

THE ROLE OF COPING CAPACITIES IN DISASTER PERSPECTIVE: A CASE OF PAKISTAN FLASH FLOODS, 2010

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Abstract: This paper has explored current literature for developing HRD dimension, to reduce natural hazard transformation to human disaster. Systematic literature review and expert opinion has been conducted. Quantitative data is collected from disaster databases. Discussion revealed that historical, religious and structural root causes, complimented by dynamic societal and institutional imbalances, combined with unsafe physical locations, limits the coping mechanisms of a society against natural and human hazards resulting in vulnerability. Lacking of HRD attributes like credibility, competence and expertise, are responsible for vulnerability progression. The conclusion proposes a framework for assessing HRD Coping Capacity Gaps. The paper is significant to policy makers, researchers and academicians.

Keywords: Disaster Management, Disaster Transformation, Human Resource Development, HRD Coping Capacity Gaps, Vulnerability.

INTRODUCTION

The striking recurrences of shattering events during the first decade of the twenty first century have resulted in the realization of the importance of Disaster Management (DM) round the globe. These events included the Japanese Tsunami, disastrous Flash Floods (FF) in Pakistan, earthquake

(EQ) in Haiti, Nargis Cyclone in Myanmar, EQ in Pakistan, Hurricane Katrina (HK) Cyclone in United States of America (USA), and similarly the destructive events of tsunami. The FF disaster of Pakistan in 2010 was a calamity of its kind, lasted for two months, destroyed one third of Pakistan, affected 25 Millions people and caused more than US\$18 Billions economic losses. The instant damages were colossal but exponential increase in human casualties, infrastructural losses and economic degradation is very alarming.

The paper aims to present an explanation of the Disaster Transformation (DT) phenomenon, after 2010 FF in Pakistan. The HRD Coping Capacity Gaps (HRDCCGs) and institutional dimensions of DM are studied thus explained the HRD approach. The paper will present an overview of the topic, followed by a brief comparative debate on the existing facts and figures about natural disasters and transformation of a natural hazard to a disaster. It is concluded by presenting a model, based on HRDCCGs, responsible for DT in addition to the institutional lapses. Generally, a disaster is considered as a severe disturbance of the natural environment, leading to disruption in societal functions, resulting in mass human casualties, environmental disparities and infrastructural displacements. The situation gets worsened when

societies are unable to do rescue, relief and recovery through its limited resources. Specifically, a natural disaster is an environmental damage due to prevalent ecological hazards, which put forth its effects in tangible as well as intangible shape by devastating the resources and threatening the function and safety of the society as a whole.

Apart from large number of casualties and damage to the infrastructure and social harms; the psychological damage is rather more alarming, with psychopathological problems like depression, nervousness, anxiety and the Post Traumatic Stress Disorder (PTSD). The prevalence of PTSD during tsunami and floods in Asia Pacific region has been explored by different researchers (Badi'ah, Sulaiman, Rohaya, Zaidi, & Rohailina, 2009; Piyasil, et al., 2008; Subramaniam, Ying, Ghazali, Sinniah, & Mahadevan, 2009; Vogel & Vernberg, 1993). Figure No. 1 is providing an insight in disaster trends of last 110 years, showing an increasing trend in No. of affected people. The No. of natural disasters is also increasing with a sudden decrease in the last eight year. The No. of people killed in disasters is the only indicator which is declining.

BACKGROUND

Disasters are deeply rooted in the topographic, geographic, social structures and geo-strategic location of a country. This fact has been well established by the work of current and previous researchers (Blaikie, Cannon, Davis, & Wisner, 1994; Kelman, 2010; Mustafa & Wrathall, 2011; Wisner, Gaillard, & Kelman, 2011).

Pakistan has a land mass of 796, 095 sq km and a population of 180 Millions people. It shared borders with India, China, Iran and Afghanistan and a long coast of Arabian Sea. Pakistan is located at latitude 24 and 37 north and longitude 62 and 75 east, on Indo-Australian tectonic plate that is moving towards north, readily colliding with Eurasian tectonic plate, having more tendency to create an earthquake in the region (Bendick, Bilham, Khan, & Khan, 2007). Pakistan has faced wide casualties in Floods, Earthquakes, Droughts and Cyclones since 1947. No. of people killed in natural disasters is 344,548 while No. of people affected exceeds 74,678,790 (Em-Dat, 2011).

The Himalayan range in Pakistan, receives a rainfall of 760-1270 mm and land areas receive 200 mm. Pakistan is currently receiving an annual flow of 136 Millions Acre Feet (MAF) of water flow, but unfortunately 15 MAF (only 13%) is stored for irrigation and power generation purposes (WAPDA, 2010). Main vulnerability sources are: poor quality of construction, fragile natural environment, poor livestock management and agriculture practices,

weak early warning and forecasting systems, poverty, lack of awareness, education and communication infrastructure with rural outreach (NDMA, 2007).

Flooding is common phenomenon in Pakistan as it have 56% portion of Indus river basin, covering approximately 70% of the country's area (IUCN, 2005). Fourteen major floods have hit the country, since 1947. Floods hit Punjab, Sindh and Balochistan after affecting the hilly areas of Khyber Pakhtunkhwa (KPK), and northern areas. Peshawar, Charsadda, Mardan and Nowshera Districts of KPK are exposed to the River Kabul flooding. Cloud burst FF has also been experienced at Lahore (1996), Rawalpindi, Islamabad and Jhelum. Dam bursts is also a cause of Floods in Pakistan like the flash floods (2005 and 2010). Large metropolitan cities like Karachi, Lahore and Rawalpindi are also vulnerable to floods due to blockages in sewerage and drainage systems (GoP, 2007). The current FF disaster has caused an overall \$18 billion dollars loss, which is 7 % of the GDP. Total 3 Millions household (HH) has been reported affected out of which 1.9 Millions are severely affected, according to latest reports resulted after the last assessments in Jan-March 2011 (Polastro, Nagrah, Steen, & Zafar, 2011).

