



Disaster Prevention and Management

Learning from the past: Analysis of disaster management structures, policies and institutions in Pakistan

Abdur Rehman Cheema Abid Mehmood Muhammad Imran

Article information:

To cite this document:

Abdur Rehman Cheema Abid Mehmood Muhammad Imran , (2016),"Learning from the past", Disaster Prevention and Management, Vol. 25 Iss 4 pp. 449 - 463

Permanent link to this document:

<http://dx.doi.org/10.1108/DPM-10-2015-0243>

Downloaded on: 15 November 2016, At: 22:49 (PT)

References: this document contains references to 42 other documents.

The fulltext of this document has been downloaded 1023 times since 2016*

Users who downloaded this article also downloaded:

(2016),"Considering socio-cultural factors of disaster risk management", Disaster Prevention and Management: An International Journal, Vol. 25 Iss 4 pp. 464-477 <http://dx.doi.org/10.1108/DPM-03-2016-0055>

(2016),"DRR technology sharing and transfer through web-based platforms: Lessons learned from Korean studies", Disaster Prevention and Management: An International Journal, Vol. 25 Iss 4 pp. 430-448 <http://dx.doi.org/10.1108/DPM-05-2015-0097>

Access to this document was granted through an Emerald subscription provided by All users group

For Authors

If you would like to write for this, or any other Emerald publication, then please use our Emerald for Authors service information about how to choose which publication to write for and submission guidelines are available for all. Please visit www.emeraldinsight.com/authors for more information.

About Emerald www.emeraldinsight.com

Emerald is a global publisher linking research and practice to the benefit of society. The company manages a portfolio of more than 290 journals and over 2,350 books and book series volumes, as well as providing an extensive range of online products and additional customer resources and services.

Emerald is both COUNTER 4 and TRANSFER compliant. The organization is a partner of the Committee on Publication Ethics (COPE) and also works with Portico and the LOCKSS initiative for digital archive preservation.

*Related content and download information correct at time of download.

Learning from the past

Analysis of disaster management structures, policies and institutions in Pakistan

Analysis of
disaster
management
structures

449

Abdur Rehman Cheema
Rural Support Programmes Network, Islamabad, Pakistan
Abid Mehmood
*Sustainable Places Research Institute and School of Social Sciences,
Cardiff University, Cardiff, UK, and*
Muhammad Imran
*School of People, Environment and Planning,
Massey University, Palmerston North, New Zealand*

Received 17 October 2015

Revised 22 March 2016

6 April 2016

Accepted 7 April 2016

Abstract

Purpose – The purpose of this paper is to provide a historical analysis of the disaster management structure, policies and institutions in Pakistan between 1947 and 2005, and highlights the contemporary challenges in view of the learning from the past.

Design/methodology/approach – The paper uses a historic-integrative case study approach to disaster management and risk reduction policy, planning and practice. Qualitative data were collected through purposive sampling and a case study design was adopted. A broad range of actors was recruited as research participants. In total, 22 semi-structured in-depth interviews were conducted in relation to this study in six different districts of Pakistan to achieve insight into the role of different institutions and stakeholders.

Findings – Overall, the post-colonial flood-centric policy framework and fragmented responsibilities of different disaster management institutions show the lack of an effective institutional structure for disaster management and mitigation in Pakistan, particularly at the local level. Until the event of the 2005 earthquake, policies heavily relied on attaining immediate and short-term goals of response and relief while ignoring the long-term objectives of strategic planning for prevention and preparedness as well as capacity building and empowerment of local institutions and communities.

Practical implications – The analysis explains, in part, why disaster planning and management needs to be given due attention in the developing countries at different policy scales (from local to national) especially in the face of limited resources, and what measures should be taken to improve effectiveness at different phases of the disaster management cycle.

Originality/value – The paper advances the importance of a historical case study approach to disaster management and mitigation. The empirical work provides original research evidence about the approaches to dealing with disasters in Pakistan and thus enriches existing knowledge of disaster management policy and planning about the country.

