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Knowledge, Attitude, Practice and Belief about Disaster Risk Reduction

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Abstract
Climate change is one of the major challenges which the world is facing nowadays. It results in adverse effects on humanity in the form of diverse repercussions. In light of the vulnerability caused by natural disasters, there is a pressing need to assess the general understanding of risk minimization strategies. Disaster risk reduction involves a systematic approach aimed at minimizing losses through risk assessment, identification, measurement, and proactive adaptation. Primary purpose of current study was to understand general prevailing practices about disaster risk reduction among flood-affected populations. The associated factors were: knowledge, attitude, practices, and belief about disaster risk reduction. For better understanding, participants of study were flood affected households form Dadu, Sindh. A total of n=340 people were interviewed through close ended survey questionnaire. The results of study revealed that, majority of flood affected population does not have basic knowledge about disaster risk reduction approaches. The attitude of people towards disasters is not proactive. Majority of the respondents strongly believe that disasters are divine punishments of their sins rather than caused by climatic change. The importance of disaster risk reduction is neglected by the flood-affected population. Knowledge, attitude, practices and beliefs are main determinant. Therefore, awareness and education are required on macro level. Trainings and education will help in capacity building of local communities. Trainings strengthens the capacity of local communities against disasters. Education and awareness about risk mapping, risk assessment, risk measurement are needed. This study will aid in the implementation of disaster risk reduction policies at the ground level.

Keywords
Knowledge, Attitude, Practice, Belief, Disaster Risk Reduction, Climate Action

1. Introduction
Natural disasters inflict significant harm on human life, causing a range of destructive consequences such as; fatalities, injuries, infrastructure damage, displacement, psychological trauma, environmental degradation, household damage, food insecurity, and societal unrest (Walz et al., 2021). The occurrence of earthquakes, tsunamis, hurricanes, tornadoes, floods, landslides, droughts, and volcanic eruptions is distressingly frequent on a global scale, resulting in a long history of acute losses (Shamsuddoha et al., 2013). Such disasters persist as lasting threats to human existence and the sustainability of communities (Shreve & Kelman, 2014). Every year, millions of individuals suffer deaths or injuries due to various natural disasters, highlighting the urgent need for proactive measures (United Nations Office for Disaster Risk Reduction, 2023).

The importance of disaster preparedness is underscored by the ongoing cycle of losses experienced worldwide. As highlighted by the Global Assessment Report of the United Nations Office for Disaster Risk Reduction (UNDRR) in 2023, the discussion surrounding preparedness against natural disasters remains ever-relevant. Through the adoption of disaster risk reduction (DRR) approaches, it is possible to mitigate both human and financial losses (Dilley & Grasso, 2016). This systematic approach is grounded in scientific principles and serves to identify and address vulnerable conditions, offering a framework comprising various strategies, actions, and policies for disaster preparedness (UNDRR,

2015). Evidence suggests that DRR initiatives are instrumental in minimizing the impact of natural disasters, demonstrating their efficacy in safeguarding lives and livelihoods.

Pakistan stands as one of the countries most profoundly affected by natural disasters such as earthquakes and floods, with notable incidents including the earthquakes of 2004, the flood of 2010, and subsequent events like the rains and floods of 2022 (Asian Disaster Reduction Center, 2005; Finance Division Pakistan, 2010; UNICEF, 2022). In light of this vulnerability, there is a pressing need to assess the general understanding of risk minimization strategies. This study is an academic attempt to examine the knowledge, attitudes, practices, and beliefs regarding disaster risk reduction among the flood-affected population of *Dadu*, a district of Sindh. Previous literature underscores the detrimental effects of inadequate knowledge regarding disaster risk reduction, as well as problematic attitudes towards disasters. Moreover, the proactive engagement of individuals in risk assessment, identification, and mitigation is identified as a key factor in minimizing human losses. Additionally, beliefs concerning divine intervention and fate can significantly influence individuals' attitudes towards disaster preparedness. Thus, this study aims to comprehensively examine the interplay of knowledge, attitudes, practices, and beliefs among the flood-affected population of *Dadu*, Sindh, Pakistan, within the context of disaster risk reduction approaches.

2. Literature Review

Natural calamities have a profound impact on human lives, causing fatalities, injuries, financial crisis, psychological distress, and displacement (Raschky, 2008; Mechler, 2004). These disasters causing an increase in societal and global challenges such as poverty, food insecurity, malnutrition, terrorism, social and cultural issues, and crime rates (Schumacher & Strobl, 2011). Floods, earthquakes, hurricanes, landslides, tornadoes, tsunamis, and heavy rainfall are among the major natural disasters worsen by current climatic changes (Hidalgo & Baez, 2019).