Flash Floods of Pakistan, 2010

On July 28, 2010, the FF hit Pakistan when severe rainfalls deluge over the hills of Karakorum in Northwest of Pakistan. The meteorologists termed this as an 'Omega Constellation' in which the intensity of the rains is beyond the known history of monsoonal rains. These omega constellations caused mega FFs in river Swat and Kabul originating from the hill ranges in northern Pakistan, followed by land sliding. Continuous rains have followed this phenomenon in all parts of Pakistan, adding to the intensity of FF that moved from northern districts of Swat, Dir and Chitral to central KPK. Severely damaging the plain areas of District Charsadda (DC), and Nowshera. The two rivers combined with River Indus and crossed a threshold of 1.5 Millions cusecs at Attock. The hazardous shocks have multiplied when India has opened the flood water in violation of Indus Basin Water Treaty, 1960. Punjab province has been hit from two sides, from North and West by the mighty Indus and from east by Rivers Ravi, Satluj, Bias and Jehlum from India. FF took almost 60 days to reach Arabian Sea (Geiser & Suleri, 2010; NDMA, 2011).

The direct damage of the FF is expanded to a population of more than 25 Millions people living on cropped areas of 2.25 Millions Hectares, in seventy eight districts of six federating units of Pakistan. The terrible nature of the damage can be realised from the piece of evidence that NDMA, 1985 dead and 2946 injured, in September 2010.

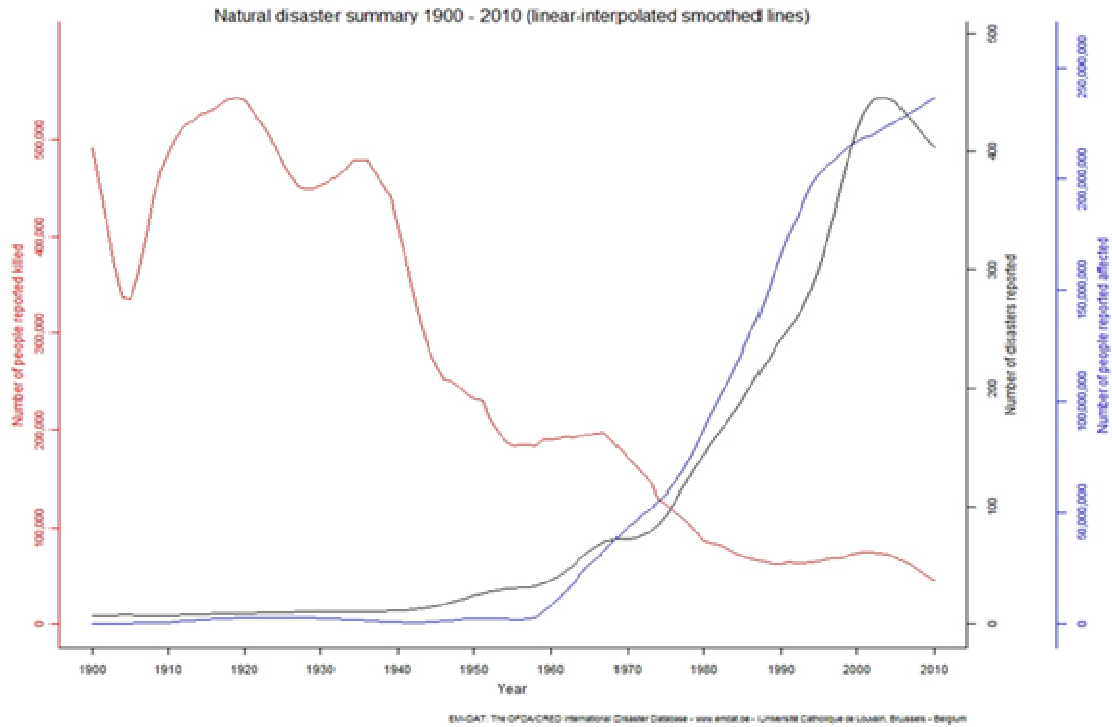


Figure 1: Summary of Disasters (1900-2010)
 Source: www.emdat.be

Table 1: Data on Flash Floods about Pakistan and its Neighbouring countries

Location	No. of floods	No. of Deaths	Average	Damage (000 US\$)	Average	No. of Affectees	Average
Pakistan	13	2,994	230	10,073,118	175,608	1,984,0556	859,093
India	22	7,419	337	23,431,026	1,065,047	416,200	18,918
China	20	2,099	105	89,073,073	4,453,654	4,493,090	224,655
Iran	14	2,689	192	1,291,066	92,219	253,700	18,121
Afghanistan	15	838	56	37,865	2524	4000	267

Source: International Database for Disasters (EM-DAT: The OFDA/CRED)

Table 2: Comparative Statement of Mega Disasters

Name of Disaster / Damage	Pakistan Flood July 2010	Earth quake Pakistan Oct 2005	Katrina Cyclone USA Aug 2005	Nargis Cyclone Myanmar May 2008	Tsunami Indian Ocean Basin Dec 2004	Haiti Earth quake Jan 2010
Population	<u>20,251,550</u>	<u>3,500,000</u>	500,000	2,420,000	2,273,723	3,200,000
Area KM ²	<u>132,000</u>	<u>30,000</u>	N.A.	23,500	N.A.	13,226
Deaths	1985	73,338	1,836	84,537	<u>238,000</u>	230,000
Injured	2,946	128,309	N.A.	19,359	125,000	<u>300,000</u>
Household	<u>30,00,000</u>	<u>600,152</u>	200,000	450,000	N.A.	250,000

Sources: Post Nargis Joint Assessment Report, prepared by ASEAN and NDMA Reports.