Keywords Pakistan, Disaster management, Flood, Risk mitigation, Emergency planning, Disaster risk reduction, Civil society, Disaster preparedness

Paper type Research paper

© Abdur Rehman Cheema, Abid Mehmood and Muhammad Imran. Published by Emerald Group Publishing Limited. This paper is published under the Creative Commons Attribution (CC BY 3.0) licence. Anyone may reproduce, distribute, translate and create derivative works of this article (for both commercial and non-commercial purposes), subject to full attribution to the original publication and authors. The full terms of this licence may be seen at <http://creativecommons.org/licenses/by/3.0/legalcode>

Financial assistance from Higher Education Commission of Pakistan is greatly acknowledged. Also, the authors wish to thank two anonymous referees for their useful comments to improve this paper.



Disaster Prevention and
Management

Vol. 25 No. 4, 2016

pp. 449-463

Emerald Group Publishing Limited

0965-3562

DOI 10.1108/DPM-10-2015-0243

1. Introduction and background

Disaster management largely refers to the systematic organisation and management of institutional roles and responsibilities in dealing with emergencies (Quarantelli, 1988; Wisner *et al.*, 2004; UNISDR, 2009). This may involve actions, plans and arrangements organised before, during and after a disaster situation through coordination among different actors such as governmental and non-governmental organisations (NGOs), communities and the private sector (Quarantelli, 1997). These actions and arrangements are generally divided into four phases of a disaster management cycle, comprising of prevention/mitigation, preparedness, response and relief/recovery (Noji, 2005). Neal (1997) argues that these phases are not mutually exclusive as social, economic and environmental settings may not necessarily be homogenous across time and scale, and different actors, institutions, individuals and communities can be engaged within different phases of a disaster at the same time. Conceptually, it is also difficult to separate these phases as they may not be neatly distinguishable from each other (McEntire, 2007). These phases are used in this paper as an organising concept to highlight the role of different institutions and are not considered deterministically. Disaster management, therefore, is seen here as a complex and non-linear phenomenon that involves multiple processes of active coordination and collaboration between different actors and institutions to operationalise policies, strategies and skills to build capacities during all phases of the disaster management cycle in order to minimise the impacts of hazards, save lives, improve livelihoods and protect valuable assets and infrastructure. From experiences of large-scale disasters such as in New Orleans following Hurricane Katrina, many scholars emphasised the need to minimise bureaucracy and empower local institutions to manage potential hazards (Westley *et al.*, 2008). Similarly, in a study of local and indigenous institutions and networks in American Samoa, Rumbach and Foley (2014) argue that such institutions play a vital role in terms of emergency decision making, dividing roles and responsibilities, supporting vulnerable groups and providing communication links between internal and external actors. It is no surprise then that international support agencies acknowledge the value of community-based disaster preparedness as local communities and institutions are deemed the first to initiate rescue and relief efforts (International Federation of Red Cross and Red Crescent Societies, 2010). Such efforts are increasingly important to foster resilience and a capacity to withstand disaster events, as a part of reducing and managing risk.

In developing countries, there seems relatively less focus on risk reduction interventions (Kreft and Eckstein, 2013). This lack of concern is largely attributed to the seemingly unfavourable cost-benefit ratios between prevention and preparedness measures as compared with those of response and relief efforts (Mustafa, 2003). This leaves a serious gap in skills and capacity at different organisational levels to operationalise disaster risk management and reduction efforts (Ainuddin *et al.*, 2013).

The 2014 Global Climate Risk Index places Pakistan third among the countries most affected by extreme weather events in 2012 (Kreft and Eckstein, 2013). In terms of percentage of gross domestic product (GDP), Pakistan's losses from flooding in 2010 (5.8 per cent of GDP for 2009/2010) were relatively greater than those of Japan in the 2011 tsunami (4.6 per cent of GDP (National Disaster Management Authority, 2013)). Starting from the 2010 floods, which affected 20 million people, Pakistan has encountered flooding every year. With such regular recurrence, questions remain as to why disaster management is yet to receive due policy attention from any level of government (local, provincial or federal) in Pakistan? Why disaster management

policies, if made, do not fully deliver on the ground? and What are the structures, policies and institutions which expedite or impede the way to an effective disaster management system in the country?