Disaster risk reduction involves a systematic approach aimed at minimizing losses through risk assessment, identification, measurement, and proactive adaptation (Uitto & Shaw, 2016; Mal et al., 2018; Madu et al., 2018). Strategies and guidelines for disaster risk reduction are implemented by governments, international organizations, non-profits, UN bodies, and local communities (UNDRR, 2015; Mizutori, 2020). The United Nations Disaster Risk Reduction (UNDRR) serves as a permanent institution collaborating with various countries to reduce disasters (Schipper & Pelling, 2006). Developing countries often struggle with issues like mismanagement, poor governance, political instability, pollution, population growth, inadequate waste management, drainage problems, poverty, and limited social services, all of which compound the impacts of disasters (Jigyasu, 2004; Coppola, 2006). The majority of these countries suffer heavy human losses, displacement, infrastructural damage, and socioeconomic vulnerabilities (Austin & McKinney, 2016). Such losses causing psychological distress (Noy, 2009). Long-term planning, comprehensive strategies, and resilient approaches are necessary to understand and address disaster risk mechanisms (Weichselgartner & Pigeon, 2015). Disaster risk reduction stands as a primary strategy to reduce losses from natural disasters (Palliyaguru et al., 2014; Hermans et al., 2022). Policies can be implemented through early warning systems, community awareness, pre-disaster preparedness, resilient infrastructure, community training, task force formation, volunteerism, risk assessment, risk identification, and other proactive measures (de León et al., 2006; Šakić Trogrlić et al., 20222; Amrollahi, 2023). Local communities play a crucial role in understanding natural disaster risks, which aids in identifying vulnerabilities and hazards (Malalgoda et al., 2010; Messer, 2003; Zubir & Amirrol, 2011). Education and training can reduce these risks (Petal, 2009; Righi et al., 2023), while empowering local communities not only mitigates losses but also contributes to sustainable development (Pandey & Okazaki, 2005), encouraging resilient societies (Ruszczyk et al., 2020). In order to understanding disaster risk reduction, its relation to the knowledge, attitudes, practices, and beliefs of local communities holds significant importance (Dhungel & Ojha, 2012; Bang, 2013). Knowledge serves as the initial step towards educating and training on reduction efforts (Eiser et al., 2012), laying the groundwork for understanding hazards, vulnerabilities, and effective disaster management measures (Kelman, 2012; Wisner et al., 2012). Previous studies have highlighted the low levels of knowledge about natural disasters in underdeveloped countries (Cardona, 2005; Weichselgartner & Pigeon, 2015; Hadlos et al., 2022), where people lack basic understanding of seasonal variations, climate shifts, weather patterns, and early warning systems (Gaillard & Mercer, 2013; Molinari, 2013; Alessa, 2016). Attitudes significantly influence resilience mindsets, preparedness responses, and engagement in disaster risk reduction practices (Bempah & Øyhus, 2017; Nakano & Yamori, 2021). Research highlights unsatisfactory community attitudes towards disaster risk reduction approaches (Fathoni, 2018; Lee et al., 2019), often arising from the belief that disasters are purely natural phenomena, leaving preparedness ineffective (Yari et al., 2019; Mideks et al., 2019; Cvetković, 2023). Practice involves the practical application of knowledge and attitude, translating into tangible actions against disasters (Shaw, 2014; Renaud, 2013), such as risk mapping, implementing early warning systems, developing resilient infrastructure, and forming task forces (Chmutina & Bosher, 2015; Amaratunga et al., 2018). Studies find a low level of disaster risk reduction practices in underdeveloped countries, with much of the population not engaging in mitigation efforts (Maferetlhane, 2013; Amaratunga, 2018; Macnight Ngwese et al., 2018). Historically, natural disasters have been indivisible with myths, fictions, and beliefs, with many communities attributing them to divine acts or punishment for sins (Hussain et al., 2011; Nalipay et al., 2016; O'Connell et al., 2017; Osberghaus & Fugger, 2022). Some cultures view disasters as inevitable and view human efforts as fruitless, fall back on to prayers during such events (Ha, 2015; Sohrabizadeh et al., 2018), which can hinder disaster risk reduction efforts. Another group of the population relies on luck or fate due to religious, social,