Table 3: Assistance by International Community

Type of Grant (US \$ Millions)	Commitments in Pipeline	Disbursed
Cash Grants	1619	476
Soft Loans	243.00	0.00
In-kind	540	185
Total	2402	661
Grand Total of Commitments and Disbursements	<u>3063</u>	
Implementing Agency	2361 UN/INGOS	702 GoP

Source: Ministry of Economic Affairs (MEA), Government of Pakistan as on 08/01/2011

The exponential growth in statistics is evident as initially 1.88 Millions household were reported damaged causing 10.51 Millions people displaced but later 3 Millions HH were reported, in March 2011 (NDMA, 2011).

Pakistan is facing an increasing trend in the number of total affectees for the last four decades. The major floods has effected less than 5 Millions people in 1973, effected 5.7 Millions people in 1976, 10 Millions in 1992, 8 Millions in 2005, but in 2010 (July to Sept) about 25 Millions people (15 % of Pakistan Population) have been effected, among which nine Millions were children. The breach of Indus Basin Treaty by India, the lack of alarming system despite having information about FF flow, the technical lapses in preparedness and breaches of small dams and bunds by the local landlords are some of the eye-opening factors, raising questions about the disaster progression and even its origin, whether it was due to a natural environmental hazard or a human failure. The effects are still multiplying even after one year has passed after the disaster (IFRC, 2010).

A comparative data on FF in Pakistan and its bordering countries has been shown in Table No. 1. It shows that during the period (1900-2011) less number of FF has hit Pakistan as compared to India, China, Iran and Afghanistan. Pakistan is at the top in No. of average affectees per event. This exponential spread is questioning the effectiveness of DM interventions in Pakistan; though it is second after India regarding average deaths and third in average financial losses after both China and India.

Table No. 02 has presented a comparison of the 2010 FF and mega disasters in the world, since 2004. FF has relatively affected more population, area and household damaged. The second most damaging disaster was the heart-rending and devastating EQ in Oct 2005; shattering five districts of AJK and KPK in Pakistan. Research reports have estimated 73,000 deaths and 3.5 Millions homeless as 400,000 homes were destroyed (Ozsoy & Nelson, 2006). Tsunami and Haiti EQ has leading No. of deaths and injuries as their intensity and occurrence was unprecedented, unlike FF in Pakistan. (IFRC, 2010; Morin, et al., 2008; Mufti, 2010; NDMA, 2011; Ozsoy & Nelson, 2006; PAHO/WHO, 2010).

The Credibility Deficit

FF have badly affected Pakistani economy and left question marks on its agriculture based economic development, toppling down vast cropping areas and destroyed livelihoods, leading to higher fuel and food prices. Pakistan has already been listed in top six countries having highest food dependency (Moore & Stanford, 2010). United Nations (UN) have urged the

world to respond quickly, still the cumulative aid from all sources, did not seem to be sufficient.

Table No. 3 shows that commitments from International community are US\$ 3063 Millions, but ironically total disbursements are only 22% means US \$ 661 Millions. Government of Pakistan (GoP) is also failing in resource mobilization. The International community has committed less than one fourth of total commitments, directly to GoP as an implementation partner. This comprised to only US \$702 Millions (23%) and the rest of 77% resources will be given to NGOs. This is raising questions about the credibility of GoP DM interventions. The active media and civil society is blaming the government for a credibility deficit; therefore philanthropy from within Pakistan is also deviated away from GoP (Geiser & Suleri, 2010; GoP, 2011; UNIFEM, 2010).

The scrambling economy is near to collapse, despite commitments of foreign aid. The damage is gaining magnitude, as the economy was already paying high price of US \$ 68 Billions for an undeclared foreign war against Militants called "Taliban". This war has so far caused 35000 deaths during military operations, suicide bombing by terrorists, and US invasions in terms of drones, air-strikes and land attacks. Fuel and energy crisis is at the worst-ever position in the history of Pakistan. Internal displacement of the five million war affected communities in the north and south of KPK province has multiplied and worsened the already expanding social, political and economic crisis (KPK, 2011; Mufti, 2010; WFP, 2009).

The credibility deficit (CD) is causing a delay in relief and rehabilitation process, undermining the GoP capabilities to rescue, relief and safe return of the affectees; reducing the pressure of displaced population on safe but populous places. Capacity minimization of GoP is also evident in rebuilding the infrastructure and rehabilitating livestock, agriculture and other sectors of the economy. The trust gap between GoP and the funding agencies is a troublesome fact. This is weakening the GoP's capacity to meet other challenges like poverty, recession, inflation, high scale of unemployment and war on terror. All these factors are counting towards multiplying the disaster aftershocks. Furthermore, the transparency international has awarded a very low ranking to Pakistan. It has ranked Pakistan as 143rd out of 178 countries with just 2.3/10 points on Corruption Perception Index (CPI), 2010, declaring it a highly corrupt country. This is also pointing towards the same problem of losing credibility (Mufti, 2010; TI, 2010).

Pandey and Okazaki (2005) mentioned the multidimensionality of DM from the perspective of dreadful environmental conditions, and human security. This requires community engagement at pre and post disaster phases. Pakistan seriously lacks human and physical resources for effective CBDM. The role of NGOs participating actively in DM becomes prominent due to the questioned credibility of the government. The prevailing capacity and the capacity building needs of the Human Resource (HR) of NGOs needs to be addressed identified and explored more (Azam, 2005; Azam, et al., 2009; Ibem, 2011; Jahangiri, Izadkhah, & Tabibi, 2011).

STATEMENT OF THE PROBLEM

The above discussion has provided a brief insight on increasing trends of disasters in last decade, the associated human deaths, physical and psychological casualties, infrastructural economic and financial losses. Figure 2 is showing that some parts of world are more hit by natural disasters, including less developed countries of Asia, Africa and the South America. The marginalized people of these continents are the hard hit people with severe socio-economic and psycho-physical impacts (Bankoff, 2003; DerHeide, 2000; Diagne, 2007; Ibem, 2011; Jahangiri, et al., 2011; Wisner, Blaikie, Cannon, & Davis, 2003).

Table No. 4 has presented a summary of the deaths, economic damage and total number of affectees due to the FF. FF occurred in Asia has acceded the collective total of FF in world, over last 111 years. Asia is on the top as far as the economic losses and total numbers of affectees are concerned and second after Americas in number of deaths by the FF; though Europe has recorded more affectees per event.