To address these concerns, this paper uses systematic analysis to look at the functions of disaster management structures over a period of 50 years (1955-2005). This period is of particular importance because it reflects the evolution of disaster management policies, strategies, legislations and institutional frameworks as a remnant of the post-colonial era. The 7.6 magnitude earthquake in Northern Pakistan in October 2005 proved a defining moment in turning the attention of disaster management policy and planning in the country towards a wide range of natural and human induced hazards. One major step was the establishment of a National Disaster Management Authority (NDMA) and subsidiary provincial authorities in 2007. Much of the literature has been critical of post-2005 disaster management policies and legislation, often seen as knee-jerk reactions to the event (Ahmed, 2013). There is relatively little research that places pre-2005 practices and challenges into the context of their respective aftermaths (UNISDR, 2005; Khan, 2007; Atta-Ur-Rahman *et al.*, 2015). There is also a general lack of critical analysis of the working of the previous disaster management policies, processes and institutional structures. This paper addresses that lack and aims to reduce the knowledge gap by undertaking an in-depth systematic analysis of disaster management structures, policies and institutions. It does so by identifying and scrutinising the roles and responsibilities of some key actors and stakeholders in disaster management and the role of the respective institutions.

The next section introduces the historical case study design and approach used in the research. The section following that introduction starts by tracing the history of disaster management policy through a review of ten five-year developmental plans, from 1955 to 2010. Disaster management structures are analysed by reviewing the roles of various federal government ministries and provincial departments in the pre-2005 earthquake setting. The final section draws conclusions as to the key challenges facing disaster management in Pakistan.

2. Research design and approach

The research used a historical case study approach to disaster management and risk reduction policies, planning and practices, using both primary and secondary resources. A retrospective view of institutional history allowed an examination of the evolution of policies and institutions in a prospective manner, with considerations for path dependence and time order incorporated in explanation and analysis (Amenta, 2009). The historical perspective also provided a holistic view of transformative policies, programmes and institutions and their changing nature over a period of 50 years (1955-2005).

Besides documentary analysis of past policies, legislative frameworks and planning instruments, qualitative data were collected through purposive sampling; a case study design was adopted for this study. In consideration of the complexity of the disasters, a broad range of actors were recruited as research participants and interviewees: from the government (federal, provincial and district levels), military personnel, private sector (local entrepreneurs, contractors and national and international consultancy firms), academia, research institutes, independent field experts and local and national NGOs. The interviewees were selected based on their knowledge, experience, relevance and engagement within the disaster risk reduction (DRR) system at different scales (local, provincial, national and international). In total, 22 in-depth interviews were

conducted in relation to this research in six districts of Pakistan (Abbottabad, Hafizabad, Islamabad, Mardan, Muzaffarabad and Rawalpindi) which comprise a mix of urban, semi-urban and rural areas that have encountered disasters in the recent past.

3. Analysis of pre-2005 disaster management

Wisner *et al.* (2004) propose seven risk reduction objectives to be infused into disaster management policy and planning. These include: understanding and communicating the nature of hazards, vulnerabilities and capacities, analysing and assessing risks related to those factors; addressing the root causes of risks, building risk reduction into sustainable development, improving livelihood opportunities, disaster recovery and promoting a safety culture. Based on these criteria, the following analysis looks at the institutional mechanisms that were in practice until 2005. The subsequent discussion views these objectives within the framework of emergency planning measures for hazard prevention or mitigation, preparedness for hazards, responses to situations of emergency and relief or recovery from such situations.

After independence in 1947, a large amount of legislation and policies were taken for granted in the new nation as a colonial legacy, without adapting them to the new conditions due to the obvious lack of capacity, experience and resources (Mustafa, 2001). Contingency planning for natural hazards was no exception in this respect. Also, policies focused mainly on dealing with a single type of hazard – flooding, due to the very fact that it remained recurrent, affecting the largest number of people and wider inhabited areas and farmlands in the country. At that point, risk acceptance remained a norm (Mustafa and Wescoat, 1997) with limited or no concern for improving the livelihoods of the affected communities. Between 1947 and 2014, Pakistan suffered cumulative losses of US\$39 billion from 25 major flooding events (Guha-Sapir *et al.*, 2015).