cultural, and psychological beliefs, feeling helpless in the face of disasters (Gao et al., 2020; Solomon, 1997; Teigen & Jensen, 2010), thus avoiding precautionary measures (Massazza et al., 2020). This results in minimal engagement in disaster preparedness, early warning systems, and risk assessment efforts. Understanding these beliefs, cultural norms, and social structures is extremely important for formulating effective policies that integrate modern advancements with cultural values. Empirical research on disaster risk reduction aids in understanding real problems and come up with solutions, laying the groundwork for resilient communities in underdeveloped countries. Such research is instrumental in reducing risks, safeguarding lives, and addressing socioeconomic vulnerabilities, providing valuable insights for policymakers, humanitarian organizations, governments, local communities, and other stakeholders involved in disaster risk reduction strategies.

3. Conceptual Model

Disaster risk reduction approaches encourage for minimization of risk through classifying and categorizing the risks. It helps to understand threat, risk, vulnerabilities and practices. Primary purpose of disaster risk reduction to empower and aware communities about hazards. Communities are primary responsible for taken measure against natural disastrous situations. Therefore, study examined the level of knowledge, attitude, practice and belief about disaster risk reduction of flood affected population. Below given are (fig. 1) about conceptualization of study with major factors.

4. Research Methods

Disaster usually results negative impact through destruction, economic losses, poverty, psychological traumas, and displacement. Therefore, for better understanding the situation empirical study has been conducted. Current study applied quantitative method for knowing the knowledge, attitude, practice and belief about disaster risk reduction (Mamon et al., 2017; Pescaroli, et al., 202; Raikes, 2021).

5. Research Instrument

Research instrument adapted from prior literature (Bird, 2009; Muzenda-Mudavanhu et al., 2016; Türkan et al., 2019; Cvetković et al., 2023). The validity of research instrument was measured through experts' opinion. Some minor changes were made according to context of the study. The cultural, social and religious values and protocols were maintained as per requirement. The scale of research instrument was three and five points likert scale. It varies according to item structure and values. Total 6 demographic items were added for knowing the background of participants. Four major factors were framed in model. 1) Knowledge factor was measured through 4 items. 2) Attitude factor was measured through 4 items. 3) Practice factor was measured through 4 items. Belief was measured though 4 items. 5) Disaster risk reduction was measured through 6 items. Total 46 items asked in survey. Instrument were translated in local language Sindhi.

6. Data Collection

Participant of study was flood affected population of district Dadu, Sindh Pakistan. Data was collected through personal visits of two talukas of district Dadu. Both talukas (Khairpur Nathan Shah and Johi) were most affected from flood of 2010 and rains of 2022. Therefore, experience and practices about disaster risk reduction ideally match for mentioned population. Total 450 participants were interviewed. After detail screening 370 questionnaires were analyzed.

7. Data Analysis

Data were analyzed through Statistical Package for Social Science (SPSS) version 26 for windows. At initial stage all collected data was screened properly (Tabachnick & Fidell, 2013). The missing values and outliers were discarded from data. Total 70 questionnaires were discarded from main data. The descriptive statistics of each item were tested.

8. Results

The data was analyzed through Statistical Package for Social Science (SPSS) version 26 for windows. Three steps were employed in data analysis. Firstly, ascending of data process completed. Secondly, cleaning and screening of data. Thirdly, data was analyzed through descriptive statistic of each item. Total 450 participants were interviewed. After detail screening 370 questionnaires were analyzed. Below given table (1) shows the descriptive statistics of demographic variables.

Table 1 Demographic Statistics of the respondents from district Dadu-Sindh

	Variable	Frequency	Percent
Gender	Male	274	74.1
	Female	94	25.4
	Other	2	.5
	Total	370	100.0
Age	21-30	18	4.9
	31-40	77	20.8
	41-50	143	38.6
	51 – 60	103	27.8
	above 60	29	7.8
	Total	370	100.0
Marital status	Single	44	11.9
	Married	318	85.9
	Divorced/ Widow	8	2.2
	Total	370	100.0
Number of dependents	1-2	9	2.4
	3-4	64	17.3
	5-6	199	53.8
	7+	80	21.6
	None	18	4.9
	Total	370	100.0
Profession	Government Job	21	5.7
	Semi-Government	23	6.2
	Private	31	8.4
	Shopkeeper	13	3.5
	Laborer	167	45.1
	Farmer	115	31.1
	Total	370	100.0

Current study examined the level of knowledge, attitude, practice and belief about disaster risk reduction of flood affected population through descriptive statistics. Total 46 items were tested. Table 2. Highlights the descriptive statistic of each item. Derived result presented factor wise for better understanding.

