovery, relief etc. (Livitt et al., 2011). Community coordination exists in both zones, but there is variation in both zones concerning community coordination. According to figure 4.3 the first category occupies 24.31% in zone A and 32.55% in zone B. Second category occupies 26.27% in zone A and 43.05% in zone B. Moderate category occupy 40.58% in zone A and 17.94% in zone B. Low category occupies 4.92% in zone A and 3.41% in zone B. While the very low category occupies 3.92% in zone A and 2.05% in zone B. Altogether the level of coordination in zone A is moderate, while it is high in zone B.

5. Implementation of Disaster Institutions Policies

Disaster governance for risk reduction in Pakistan not only concentrate on role of institutions but also entails policy implementation in a true sense for disaster risk reduction particularly at local levels. In this way both the policy development and its implementation rely on the data concerning institutional mechanism for disaster management in Pakistan from national to local levels. Furthermore, it also explores the problems and issues of decentralization of disaster management institutions at local level.

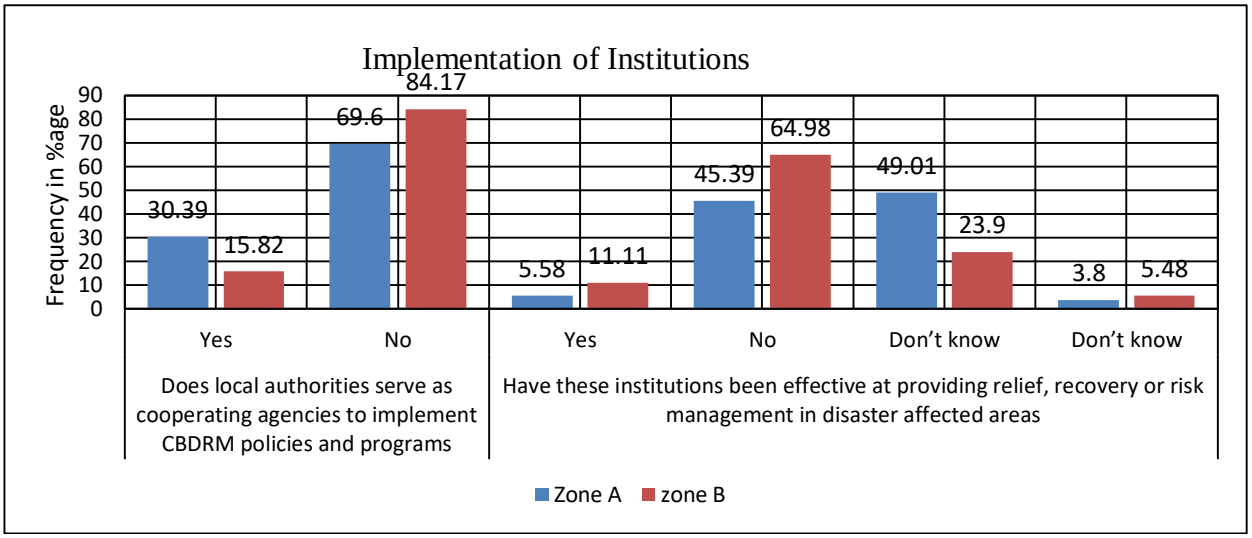

Figure 5.1. Source: Field Data

Data in figure 51 reveals that 30.39% in zone A and 15.82% in zone B do agree on the local authority's cooperation in implementing CBDRM policies, while 69.6% respondents in zone A and 84.17% respondents disagree in zone B. It shows that local authority's role is negligible and critical in reducing disaster risks almost in both zones. Key role of institutions in providing the successful disaster risk reduction policies at local levels in figure 5.1 is exhibited in data where the first category respondents occupy 5.58% in zone A and 11.11% in zone B. While in the second category it occupies 45.39% in zone A and 64.98% respondents in zone B. Institutions role at community level is poor therefore, majority of the respondents are unsatisfied.