Inspired by the centralised nationwide five-year planning in the communist states in the 1950s, Pakistan initiated its five-year national planning cycles based largely on economic growth and industrial development (Griffin, 1965). Development was seen as macroeconomic growth rather than the provision of basic services to people and protection of their lives and assets from hazards. Zahid Hussain, Chairman of the Planning Board, arguing in favour of the First Five Year Development Plan stated “All countries, democratic or authoritarian, have concentrated in the early stages of development on economic programmes. Social services, that is, education, health, housing, etc., are important and some of the main ultimate objectives of national policy. We shall, however, meet with frustration and defeat if we put social services before economic development. Agricultural, industrial, power, water and other development must receive higher priority for many years. This is the lesson which the experience of other countries teaches us and we can ignore it at our peril” (Planning Board of Pakistan, 1956). However, in subsequent years, economic planning began to acknowledge the neglect of social sectors (education, health and nutrition) asserting that “during the last four and a half decades, this approach produced its successes, including most notably, a GNP growth of over 6 per cent per annum [but] this success is widely viewed as somewhat unbalanced” (Sustainable Development Policy Institute, 1993). Therefore, an alternative approach with a focus on improving social indicators was emphasised in the eighth five year plan (1993-1998) (Sustainable Development Policy Institute, 1993).

With the large agricultural base of the country, flooding incidents were seen as a challenge for agricultural and economic growth. Regular flooding in East Pakistan resulted in the Calamities Act 1958, which set parameters for the conduct of the state in the events of natural hazards. The act concentrated on response and relief efforts to

help the affected communities, with no provisions for prevention or preparedness. As evident from Table I, ten successive five-year plans were produced over a period of 50 years (1955-2005), all of which continued to focus on technocratic and technical solutions to disaster. These mainly emphasised responsiveness to flooding in the river and canal systems, with little or no consideration for communities living in the affected areas. As a consequence, no changes or amendments were made in the Calamities Act 1958 and a crisis management style towards disasters remained dominant in the country. During this time, little focus was given to communicating risks, assessing social vulnerabilities and capacities, or promoting a cultural shift towards DRR and management (Mustafa and Wrathall, 2011; Wescoat *et al.*, 2000).

Five year plans	Disaster management policies, plans and major events
First 5-year plan 1955-1960	The National Calamities Act 1958 passed as a result of recurrent flooding in East Pakistan. Scope of the Act strictly limited to response and relief. The focus on counter-flooding measures did not include flash flooding; measures restricted to river floods only
Second 5-year plan 1960-1965	Increase in budget allocations for flood control measures
Third 5-year plan 1965-1970	Continued sole focus on river flooding control including adding measures for enhancement of flood protection to increase the area under cultivation
Fourth 5-year plan 1970-1975	Cyclone hit East Pakistan and an Emergency Relief Cell (ERC) established at federal level. Due to political crisis, government abandoned an elaborate flood control programme that was to be developed with technical support from the World Bank. Floods hit Pakistan in 1973 and 1976
No plan period 1971-1976	Due to the ongoing political crisis, government fell back on annual planning – not much planning implementation between 1971 and 1976. The National Calamities Act 1958 re-adopted as the West Pakistan Calamities Act, with focus on response and relief only
Fifth 5-year plan 1978-1983	Flood control policy further centralised with the establishment of the Federal Flood Commission in 1977. Role of provincial and district governments further reduced in local hazard mitigation planning
Sixth 5-year plan 1983-1988	Technocratic tendencies held with the extension of irrigation and drainage systems. A general absence of grassroots participation by the affected communities
Seventh 5-year plan 1988-1993	Structural measures such as building of additional storage capacity for floodwaters, and enhancing flood forecasting and flood warning system dominated the disaster policy horizon
Eighth 5-year plan 1993-1998	Focus on canal lining, remodelling and use of floodwater for land recharging. In addition, some non-structural measures such as promotion of water resources research in universities
Ninth 5-year plan 1998-2003	Flood control measures continued as in the previous plans. However, plan abandoned in the aftermath of 9/11 and Pakistan's new role in the "war on terror"
Medium Term Development Framework 2005-2010	Shift from flood-centred policy to a multi-hazard approach. UNDP Pakistan provided technical support and incorporated lessons learnt from the Boxing Day tsunami on 26 December 26 2004
Vision 2030	Poverty alleviation through control over natural hazards such as floods, droughts and introduction of agriculture insurance against drought (Planning Commission of Pakistan, 2007)