Table 2 Statistical Description of the Items

Variable	Item Scale	Frequency	Percent
1. Household Vulnerability Status			
1. Has the household badly affected during the previous year August (2022) heavy rains and flood?	Yes	291	78.6
	Somehow	55	14.9
	No	24	6.5
	Total	370	100.0
2. Has the housing structure destroyed?	Yes	329	88.9
	Somehow	38	10.3
	No	3	.8
	Total	370	100.0
3. Has household lost non- food items (clothing, bedding, hygiene, cooking utensils, Jerry can and fuel & lighting)?	Yes	340	91.9
	Somehow	27	7.3
	No	3	.8
	Total	370	100.0
4. Livestock is the household's main source of income, but their livestock perished in the flood	Yes	335	90.5
	Somehow	25	6.8
	No	10	2.7
	Total	370	100.0

5. Has household lost productive assets (crops damages, lost farming/trade specific tools, micro-enterprise/business damaged etc.?	Yes	357	96.5
	Somehow	7	1.9
	No	6	1.6
	Total	370	100.0
2. Knowledge About Disaster Risk Reduction			
1. Do you have knowledge about pre disaster Preparedness?	Very unfamiliar	276	74.6
	Unfamiliar	49	13.2
	Somewhat familiar	26	7.0
	Familiar	10	2.7
	Very Familiar	9	2.4
	Total	370	100.0
2. Do you have knowledge about climate change?	Very unfamiliar	274	74.1
	Unfamiliar	37	10.0
	Somewhat familiar	25	6.8
	Familiar	18	4.9
	Very Familiar	16	4.3
	Total	370	100.0
3. Do you have knowledge about natural disaster?	Very unfamiliar	95	25.7
	Unfamiliar	63	17.0
	Somewhat familiar	106	28.6
	Familiar	67	18.1
	Very Familiar	39	10.5
	Total	370	100.0
4. Do you have knowledge about man-made disaster?	Very unfamiliar	260	70.3
	Unfamiliar	56	15.1
	Somewhat familiar	32	8.6
	Familiar	16	4.3
	Very Familiar	6	1.6
	Total	370	100.0
5. Do you have knowledge about disaster risk reduction approach?	Very unfamiliar	317	85.7
	Unfamiliar	37	10.0
	Somewhat familiar	13	3.5
	Familiar	3	.8
	Total	370	100.0
6. Do you have knowledge about pre planning before floods and rains?	Very unfamiliar	96	25.9
	Unfamiliar	75	20.3
	Somewhat familiar	84	22.7
	Familiar	73	19.7
	Very Familiar	42	11.4
	Total	370	100.0
7. Do you have knowledge about disaster risk reduction trainings?	Very unfamiliar	324	87.6
	Unfamiliar	34	9.2
	Somewhat familiar	9	2.4
	Familiar	3	.8
	Total	370	100.0
8. Do you have knowledge about task force?	Very unfamiliar	328	88.6
	Unfamiliar	27	7.3
	Somewhat familiar	9	2.4
	Familiar	3	.8
	Very Familiar	3	.8
	Total	370	100.0
3. Attitude Towards Disaster Risk Reduction			
1. Do you believe that anyone can minimize losses of disaster?	Strongly disagree	83	22.4
	Disagree	86	23.2
	Neutral	97	26.2
	Agree	40	10.8
	Strongly Agree	64	17.3
	Total	370	100.0
2. I have a basic knowledge about disasters.	Strongly disagree	106	28.6
	Disagree	93	25.1
	Neutral	86	23.2
	Agree	56	15.1
	Strongly Agree	29	7.8
	Total	370	100.0
3. I think I am prepared for a potential disaster.	Strongly disagree	250	67.6
	Disagree	72	19.5
	Neutral	33	8.9
	Agree	12	3.2
	Strongly Agree	3	.8
	Total	370	100.0