This is an eye-opening fact that should have grabbed the interest of researchers to conduct more studies on Asia, but unfortunately most of the scholarly and empirical researches on the FF have been conducted in Europe and America since these continents has abundant resources as compared to Asia. Among that few studies very rare studies have been found on the relationship of HRD Coping Capacity Gaps and vulnerability, for reducing DT and improving the DM. The multiplying physical, socio-economic and psychological damage of the FF, deviating flux of funding from governmental agencies to NGOs, the criticism on statutory organizations' and on the governance issues of the GoP has resulted in an impression of lacking in the credibility and trust of the local communities and the donors regarding the DM effectiveness of GoP. Therefore the role of GoP,

NGOs and other contributing relief agencies, participating in relief and post DM, needs to be studied and areas for improvement needs to be identified, for reduced disaster transformation.

The declaration of the decade of 1990s as the International Decade for Natural Disaster Reduction and Hyogo Declaration 2005, were considered to be milestones regarding world focus on reducing the impact of natural disasters. UN has designated a wide range of agencies to deal with DM. This apparent UN focus seems to be quite solid but facts about increasing disaster trends are highly alarming.

This paper focus upon the problem of ineffectiveness regarding DM interventions, resulting in transformation from natural to human disaster. The assessment of the possible factors for the disaster transformation will include the HRD capacity issues like questioned credibility and incompetent human resources with low expertise levels. The factors of vulnerability include ideologies, social and economic histories, wars and conflicts on unresolved water issues, changing human demographics and geographies, physical exposure to natural hazards, low community participation, lack of infrastructure, and governance issues. These vulnerability factors combined with problems in 'political will' can cause a delay in relief, rehabilitation and reconstruction, resulting in deepening the said transformation.

RESEARCH PURPOSE

The purpose of this paper is to conduct an analysis of the DM practices of Pakistan in the FF 2010 perspective. It will explain the background social factors undermining DM effectiveness, resulting in DT. This will include an analysis of the DT, through ascertaining a new theoretical framework of HRDCCGs as implicit and explicit causes of the said transformation. It also aims to ascertain to bridge the HRDCCGs of the GoP, NGOs, IGOs, INGOs and other relief agencies, working in direct contact with communities that are effected from extreme hazardous events.

RESEARCH OBJECTIVES

In order to address the above stated research problem and purpose, the paper entails to review the literature under the following research objectives: (a) To study the transformation of a natural hazard in to a disaster. (b) To analyse the DM practices for explaining DT in terms of HRDCCGs. (c) To devise a framework that can assess the credibility, competence and expertise levels of the front-line managers for effective implementation of DM interventions.

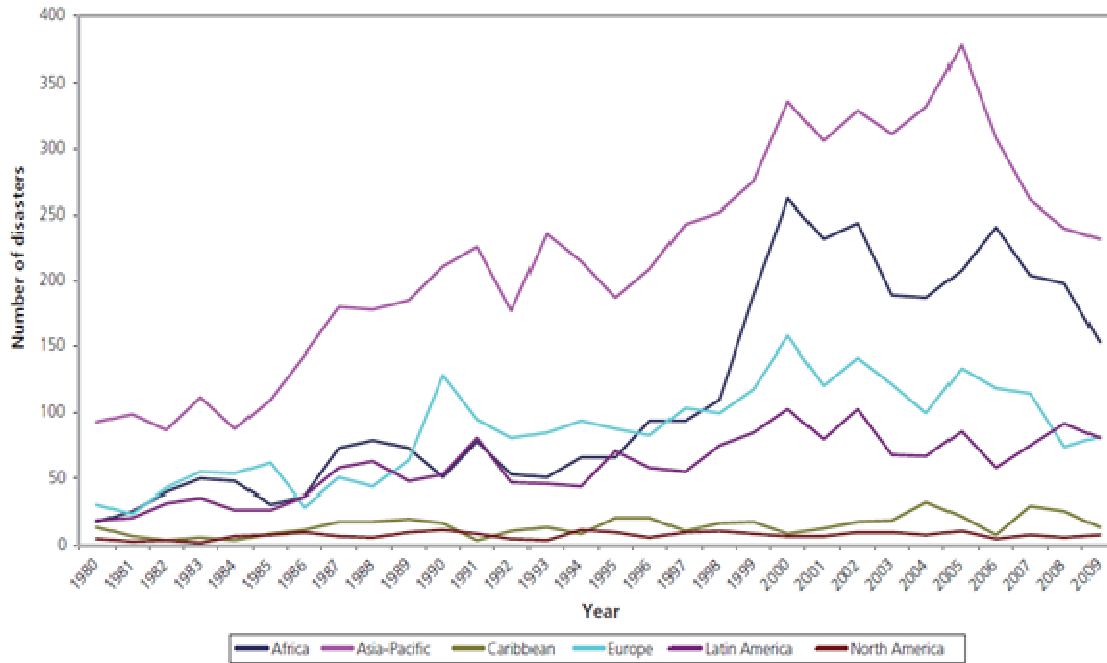


Figure 2: Parts of the world hit by natural disasters

Source: International Database for Disasters (EM-DAT, OFDA/CRED and UNESCAP)

Table 4: Data on Flash Floods – Intercontinental Comparison (1900-2011)

Location	No. of floods	No. of Deaths	Average	Damage (000 US\$)	Average	No. of Affectees	Average
Africa	84	2,766	33	2,236,544	26,626	457,086	5,442
Americas	62	32,398	523	2,758,310	44,489	4,839,870	78,062
Europe	45	1,629	36	535,689	11,904	14,471,710	321,594
Oceania	18	90	5	36,939	2,052	1,892,100	105,117
Asia	255	26,171	103	15,85,35,058	6,21,706	26,179,212	102,664

Source: International Database for Disasters (EM-DAT: The OFDA/CRED)