Source: Authors, based on five-year government plans (Planning Commission of Pakistan, 2010)

Table I.
Disaster
management policies
and related
major events

With an arid and temperate climate, Pakistan has a variety of microclimates in areas ranging from the Karakorum mountains in the north to the Thar Desert along the Arabian Sea in the south (Yu *et al.*, 2013). As a result, a large part of the country is often subject to monsoon rains, tropical storms, thunderstorms, heat waves and droughts (Cheema *et al.*, 2014). The country is located on an 850 kilometres long geological fault line, extending from the Makran Coast to Afghanistan (Lawrence and Yeats, 1979). The 1935 Quetta earthquake and many subsequent earthquakes of varying strength and destructive power between 1945 and 2013 occurred on this fault line. However, none of the strategic five-year plans took any clear notice of these regular catastrophic events. Most of the legislative and planning measures remained symbolic and ad hoc, with limited attention paid to sustainability objectives. The following sub-section looks at the pre-2005 institutional frameworks to help understand the role of different public organisations in disaster and risk management.

3.1 Institutional and management structures

Given the federal government's continued focus on flood prevention and control, the country developed a somewhat loosely organised and relatively inefficient command and control system for dealing with flood emergencies. Before 2005, there were about 27 different federal and provincial organisations that were supposedly involved in disaster response and relief management, with no clear demarcation of their roles and responsibilities at different phases of disaster management. In the absence of a central responsible authority, there was a general absence of coherent policy for understanding and forecasting hazards and risks, addressing the root causes and vulnerabilities, dealing comprehensively and systematically with emergencies, building institutional capacities and promoting a culture of safety and resourcefulness. Tables II and III summarise the roles of federal ministries and provincial (sub-national) departments in the pre-2005 disaster management structure, and institutional roles and responsibilities as identified from different reports, documents and interviews during the fieldwork.

Some of the above institutions had overlapping roles in multiple phases of disaster management. For example, the Communication and Works Department mainly worked at the relief phase with different tasks such as restoring affected roads, but it would also join the Army Engineers Corps in restoring critical infrastructure during the response phase of an emergency. These roles are listed in Table IV for some key institutions, especially those involved in flood management and control. The table gives a classification of institutional roles only in three phases – preparedness, response and relief, as there was a general absence of prevention measures and long-term rehabilitation in pre-2005 planning. Accordingly, there were only four federal ministries (Interior, Defence, Cabinet and Water and Power) involved in flood management. Ten government departments were supposed to be working at the response phase, including six at federal level and four at provincial level. The relief phase at the centre of policy interventions, involved 14 organisations including six at the federal and eight at the provincial level. There were 13 government organisations expected to prepare plans for flood-centric disasters, ten at the federal and three at the provincial level.

From the above classification of roles, it is noticeable that despite a number of government bodies being dedicated to flood control, it was the Armed Forces that dominated the scenes of flood response and relief. With a few exceptions, such as the Pakistan Meteorological Department and Flood Forecasting Division, the capacity of civilian institutions was never enhanced sufficiently for them to take charge of responsibilities. Flood-focused long-term disaster planning was marginal, largely limited to