4. Disaster is pure natural phenomenon.	Strongly disagree	3	.8
	Disagree	15	4.1
	Neutral	49	13.2
	Agree	103	27.8
	Strongly Agree	200	54.1
	Total	370	100.0
5. I know how to behave during a disaster in crowded places (shopping centers, schools, public transport, social activity areas, etc.).	Strongly disagree	227	61.4
	Disagree	58	15.7
	Neutral	49	13.2
	Agree	24	6.5
	Strongly Agree	12	3.2
	Total	370	100.0
6. The risk of experiencing a disaster badly affected my mental health.	Strongly disagree	19	5.1
	Disagree	35	9.5
	Neutral	76	20.5
	Agree	115	31.1
	Strongly Agree	125	33.8
	Total	370	100.0
7. It makes me uneasy that necessary measures are not taken against a potential disaster.	Strongly disagree	12	3.2
	Disagree	25	6.8
	Neutral	92	24.9
	Agree	110	29.7
	Strongly Agree	131	35.4
	Total	370	100.0
4. Practice Towards Disaster Risk Reduction			
1. I know how to reduce and/or eliminate the risk factors related to disasters.	Yes	23	6.2
	Somehow	62	16.8
	No	285	77.0
	Total	370	100.0
2. I know what the non-structural risk factors are at home/dorm I live in.	Yes	9	2.4
	Somehow	70	18.9
	No	291	78.6
	Total	370	100.0
3. Being in crowded places (shopping centers, schools, public transport, social activity areas, etc.) worries me during a disaster.	Yes	125	33.8
	Somehow	63	17.0
	No	182	49.2
	Total	370	100.0
4. I back up my personal information and documents in case of exposure to a disaster.	Somehow	37	10.0
	No	333	90.0
	Total	370	100.0
5. We prepared family disaster plan against a possible disaster.	Yes	22	5.9
	Somehow	10	2.7
	No	338	91.4
	Total	370	100.0
6. I have a disaster and emergency bag.	Yes	10	2.7
	Somehow	23	6.2
	No	337	91.1
	Total	370	100.0
7. We took individual measures, such as fire extinguishers, at home where I live with my family.	Yes	4	1.1
	Somehow	6	1.6
	No	360	97.3
	Total	370	100.0
8. I have the required knowledge and training to protect myself during disasters.	Yes	22	5.9
	Somehow	28	7.6
	No	320	86.5
	Total	370	100.0
9. I can communicate correctly and accurately in case of an emergency.	Yes	40	10.8
	Somehow	17	4.6
	No	313	84.6
	Total	370	100.0
5. Beliefs About Disaster Risk Reduction			
1. Natural disasters are the divine act.	Strongly disagree	6	1.6
	Disagree	3	.8
	Neutral	12	3.2
	Agree	89	24.1
	Strongly Agree	260	70.3
	Total	370	100.0

2. Natural disasters are the result of global warming.	Strongly disagree	17	4.6
	Disagree	19	5.1
	Neutral	66	17.8
	Agree	123	33.2
	Strongly Agree	145	39.2
	Total	370	100.0
3. Natural disaster is punishment of human sins.	Disagree	9	2.4
	Neutral	50	13.5
	Agree	87	23.5
	Strongly Agree	224	60.5
	Total	370	100.0
4. Natural disaster losses are increase due to personal mismanagement.	Strongly disagree	165	44.6
	Disagree	62	16.8
	Neutral	79	21.4
	Agree	36	9.7
	Strongly Agree	28	7.6
	Total	370	100.0
5. Natural disaster losses are increased due to poor governance.	Strongly disagree	114	30.8
	Disagree	34	9.2
	Neutral	46	12.4
	Agree	85	23.0
	Strongly Agree	91	24.6
	Total	370	100.0
6. Natural disaster losses are human luck.	Strongly disagree	29	7.8
	Disagree	33	8.9
	Neutral	49	13.2
	Agree	84	22.7
	Strongly Agree	175	47.3
	Total	370	100.0
7. The losses from natural disaster are result of lack of pre planning and preparedness.	Strongly disagree	86	23.2
	Disagree	22	5.9
	Neutral	80	21.6
	Agree	72	19.5
	Strongly Agree	110	29.7
	Total	370	100.0
8. If fortune favors us, we remain impervious to disaster's harm.	Strongly disagree	30	8.1
	Disagree	20	5.4
	Neutral	43	11.6
	Agree	99	26.8
	Strongly Agree	178	48.1
	Total	370	100.0
9. Climate change is a myth.	Strongly disagree	9	2.4
	Disagree	31	8.4
	Neutral	49	13.2
	Agree	116	31.4
	Strongly Agree	165	44.6
	Total	370	100.0
10. Only God and luck can save our lives and losses.	Neutral	3	.8
	Agree	55	14.9
	Strongly Agree	312	84.3
	Total	370	100.0
11. We are totally helpless during disasters.	Strongly disagree	11	3.0
	Disagree	17	4.6
	Neutral	37	10.0
	Agree	97	26.2
	Strongly Agree	208	56.2
	Total	370	100.0