Table 5: Description of Sources for Systematic Review of Literature

S #	Source	Number of Items	Percentage of sources
1	Journal Articles	38	43
2	Books	15	17
3	Book Sections	5	6
4	Electronic Articles	9	10
5	Reports	9	10
6	WebPages	6	7
7	Thesis	2	2.7
9	Online Databases	2	2.7
	Government Document	1	1.6
	Total	89	100

Table 6: List of Experts Contacted

S#	Name	Designation	Category
1.	Dr. Ben Wisner	40 years working on different social aspects of disasters and human geography.	Author of the PAR model and Editor of Impact Factor Journals
2.	Dr. Ilan Kelman	Director Disaster Research Unit, Bradford University, UK	Researcher and Academician
3.	Dr. Daanish Mutafta	Professor at Kings College London.	Professor and author of latest paper on FF disaster. Worked consistently on flood and water management in Pakistan.
4.	Mr. Irfan Mufti	Executive Director South Asian Participation, Pakistan	Practitioner, Socio-political activist and author of articles on FF and DM in Pakistan.
5.	Dr. Himayat ullah Khan	Professor at Institute of Development Studies, Agriculture University KPK, Pakistan.	Professor and author of papers on DM in Pakistan
6.	Mr. Ahmad Kamal	Member of National Disaster Management Authority, Pakistan.	Practitioner
7.	Dr. Magiswary Dorasamy	Associate Professor at Faculty of Management, Multi-Media University, Malaysia.	Author of articles on disaster preparedness in Malaysia.

Methods

The paper has used a dominantly qualitative approach complimented by quantitative, keeping in view the complex setting of FF disaster. Creswell (1998) explained that social science researchers' interpreting abilities, differentiated them from other researchers. Qualitative methods introduce much more uncertainty about the research methods. As the net data collected from the experiments and the surveys is replaced with the disjoint collection of accounts from the stakeholders. So instead of the logically organized data, qualitativists approach is more in-depth with a personal description of the phenomenon. According to Richards (2005) the qualitative data are the messy records. A researcher works extensively for the qualitative data because the question being asked does not clearly indicate what data you need to answer it.

Systematic Review of Literature

The paper will use both qualitative as well as quantitative data, keeping in view the diverse and dynamically changing nature of the issues under investigation. Systematic review has been conducted with help of citations from books, book sections, research papers and theses. Quantitative data sources are reports, electronic articles, and governmental documents, disaster databases and WebPages. Systematic review of literature has been used as a research methodology, by previous studies for DM in developing countries contexts like Iran and Pakistan (D. Alexander, 2003; Jahangiri, et al., 2011; Mustafa & Wrathall, 2011). The review done and the percentage of sources consulted are presented in Table No. 5. Most recent citations comprise 68% i.e. 60 out of 89 total citations from the year 2005 till date. 22 citations (25%) have been made from studies published in the post FF disaster period, in the years 2010 and 2011.

Expert Opinion

The expert opinion has been used for checking the validity of the model. The experts have been categorized as practitioners, socio-political activists, professors and authors of the books and research papers in the high impact journals. The selected experts are well known for their expertise in the concerned body of knowledge and practice. Agha (2009) has used expert opinion in the post EQ scenario for conducting a socio-political assessment of the disaster. The list of experts contacted through emails, is shown in Table No 6.

Discussion on Current DM and HRD Literature

The current uplift, density and frequency of disaster occurrences like 2011 Japan Tsunami, 2010 FF Pakistan, HK and Pakistan EQ 2005, have developed a

realization and interest of HRD researchers. Alexander (2000) has discussed the use of scenarios for training of emergency managers regarding managing, planning and coordinating in extreme emergency situations and evaluated the respective training curricula for capacity building programs. He has concluded the usefulness of scenario development for skill development in the areas of time management, cognitive conceptualization and mapping, mediation, managing diverse teams, and stressful decision making. He has also analysed this with respect to modelling, role plays, simulation, games, field work, case studies, interviews and diary use.

Gebbie and Qureshi (2002) identified Core Emergency Preparedness Competencies for Public Health Workers, including communicating information, maintaining partnerships, and response planning. They have discussed the aftermath of 9/11 and commented on damage reduction.

Alexander (2003) has presented principles for developing new standards, in an evaluative narration of literature content analysis of the prevailing standards in civil protection, disaster and emergency management. He has developed a prototype and discussed the instruments appropriateness in order to make the trainings more comparable and compatible internationally and for quality assurance.

O'Connor (2005) has conducted Delphi and cross sectionals surveys to evaluate the DM curricula for training and capacity building of the DM managers in USA. He has assessed the degree level programs of 1990s and presented a critique on these programs to make possible changes according to disaster requirements.

Harris (2006) has adopted participatory observations and non structured open ended interviews, to comment about recruitment and selection (R&S) dilemma created by INGOs in Sri Lanka at tsunami 2004. He observed an initial sudden boom in employment opportunities with high salaries, benefits and a rich experience of UN and other INGOs, but it caused a disaster within disaster as local NGOs were facing acute shortfall in the human capacities. Most people who joined INGOs were basically employees of local NGOs. He suggested that UN and INGOs have to revise their R&S and HRD practices, for sustainability of DM. INGOs should mould their strategies more aligned to the local norms and customs, even outsourcing the irrelevant functions to local agencies. Salaries need to be matched with local rates, the use of secondment is better for individual to learn and expose to UN & INGO environments and join back at their parent local NGOs. Finally INGOs were suggested to invest in personal development programs like higher education

support and tailor-made trainings and diplomas, instead of throwing their money in terms of high salaries.

Agha (2009) has conducted interviews with officials of NDMA Pakistan while conducting a study on socio-political causes of DT in EQ 2005 perspective. Similar studies were conducted to assess the competences of SOs in Mansehra and Lahore, Pakistan. These studies have used cross sectional surveys and the findings about gaps in the DM competencies (Azam, 2005; Azam, et al., 2009)

Germain (2009) has drawn attention to a range of fields where HRD have a significant role. Through an interpretive approach and case paper design, his paper underwent a document analysis of reports examining the DM response effectiveness of Hurricane Katrina. He identified basic premises, state of affairs, facts, and lessons learned. He has identified important HRD aspects for crisis and disaster preparedness, like, planning, training, teamwork, communication and resource coordination; resulting in reshaping organizational structures and knowledge dissemination mechanisms.