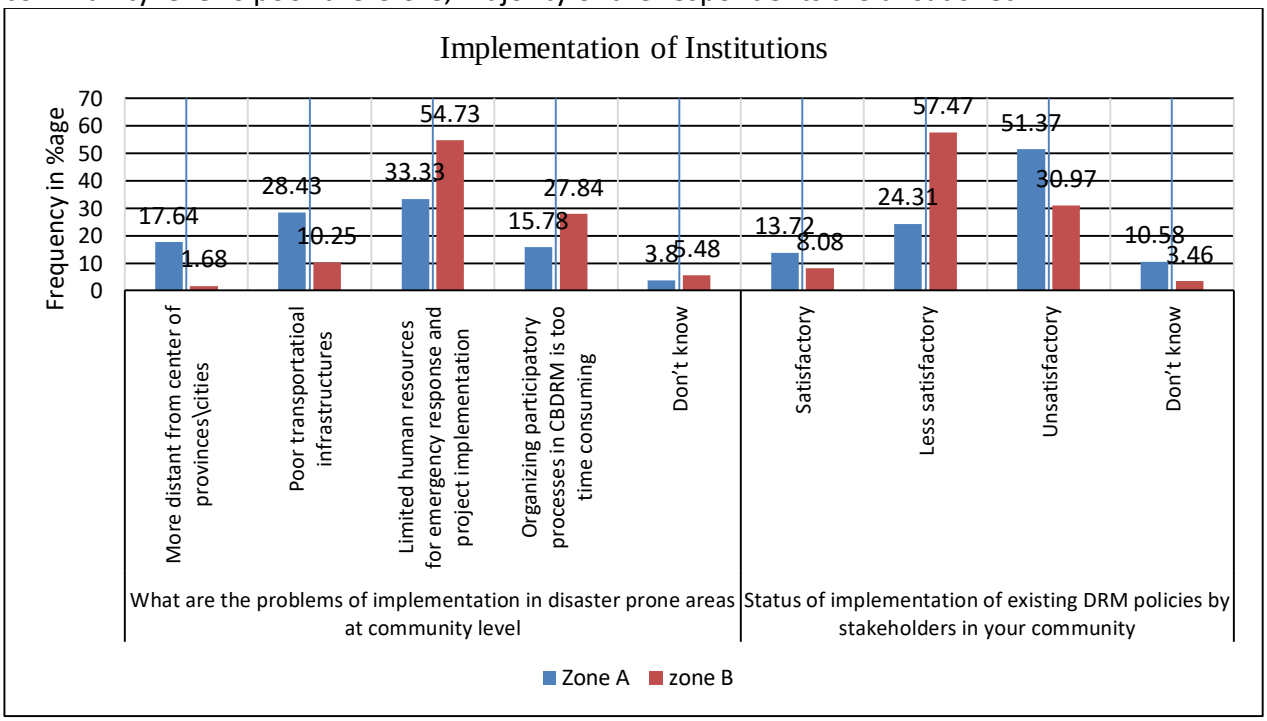

Figure 5.2 Source: Field Data

Implementation of institutional policies at community level reveals the respondent's data in figure 5.2; in which first category of respondents occupies 17.64% in zone A and 1.68% in zone B interlinked with the issue of being more distant community from the center. while in the second category of poor transformational infrastructure in implementation zone A occupies 28.43% and zone B occupies 10.25% and the problem again exist in zone A. Additionally third category of limited human resources for emergency response occupy in both zones as 33.33% in zone A and 54.73% in zone B respectively. This issue exists almost in both zones equally particularly in zone B. Finally, category of organizing participatory processes in Community Based Disaster Risk Management is too time consuming, zone A occupies 15.78% and zone B occupies 27.84%. where participatory process is too weak in zone A than zone B, so there is need to develop participatory process in CBDRM at community level. To analyze the status of implementation of existing disaster risk management policies by stakeholders in community, data is collected and first category in figure 5.2 occupies 13.72% in zone A and 8.08% in zone B concerning the satisfactory level. Less satisfactory level occupies 24.31% in zone A and 57.47% in zone B. The unsatisfactory category occupies 51.37% in zone A and 30.97% in zone B. Overall majority of the respondents in zone A are unsatisfied with the implementation issue, while respondents are less satisfied in zone B.