Ministry	Department	Brief history, roles and responsibilities in disaster management
Interior	Civil Defence Department	Established in 1951 at federal, provincial and district levels to ensure peace by preparing people in case of foreign country aggression. Since 1993, emergency preparation, first aid, response and relief for all kind of manmade and natural hazards are included
	Emergency Relief Cell (ERC)	Established in 1971 at the federal level to deal with the emergency in the aftermath of the cyclone in East Pakistan. Its responsibilities include stockpiling goods and relief items and coordination with provincial relief departments. Operates an emergency room
	National Crisis Management Cell (NCMC)	Established in July 1999 under the Anti-Terrorist Act at the federal and provincial levels to deal with any emergency resulting from human or natural hazards
Water and Power	Water and Power Development Authority	Established in 1958, reservoir management and collection of rainfall data through its telemetric rain-gauge stations at different locations across the Indus River system. Also operates a seismic observatory at Tarbela Dam since 1974
	The Indus River Commission	Established in 1960 after signing of the Indus Waters Treaty, the Commission gathers data on river flow and rainfall in the catchment areas of Pakistan's western rivers flowing from India
	Federal Flood Commission	Established in 1977 to have effective control of floods and to reduce flood losses
	Dams and Barrages Safety Council	Established in 1987 to monitor dams' safety under federal and provincial governments and to coordinate with the Federal Flood Commission on large dams
Defence	Frontier Works Organisation	Established during the construction of Karakoram Highway 1966-1978. Run by the Pakistan Army, it has state-of-the-art logistic capability to unblock roads and remove landslides
	Armed Forces	Pakistan Army, Air Force and Navy play leading roles in response, relief and evacuation
	Pakistan Meteorological Department	A key institution that collects and analyses rainfall data and shares information relating to weather and geophysical phenomena with objectives of traffic safety in air, land and sea
Cabinet Division	Flood Forecasting Division	Meant to collect, analyse and prepare a flood forecast and warning, as necessary
	Planning Commission of Pakistan	Established in 1958 for strategic planning and preparation of federal development plans with regular intervals
	Space and under Atmosphere Research Centre	Established in 1981 as a commission at the federal level. It conducts studies and projects on satellite remote sensing for hazard mapping, resource surveying and environmental monitoring to obtain information about impending disasters

Table II.
Disaster-related federal ministries in the pre-2005 earthquake disaster management structure

river flooding, extremely centralised and mainly involved federal organisations. It is also apparent that no single central agency existed to take full charge of designing disaster policy and managing its implementation at both the federal and provincial levels. Moreover, different responsibilities relating to disaster management were fragmented across several institutions. For example, the Emergency Relief Cell was responsible for dealing with the post-disaster situation only and the National Crisis Management Cell (NCMC) was there to ring danger bells at the time of an emergency. Both were supposed to

Table III.
Disaster-related
provincial
departments in the
pre-2005 earthquake
disaster management
structure

Departments	Provincial departments and their roles
Planning and Development	Key planning body in each provincial government. Not directly involved in disaster risk planning but indirectly related since it formulates short-term and long-term provincial development plans
Irrigation	Undertake planning, designing and maintenance of flood protection works under the supervision of the Federal Flood Commission
Provincial Crisis Management Cell	Monitor and respond to the emergencies, particularly manmade disasters such as terrorist activity; works under the auspices of National Crisis Management Cell
Police	Present at the grassroots level, maintain law and order during a disaster situation, disseminate flood warnings and help in search and rescue
Relief	Coordinate at provincial level among several actors including federal, provincial and district governments and the affected community in a disaster. Interact with district governments to establish flood relief centres at district and tehsil levels. These departments usually worked under the Board of Revenue
Health	Support response and relief efforts by providing treatment to the affected. Declare emergency in hospitals in disaster situations and dispatch medical teams at a disaster location
Agriculture and Livestock	Reduce loss to livestock and agriculture land and help in recovery of the same after a disaster by providing subsidised agriculture inputs such as seeds and fertilisers
Communication and Works	Responsible at provincial level for maintenance and protection of communication networks and infrastructure such as roads and bridges before and after the disaster events
Food	Stockpile of food items and organisation of ration depots at the affected places to cater for basic food requirements in the affected areas
Emergency Service – Rescue 1122	Responsible for first call response to all emergencies. Established 14 October, 2004 as a pilot project in Lahore (capital of the Punjab province) and subsequently expanded to other provinces and districts (Punjab Emergency Service, 2010)

jointly manage a 24-hour control room for collection of information and coordination with provincial authorities at federal and provincial levels, thus leading to overlap and possible conflict of interest situation.