Husseini & Izadkhah (2010) has highlighted the crucial role of decision makers and emergency managers in reducing disaster transformation in EQs. They have used systematic review of literature as the main methodology and reviewed almost the major contributions in the last 30 years. Paper is focused on evaluating trainings for the emergency managers. The paper found that policy makers need to have knowledge of countries' topology and experience of emergency and disaster situations.

Disaster Transformation

How natural hazards transformed to disasters? And how post disaster damage increased exponentially with time? Do the developing countries have capable human and physical resources for effective DM? Whether communities have awareness and preparedness for optimum resource utilization.

The two most important disaster categories are disasters due to natural hazardous events and human instigated disasters (McBean, 2004) and (Abbott, 2009). A natural hazard is a logical consequence of disturbing a natural phenomenon resulting in environmental degradation. This lead to unprecedented physical events like tsunami, HK, EQ, FF and wild-fires become. These consequences are catastrophically hazardous because of human choices. If buildings are made in known river flows and don't foresight the historical over flow in the FF? If urban settlements and developments are made in a known EQ zone without approved EQ-resistance measures, then there is a question, who should be deemed responsible? (Hewitt, 1997; Kelman, 2010).

A disaster occurs firstly due to conflicts like wars, genocides and other ethnic, social and religious conflicts, secondly when a natural disaster is not properly dealt effectively with efficiency, speed and important factors like vulnerability of the affected communities and HRD capacity gaps of the rescuers. This may be due to a number of reasons ranging from outreach and governance issues to the issues of corruption, in-transparencies and dumping of the relief items. Pakistan is facing later dilemma of DT from natural hazards to disasters (ADRC, 2011; Em-Dat, 2011; Etkin, 1999).

Disaster Management Issues in Pakistan

Pakistan has been suffering from poor social, economic and political infrastructure since its inception. Such condition has led to mismanagement of every sector of Pakistan and has created ever green problems, which have never been solved, despite of meagre efforts done. The operations in times of disasters have been lead mainly by the Pakistan Army including Military, Air Force and Navy. Although a formal structure is already in place, named as the National Disaster Management Authority (NDMA), set up by the Government GoP, yet people witnessed that it was either Pakistan Army's personnel, or community self support, or religious parties, which have played a major role in DM. Some NGOs were also visible to put forth their efforts for the relief activities (Geiser & Suleri, 2010).

The Pakistani bureaucratic systems and governmental bodies also suffer from the dilemma of centralization. NDMA as a federally administered centralized body, situated in Islamabad and controlled directly from the Prime Minister's secretariat, cannot overcome the gap that exists between the provincial and federal governments. The gap is primarily due to use of multiple channels for getting job the done. The policies initiatives and orders are passed at federal level but are executed at local provincial level. Thus NDMA like bodies cannot understand and solves problems of disaster prone communities, which exists either in river or mountain ranges of Pakistan. Furthermore the purposely weakened local governmental structure can be of good use, if it is there in the real essence, but unfortunately no local elections have been held since 2005. Therefore, local bodies are controlled by administrators, and every chance of local communities' participation in any effort of Community Based Disaster Management (CBDM) is minimized, despite proven fact of community participation for sustainability. Studies at United States and Africa revealed same findings (Henstra, 2010; Ibem, 2011; NDMA, 2007; Steimann, 2003; Zaidi, 2005).