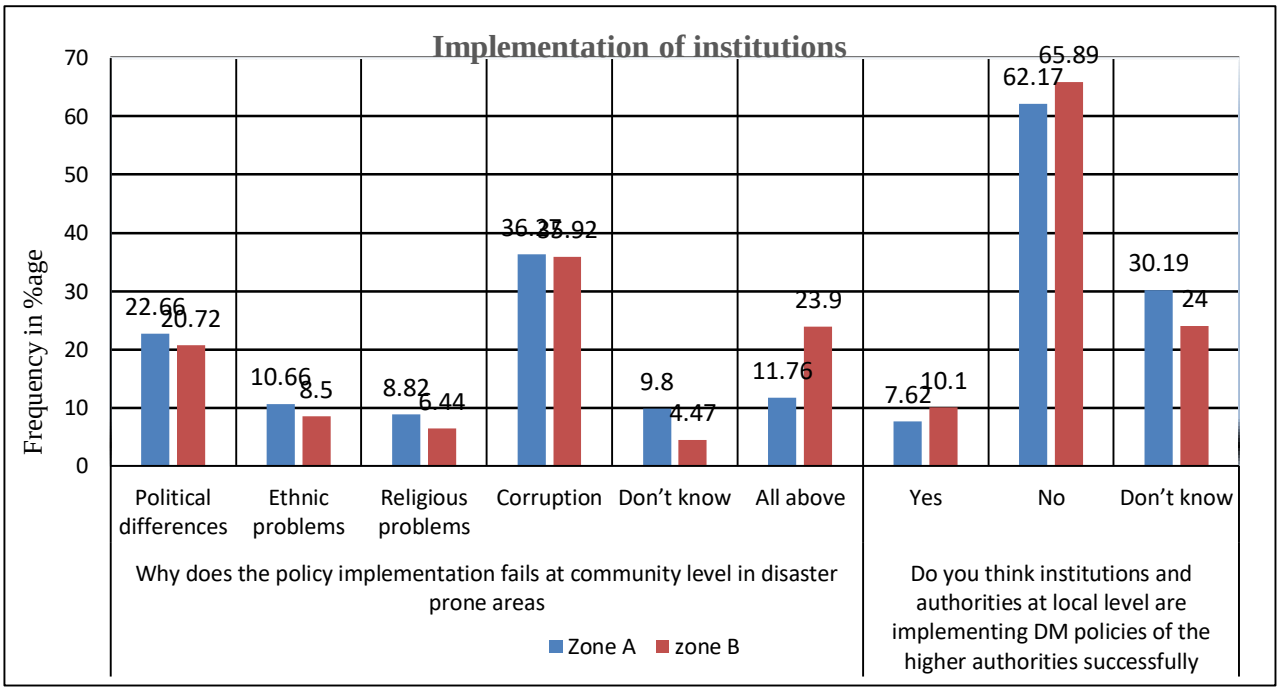

Figure 5.3 Source: Field Data

Data concerning failure of policy implementation in figure 5.3 shows that first category of political differences occupies 22.66% in zone A and 20.72% in zone B. The second category occupies 10.66% in zone A and 8.55 in zone B. Third category occupies 8.82% in zone A and 6.44% in zone B. While the category of corruption occupies 36.27% in zone A and 35.92% in zone B. So, the root cause of the failure of policy implementation in disaster prone areas at community level is almost corruption. Data regarding strong coordination among the various authorities including

higher authority and local authorities occupies 7.62% in zone A and 10.1% in zone B. While second category occupies 62.17% in zone A and 65.89% in zone B. Data reveals that none of the zone is satisfied with the successful disaster management policies at local level of the higher authorities.