Table IV also shows functional overlaps among different institutions such as Civil Defence, the Provincial Emergency Service and Police, all of which were responsible for the response stage. In Punjab, the largest province by population, “Punjab Emergency Service 1122” was added to the number of disaster-response institutions in 2004. Hence, in the absence of an integrated and coherent policy on disasters, the disaster management structure was increasingly made more complex over time by adding newer layers without clear boundaries of mandate or jurisdiction. It was not clear which agency would take the lead and could be held responsible for a failure. In the aftermath of the 2005 emergency, other provinces also began to emulate the model of Punjab Emergency Service 1122. Peshawar, the capital of Khyber Pakhtunkhwa province and the city most affected by disasters, launched its own localised emergency rescue service in August 2009 (*The Dawn*, 2009).

It is worthwhile discussing the scope of the Civil Defence Department from Table IV, as it works simultaneously at the federal, provincial and district levels. From its inception, the department played an important civic role in advising ordinary people about safety measures during the 1965 and 1971 wars with India. Since 1993, its remit includes responding to disasters. It has an elaborate policy arrangement for the inclusion of civil society actors and communities for managing disasters through grassroots-level involvement. However, the actual and potential

Response	Relief	Preparedness
<i>Federal institutions</i>		
National Crisis Management Cell (NCMC)	–	–
Civil Defence Department	Civil Defence Department	Civil Defence Department
–	Emergency Relief Cell	Space and Upper Atmosphere Research Commission
Pakistan Army	Pakistan Army	Pakistan Meteorological Department
Army Aviation	Pakistan Air Force	Flood Forecasting Division
Frontier Works Organisation	Frontier Works Organisation	Frontier Works Organisation
Pakistan Navy	Pakistan Navy	–
–	–	Federal Flood Commission
–	–	Water and Power Development Authority
–	–	Dams Safety Council
–	–	The Indus River Commission
–	–	Planning Commission of Pakistan
<i>Provincial institutions^a</i>		
–	–	Planning and Development
–	Relief Departments	–
Provincial Police	Provincial Police	–
Provincial Crisis Management Cells	–	–
Civil Defence Department	Civil Defence Department	Civil Defence Department
Irrigation Department	Irrigation Department	Irrigation Department
–	Health Department	–
–	Agriculture and Livestock Department	–
–	Food Department	–
–	Communication and Works Department	–
Provincial Emergency Service (started as a pilot in Punjab in 2004)	–	–
Note: ^a The nomenclature of provincial departments varies slightly across provinces, so general terms are used here		
Sources: Authors fieldwork and secondary sources (Khan, 2007; UNISDR, 2005)		

Table IV.
Pre-2005 earthquake
role of federal
ministries and
provincial
departments in the
disaster management
cycle

roles of this department have been largely under-utilised. This was particularly observed during a fieldwork visit to a district in the Punjab province where the researchers met a member of the department with more than a decade of service (Instructor, Provincial Civil Defence Department, May 2010). District Coordination Officer[1] (DCO) is the head at district level, and is the ex officio District Controller of Civil Defence. The department is supposed to register volunteers and train them in different life-saving skills and techniques such as search and rescue, firefighting and first aid. Involvement of civilians occurs through recruitment as Chief Wardens, Additional Chief Wardens, Deputy Chief Wardens, Divisional Wardens, Group Planners, and Post Wardens in the management structure. The field instructor explained that “WARDEN is acronym for a W – willing, A – active, R – resourceful, D – dutiful, E – effective and N – noble person’, as a way of encouraging participation” (Instructor, Provincial Civil Defence Department, May 2010). These positions are

honorary and nominated by the DCO. The hierarchy of wardens maintains a working liaison with other community members who volunteer for the department. The setup has remained the same in the pre- and post-2005 structures. In the interviews, high- and low-ranking public sector officials emphasised that, in contrast to its responsibility, “[...] the department has been poorly resourced and woefully ignored by the provincial and federal governments alike” (Senior Officer, NDMA, Islamabad, April 2010). Instead of building the capacity of Civil Defence Department by injecting financial resources and the training the staff, a new institution, the NCMC, was established in 1999.