9. Discussion

The investigation of disaster risk reduction through knowledge, attitude, practice and belief will build actively resilient, proactive, safer and effective management during and before disaster. The result of study revealed that, majority of population don't have basic knowledge about disaster preparedness. As mentioned, four important factors knowledge, attitude, practice and beliefs towards disaster risk reduction approach among flood affected population investigated. In rural culture males are decision makers about taken any measure against emergency situation. Therefore, 74.1% male participants are ideally match for study. Five questions were asked from participants about household's vulnerability status. The result of study revealed that, 78.6% population households badly affected. It shows that, respondents have bad experience of disaster. In this way, knowledge is basic determinant to shape any mindset. Eight questions were asked about disaster risk reduction knowledge. The findings of study show that, 74.6% population are very unfamiliar about pre

disaster preparedness. Same way, 74.1% are very unfamiliar about climate change. Further, 85.7% peoples are very unfamiliar from disaster risk reduction term. Moreover, 87.6% never attended any disaster risk reduction training in whole life. It shows that peoples don't have basic knowledge about disaster risk reduction approaches. Secondly, attitude towards disaster risk reduction were investigated. Total seven questions were asked. The findings of study show that, 67.6% are not prepared for a potential disaster. Further, 54.1% peoples believe that, disaster is pure natural phenomenon. Further, majority of participants 61.4% don't have basic knowledge about how to behave during a disaster in crowded places (shopping centers, schools, public transport, social activity areas. Mental health also affected 33.8% during disaster.

Thirdly, practices are real application of knowledge and attitude. Total 9 question were asked. The result of study revealed that, majority of peoples are not involved any type of disaster preparedness activities. The descriptive statistics shows that, 77.0% peoples don't know how to reduce and/or eliminate the risk factors related to disasters. In this way, 90.0% peoples don't have back up of personal information and documents in case of exposure to a disaster. Further, 91.4% population don't have prepared any family disaster plan against a possible disaster. Same way, 91.1% peoples don't have a disaster and emergency bag. Moreover, 84.6% peoples cannot communicate correctly and accurately in case of an emergency. The all indicators of practices are showing unsatisfactory results. Fourthly, beliefs about natural disaster are important factor. Total 11 question were asked. The findings of study indicate that peoples firmly believe on religious, social, cultural and psychological beliefs. In this relation, 70.3% peoples strongly believe that, natural disasters are the divine act. In this way, 60.5% believe that, natural disaster is punishment of human sins. Further, 47.3% believe that, natural disaster losses are human luck. Moreover, 48.1% believe that, if fortune favors us, we remain impervious to disaster's harm. And 44.6% believe that, climate change is myth only. Majority of participants believe that, Only God and luck can save our lives and losses. All items' results indicate that, strong beliefs discourage disaster risk reduction efforts. Current study also supports the result of previous studies (Ronan et al., 2015; Weichselgartner, & Pigeon, 2015; Perry & Lindell; 2003; Weichselgartner, & Pigeon, 2015; Scot & Few, 2016 Lee at al., 2019).

Therefore, disaster risk reduction is very important strategy due to several reasons. Life of affected population can protect through implementation of proper policies. Disaster risk reduction can minimize losses and help in sustainable development. Such type of efforts can reduce financial and economic losses. Disaster risk reduction is minimizing the impact of climate change and global warming. It will help to build resilient communities.

10. Conclusion

Disaster risk reduction approaches are closely associated with sustainable development goals. The findings of study suggests that, knowledge, attitude, practice and belief are very important factor. lack of knowledge increases the losses. Lack of positive attitude towards disaster risk reduction approaches multiplies the impact. Lack of practices towards disaster risk reduction approaches increases the level of damages. Beliefs about disaster discourages the mitigation efforts. Therefore, awareness and education are required on macro level. Trainings and education will help in capacity building of local communities. Trainings strengthens the capacity of local communities against disasters. Education and awareness about risk mapping, risk assessment, risk measurement are needed. Community collaboration and engagements are essential step towards risk minimization. Community resilience mind set development required. Early warning systems will result positively. Empowering of vulnerable groups mitigate the risk. It is necessary to promote safety and proactive culture among communities. Due to cultural and religious beliefs need of disaster risk reduction approaches culturally rooted.

Declaration of Interest

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