.

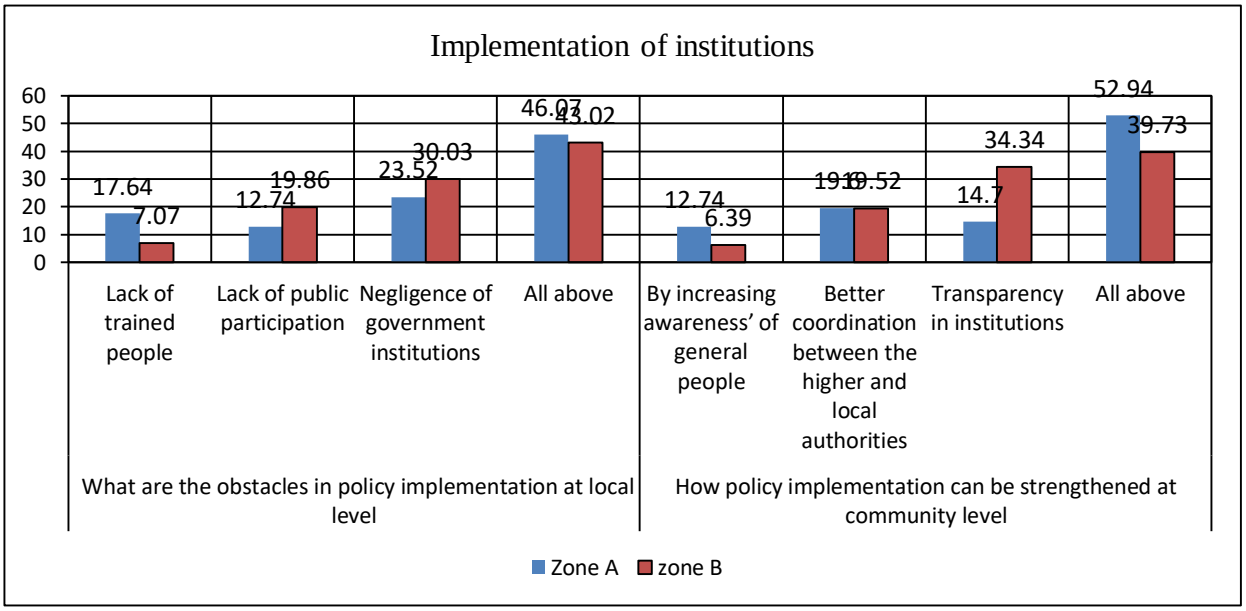

Figure 5.4 Source: Field Data

Policy implementation at local level is quite unsuccessful due to the number of factors involved. Accordingly figure 5.4 reveals the first category occupies 17.64% in zone A and 7.07% in zone B, where in zone A lacks of trained people is more focused. Similarly, the second zone occupies 12.74% in zone A and 19.86% in zone B, which reflects public participation encouragement in almost both zones. The third zone occupies 23.52% in zone A and 30.03% in zone B, here both zones have focused on the role of institutions. While the last category account for 46.07% in zone A and 43.02% in zone B with no idea of these obstacles. Policy implementation can be strengthened through increasing awareness of the general public, better coordination between the higher and local authorities as well as transparency in institutions. In this regard, the field data in figure 5.4 reveals that the first category occupies 12.74% in zone A and 6.39% in zone B. While second category occupies 19.6% in zone A and 19.52% in zone B. Similarly, third category occupies 14.7% in zone A and 34.34% in zone B. Last category occupies 52.94% in zone A and 39.73% in zone B. The result shows that altogether in both zones majority of the respondents need to strengthen policy implementation at community level, but they are lacking all the above indicators and there is great need of improvement of these indicators in both zones.