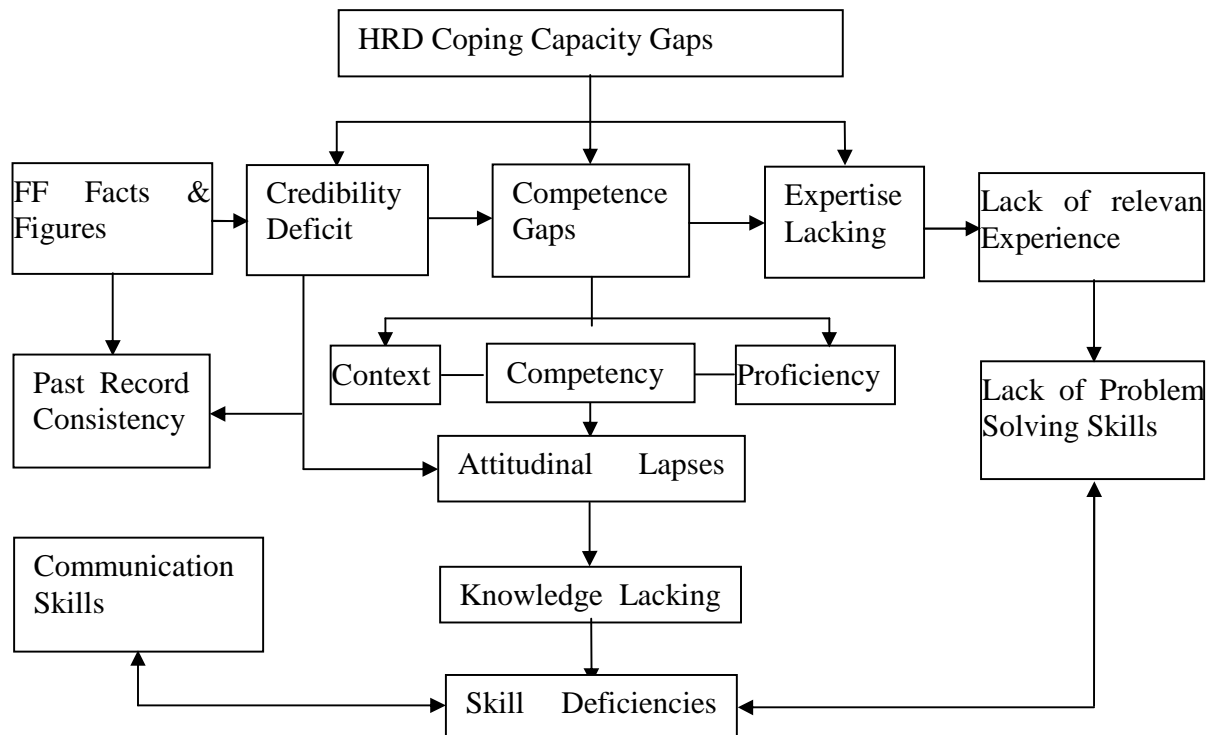


Figure 3: Model of HRD Coping Capacity Gaps

According to the most recent paper by Mustafa & Wrathal (2011) the FF 2010 in Pakistan was not an un-forecasted misfortune or a sudden calamitous catastrophe in the hydrology of the Indus basin. It was felt to be a logical consequence of a historic neglect of proper political and policy decisions on the national level. There is serious social resistance with political influence, on water use decisions. Keeping in view these root causes (RCs) and dynamic pressures (DPs) at the societal level and the fragile livelihoods and unsafe conditions (FLUCs) that are highly exposed to nature, are responsible for the transition of the Al-Nino or La-Nina effect or in other terms the omega constellations to turn in to a mega disaster; though the volume of the water showered in the Indus Basin by the FF 2010 was considered to be equivalent to the total area of the United Kingdom as stated by the September 2010 report of the United Nations Office for the Coordination of Humanitarian Affairs (UN-OCHA, 2010). He has feared a longer

term social political and economic crisis, and concerned seriously about the directionless prioritization of the water drainage and rehabilitating the farmlands in the food basket of Pakistan. He has pointed towards structural changes in the hydrological priorities from irrigation and power generation, towards flood DM and early warning systems complimented by training and development of the water managers and the rehabilitation workers or Social Organizers (SOs) to be more specific.

The Proposed Theoretical Framework for HRDCCGs

There has been detailed discussion on the facts and figures regarding FF 2010 disaster. It is obvious that the DM issues are mainly due to a CD leading towards gaps in the coping capacity of the HR and institutions involved. This paper has covered only the HR relevant gaps as they are of primary importance to the HRD researchers and practitioners,

as stated in the previous studies on HRD in disaster perspective. Attitude is a very important personality dimension for the competence of disaster workers. In disaster context, it's the passion, commitment and desire to serve the community that keep one motivated and willing to exert beyond his capacity. The regular or routine job factors can no more be the basic sources of motivation in catastrophic circumstances. Although empathy is a skill required for dealing with marginalized and affected communities, yet sympathy, personal drive and passion are the essence behind helping the people who are in desperate need (Husseini & Izadkhah, 2010). Therefore, these are the attitudinal lapses that constitute both CD and competence gaps leading towards lack of expertise.

Credibility

Previous researchers have found credibility as an important competency of HR for the competitive advantage of an organization (Long & Ismail, 2008). HR Professionals will be considered more credible to their peers and business managers, if they have a persistence track record of producing results and necessary skills to work collaboratively with others (Boselie & Paauwe, 2004). Similar findings have been revealed about credibility in a paper on personnel directors interpersonal relations with other directors on board. It reveals that credibility is dependent upon their established competence and social skills (Kelly & Gennard, 1996).

Competence

Researchers, academicians and practitioners are of the view that competency based HRD can make a profound change in the knowledge and practice of HRD and its impact on individual and organizational performance (Gray, Iles, & Watson, 2011; Wang & King, 2009). Cheetam & Chivers (2005) defined competence as performance effectiveness in a particular background or context at different proficiency levels. An employee competency has been defined as the potential to use specific sets of already possessed knowledge base, the skill-set, abilities and attitudes (KSAs) required to attain specific performance outcomes (Jacobs & Washington, 2001). The concept of competence is basically composed of the competencies, proficiencies and the context. Instead of going for competences, the recent studies concentrate on the modelling of specific competencies, but they missed the significant dimensions regarding the contexts and the proficiency levels for each competency (De-Coi, et al., 2007).

Competence focuses on what is expected of an employee in the workplace; comprising a set of attributes like KSAs. The KSAs determine what type

of training will improve competencies, leading to improved job performance. In an educational perspective Bloom (1956) termed the same attributes in three different domains known as Cognitive: mental skills (Knowledge), Affective: growth in feelings or emotional areas (Attitude), Psychomotor: manual or physical skills (Skills). Herling (2009) is of the view that competence is an employee's ability to do his job satisfactorily, without achieving optimum results or even ordinary; declaring it as a static and destination oriented concept. He is looking for something beyond competence, which should not be a destination but a journey in the quest of continuous improvement.

Expertise

Organizations like NGOs are gaining complexity, adaptability and dynamism as an open system guided by internal and external agendas, criteria, forces and changing social political and cultural environments. Those individual employees are gaining importance, who can adapt in these continuously changing challenges of the work settings. Swanson (Swanson, 1994) and McLagan (1997) argued that the KSA and performance requirements of changing a system are totally different from retaining the status-quo, so that the employees can enable and reshape the organization to gain more and more competitive advantage. Therefore, it is important to develop expertise as an ongoing process rather than merely a destination of competence. In the HRD and performance contexts, expertise is defined as the optimal level of a person expected or actual ability to perform within a specialized field (Swanson, 1994). The most recent definition of expertise revealed it as a displayed behaviour within a relevant specialized domain and consistently demonstrated actions of an individual that are both optimally efficient in execution and effective in their results (Herling, 2009). There is a variety of discussion on different stages of expertise throughout the personal and professional life of an employee; starting from a novice or beginner, gaining experience and proceeding towards an expert and master level, having more problem-solving orientation (Jacobs & Washington, 2001).

Although the discussion of a 'destination or journey' seems to be eye-catching, yet out of the scope of this paper, as DM needs something beyond the competence and expertise. So, for the purpose of this paper, we will be more interested in the attributes as well as the terminology itself. Experience and problem solving are the important attributes that the discussion of expertise has added in addition to KSAs.