6. Conclusion

The level of risk and risk reduction policy is greatly influenced by the excellence of both institutions, coordination and effective governance system (Estrin and Prevezer 2011: Alexander 2012). In this way, the excellence of institutions is highly inclined towards good governance on behalf of disaster risks, which ultimately achieve disaster risk resilience at higher level. But it

needs devotion of all the relevant stakeholders from every sector. This collaboration between institutions and participation of various stakeholders leads to knowledge transformation (Ansell & Gash, 2008). Which ultimately brings both the policy and practice into action for successful disaster risk reduction. But it is also true that vulnerability will be more empowered in case if the institutions and governance are left vulnerable (Press, 1951). Vulnerability can be dealt properly through institutions fundamental role and its implementation particularly at gross root level. It likewise highlights the public perception about those institutions which are present but their starring role is insignificant almost. So far, the widespread impacts of disasters are controlled by provincial level organizations in Balochistan. But unfortunately, there is no implementation of any awareness and preparedness activities at lower tier of the government by disaster management authorities who unluckily emphasis more on reactive and top-down approaches. On the other hand, community at local level is highly vulnerable to various hazards particularly with earthquakes and unfortunately the existing institutional framework does not encounter community needs, hence their implementation is poor at all levels. It is perceived that public perception about institutions role and their implementation is very discouraging. To empower communities for disaster preparedness and risk reduction the disaster management authorities should implement various projects and activities at the local levels. On the other hand, there should also be strong and effective coordination between the provincial and national level agencies. There is also an intense need of decentralized governance and transparency in institutional set up. Moreover, Community risk reduction must be enhanced by upgrading public awareness and defensive mechanism for protecting their lives pertaining to various emergencies. Otherwise we will fail to reduce risks owing to feeble institutional and governance factors that modify their vulnerabilities and resilience. It may be concluded that without considering institutions, institutional quality, and specific governance of disaster reduction at all levels disaster risk reduction policy will not be feasibly implemented (Scale & Diss, 2018).

REFERENCES

Abenir, M. A. D., Manzanero, L. I. O., & Bollettino, V. (2022). Community-based leadership in disaster resilience: The case of small island community in Hagonoy, Bulacan, Philippines. *International Journal of Disaster Risk Reduction*, *71*(March 2021), 102797. https://doi.org/10.1016/j.ijdrr.2022.102797

Ahrens, J., & Rudolph, P. M. (2006). The importance of governance in risk reduction and disaster management. *Journal of Contingencies and Crisis Management*, *14*(4), 207–220. https://doi.org/10.1111/j.1468-5973.2006.00497.x

Alam, E., & Ray-Bennett, N. S. (2021). Disaster risk governance for district-level landslide risk management in Bangladesh. *International Journal of Disaster Risk Reduction*, *59*(March), 102220. https://doi.org/10.1016/j.ijdrr.2021.102220

Ansell, C., & Gash, A. (2008). Collaborative governance in theory and practice. *Journal of Public Administration Research and Theory*, *18*(4), 543–571. https://doi.org/10.1093/jopart/mum032

Birkmann, J. (2007). Risk and vulnerability indicators at different scales:. Applicability, usefulness and policy implications. *Environmental Hazards*, *7*(1), 20–31. https://doi.org/10.1016/j.envhaz.2007.04.002

Briceño, S. (2015). Looking Back and Beyond Sendai: 25 Years of International Policy Experience on Disaster Risk Reduction. *International Journal of Disaster Risk Science*, *6*(1), 1–7. https://doi.org/10.1007/s13753-015-0040-y

Carreño, M. L., Cardona, O. D., & Barbat, A. H. (2007). A disaster risk management performance index. *Natural Hazards*, *41*(1), 1–20. https://doi.org/10.1007/s11069-006-9008-y

Djalante, R., Holley, C., & Thomalla, F. (2011). Adaptive governance and managing resilience to natural hazards. *International Journal of Disaster Risk Science*, *2*(4), 1–14. https://doi.org/10.1007/s13753-011-0015-6