Important HRD Attributes

Tracing back the literature on attributes of competence, credibility and expertise revealed that seven most important attributes have been the focus of continuous discussions for long. These attributes are attitudes (abilities), knowledge, skills, for competence and knowledge, experience and problem-solving for expertise, while credibility can be measured by consistency of track record and the social skills.

Attitudes

Attitudes are evaluative reaction and states of mind regarding an object. The reaction regarding the object is based on the person's expectations and beliefs. There are two theories to explain this phenomenon; the theory of reasoned action and the theory of planned behaviour. The first theory says that attitudes depend upon beliefs, interpretation of self concept and values that exhibit behaviour or the vice versa. It illustrates that people make decisions based on their attitude towards behaviours and the prevailing subjective norms of the society. As an extension to this, the theory of planned behaviour said that people have incomplete volition control on their behaviours (Ajzen, 1991; Baumgartner & Pieters, 2008). In a training context, HRD professionals are anxious to learn attitudes of employee in conjunction with the learning they have from trainings, their experiences and job performance.

Matthews, Priore, Acitelli, & Barnes-Farrell (2006) believed that there are a lot of factors that influence work related attitudes like the couples consisting of dual earners have diverse impact on emotions as well as professions, children and family. Other factors include the work environment that shape human attitude as a consequence of interface among individuals and the work-environment. This view has started discussions of personal alignment to the environment (Kristof-Brown, Zimmerman, & Johnson, 2005), but these discussions are slightly out of the scope of this paper.

Knowledge

The term Knowledge has been conceptually defined by the early Greek scholar 'Socrates' as a true belief with a responsibility and accountability; popularly known as the exhibited thought of a logically justified true conviction, but later on he by himself declared that this definition is not as valid as he claimed earlier (Plato & Jowett, 369 BC, 1999). Knowledge has since received many definitions like it has been termed to be, within the organizational domain and declared it as information that individuals of an organization possess (Randeree, 2006). It becomes information once it is articulated and presented in an

explicit form. It is termed as having an understanding and perception of its bearer (Laihonen, 2006), while it has been categorized as vibrant, objectively calculated, political, and relative in nature (Williams, 2006). In DM perspective the HR of the concerned organizations are required to have knowledge about the local needs, values and power system, and a good practical understanding of the concepts of hazard, disaster, vulnerability, marginalization, development, and sustainability.

Skills

Milligan (1998) was of the view that skills and competencies have pervasiveness in definition; though difficult to be differentiated. A skill is defined as ability, usually learned or acquired through training, sustained and refined through practice, to execute tasks and achieve required outcomes (Cowan, Norman, & Coopamah, 2005; Crouch, 2005).

Skills required before, during and after disaster are very unique but diverse and dynamic in nature. The important skills are communication on interpersonal, inter and intra-organizational level, skills for mass mobilization and capacity building of the communities, these communication skills. Other important skills include technical skills like report writing, budgeting, project conceptualization, management and implementation. As discussed earlier these communication skills are very important to establish credibility, besides having a solid and consistent track record. On the other hand lack of problem solving skills leads to lacking in expertise of dealing the dynamic and diverse disaster situations, despite having formal experience.

Experience

Expertise being dynamic and domain specific include two important attributes; experience and problem solving to the knowledge base of HRD. Experience is the basic constituent garnered from the theoretical development of expertise (Kuchinke, 1997; Slatter, 1990). Posner (1988) revealed that in order to gain expertise one must be at a higher level of knowledge, skilled in a specific domain, attitudinally sound and most importantly he have to spent at least five to ten years in observing the real-time practices. This argument was based on his paper of champion level chess players who had spend at least ten to twenty thousand hours in observing different chess positions.

Later on Bereiter & Scardamalia (1993) came up with the same findings while papering experts of different fields in their longitudinal studies; though they were unable to distinguish between those gaining expertise due to experience and those who don't. Thus expertise as a result of experience is dependent on the other four attributes and of-course

the fifth one that is problem solving which is intended to gain the capability of solving the problems of dynamic nature. In a disaster perspective, the people with more local experience are more likely to perform better, if provided with the relevant DM competencies.

Problem Solving

The basis of expertise and competence is the ability of problem solving. When it comes to apply the results of KSA and experience then problem solving is realized as a very in phenomenon. It's mainly attributed to this aspect as stated by cognitive psychologists like who revealed it as a non routine purposive and objective activity to achieve specific goals that doesn't focus on the problem but solutions; declaring it as a dynamic ingredient for grooming expertise and competence. DM requires this attribute more than other fields as the diversity of problems is very vast in range that needs people with strong personalities, commitment and diverse problem solving skills. This is the very decisive attribute to establish expertise of the DM workers (Bereiter & Scardamalia, 1993; Chi, Glaser, & Farr, 1988; Glaser, 1985)

CONCLUSION

This paper has been concluded by introducing and justifying the main research problem of DT and setting a direction of future research by developing a theoretical base for an HRD based FF DM model in Pakistani settings. An overview of the Pakistani DM mechanism has provided an insight in to how GoP is failing to take due care of the masses. This is raising the question of credibility that leads to further exploration of competence and expertise for reducing DT through sustainable DM. Communities need enhanced coping capacities through HRD interventions by NGOs and GoP.

RECOMMENDATIONS

This paper is of good use to the world of academia, it will provide solid bases for developing academic programs for the social and HRD aspects of DM, at the graduate and postgraduate level beside diplomas and short courses. DM practitioners in the public sector organizations like NDMA, it's provincial and district network and HRD professionals in the development, humanitarian, and services sectors of the developing countries can be benefited.

This paper has identified areas for further research in FF and other disasters, replication of the proposed HRCCG model, comparative reviews with other developing countries, psychological dimensions of human capacities in coping disasters and methodological developments in the contemporary

social science research in disasters and HRD. It is suggested to conduct further empirical studies complemented by quantitative data analysis.

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