Djalante, R., & Lassa, S. (2019). Governing complexities and its implication on the Sendai Framework for Disaster Risk Reduction priority 2 on governance. *Progress in Disaster Science*, *2*(August), 100010. https://doi.org/10.1016/j.pdisas.2019.100010

Estrin, S., & Prevezer, M. (2011). The role of informal institutions in corporate governance: Brazil, Russia, India, and China compared. *Asia Pacific Journal of Management*, *28*(1), 41–67. https://doi.org/10.1007/s10490-010-9229-1

Gaillard, J. C., & Mercer, J. (2013). From knowledge to action: Bridging gaps in disaster risk reduction. *Progress in Human Geography*, *37*(1), 93–114. https://doi.org/10.1177/0309132512446717

Gulati, B. (2006). *Earthquake Risk Assessment of Buildings: Applicability of HAZUS in Dehradun, India*. 112.

Hewitt, K. (2013). Environmental disasters in social context: Toward a preventive and precautionary approach. *Natural Hazards*, *66*(1), 3–14. https://doi.org/10.1007/s11069-012-0205-6

Ismail-Zadeh, A. T., Cutter, S. L., Takeuchi, K., & Paton, D. (2017). Forging a paradigm shift in disaster science. *Natural Hazards*, *86*(2), 969–988. https://doi.org/10.1007/s11069-016-2726-x

Livitt, A., Hiscock, D., & Piirtoniemi, K. (2011). Opportunity from Catastrophe : A Strategic Approach to Sustainability through Pre-Disaster Recovery Planning (Pre-DRP) Statement of Contribution. *Most*, 103.

Nunn, P. D., Aalbersberg, W., Lata, S., & Gwilliam, M. (2014). Beyond the core: Community governance for climate-change adaptation in peripheral parts of Pacific Island Countries. *Regional Environmental Change*, *14*(1), 221–235. https://doi.org/10.1007/s10113-013-0486-7

Paton, D., & Johnston, D. (2001). Disasters and communities: vulnerability, resilience and preparedness. *Disaster Prevention and Management: An International Journal*, *10*(4), 270–277. https://doi.org/10.1108/EUM0000000005930

Press, C. (1951). *Institutional Vulnerability in Mass Society Author (s): Philip Selznick Published by : The University of Chicago Press Stable URL : http://www.jstor.com/stable/2771695*. *56*(4), 320–331.

Scale, M., & Diss, A. (2018). *Institutional Vulnerability and Governance of Disaster Risk Reduction : Macro , Institutional Vulnerability and Governance of Disaster Risk Reduction : Macro , Meso and Micro Scale Assessment (With Case Studies from Indonesia) Dissertation Erlangung des*. *May*. https://doi.org/10.13140/RG.2.2.24672.99845

Shi, P. (2012). On the role of government in integrated disaster risk governance—Based on practices in China. *International Journal of Disaster Risk Science*, *3*(3), 139–146. https://doi.org/10.1007/s13753-012-0014-2

Siddiqi, S., Masud, T. I., Nishtar, S., Peters, D. H., Sabri, B., Bile, K. M., & Jama, M. A. (2009). Framework for assessing governance of the health system in developing countries: Gateway to good governance. *Health Policy*, *90*(1), 13–25. https://doi.org/10.1016/j.healthpol.2008.08.005

Tierney, K. (2012). Disaster governance: Social, political, and economic dimensions. *Annual Review of Environment and Resources*, *37*, 341–363. https://doi.org/10.1146/annurev-environ-020911-095618

UN OCHA. (2011). *Disaster Response in Asia and the Pacific: A Guide to International Tools and Services*. 1–131. http://reliefweb.int/report/world/disaster-response-asia-and-pacific-guide-international-tools-and-services

Wahlström, M. (2015). New Sendai Framework Strengthens Focus on Reducing Disaster Risk. *International Journal of Disaster Risk Science*, *6*(2), 200–201. https://doi.org/10.1007/s13753-015-0057-2