It was also revealed during fieldwork visits that most of the district Civil Defence offices were heavily under-staffed. The office visited during the fieldwork was supposed to look after about one million people in the district in case of any eventuality, with a staff of 12 people (Instructor, Provincial Civil Defence Department, May 2010). This included one DCO, one district officer Civil Defence, one bomb disposal technician and one bomb disposal expert (both of whom were non-permanent staff and on deputation from the Army), three instructors and five secretarial support individuals. There were no resources to register, train or keep track of community volunteers, nor any capacity to engage with the members of civil society. The three instructors of the department could not even follow up with those citizens who had already registered. The office was not only lacking in human and financial resources but also was short of space and basic office furniture such as chairs, desks and equipment for the staff. When asked about the future of their department, staff members were generally demoralised and demotivated. (Field Journal, May 2010). In consequence, the department was only providing training to school teachers (since they were supposed to attend trainings under the district government’s order) and school administration was required to provide school buildings as venues for the training. According to an officer of the Municipal Corporation Muzaffarabad (Azad Jammu and Kashmir), “there was no emergency planning in the corporation” before the 2005 earthquake (Officer Municipal Corporation Muzaffarabad Azad Jammu and Kashmir, May 2010). Similarly, another interviewee indicated that, “Basically disaster management is a provincial subject but there was no disaster management prior to 2005” (Senior Officer, NDMA, Islamabad, April 2010).

4. Policy lessons from the pre-2005 DRR structures

From the analysis of developmental plans of the country over the last 50 years, it appears that there was a certain inertia in the disaster management structures (Jacob, 2001; Imran, 2010; Cheema *et al.*, 2014). Three key reasons can be suggested for this inertia. First, Pakistan had not faced a high-scale calamity on the scale of the 2005 earthquake that could have become a strong reference point to sensitise the pattern of future disaster policy-making. Second, the country struggled to meet the pressing needs of its growing population in terms of health, education and alleviation of poverty. Thus it was difficult to free up resources for emergency planning. Third, the prevalent disaster management institutions did not have sufficient capacity to recommend or implement necessary infrastructure and policy changes.

A World Bank study in 2001 used the term “growth without development” to reflect the intriguing case of the political economy in Pakistan (Easterly, 2003). Between 1950 and 1998, the country was the third largest recipient of development assistance receiving over US\$58 billion. Despite the growth in GDP per capita and a large skilled workforce, an entrepreneurial diaspora, and a professional elite with a high degree of official representation in international organisations, the country has systematically

underperformed on many social and political fronts, scoring low in education, health, sanitation, gender equality and other human development indicators. A similar lack of investment is apparent when it comes to measures for DRR and resilience, as economic growth fails to reduce social inequalities.

Looking at the role of institutions in the pre-2005 era, it is apparent from the analysis so far that the disaster management policies and structures were top heavy, allowing only a marginal role, if any, for the private sector, civil society and local communities. Despite exclusion from the planning and policy arena various local, national and international civil society organisations and NGOs (such as Sangi, Hissar Foundation, Islamic Relief, Al-Khidmat Foundation, Rural Support Programmes Network, Rural Support Programmes and others) continued to provide relief and recovery to the affected areas and communities[2]. Likewise, disaster policy decision making was considered too serious a business to be taken to the local level. The affected communities were coordinated to the extent of dissemination of advanced flood warning and mosques were used for announcements only; the involvement of communities in disaster management such as local disaster preparedness plans was non-existent. Overall, the flood-centric policy framework and fragmented responsibilities of different disaster management institutions show the lack of an effective institutional disaster management structure for prevention or reduction of disaster losses in Pakistan, particularly at the local level. Another key aspect often overlooked in such policies is the dynamics of power relations and the need to empower local stakeholders and communities (Cheema *et al.*, 2014; Mustafa, 2002; Ghaus *et al.*, 2015).

Compared with Wisner *et al.*'s (2004) risk reduction objectives as indicated above, it becomes obvious that most of the government policies and institutional mechanisms failed to address issues related to risk communication, mitigating the root causes of disasters in general, and building sustainable development objectives into the disaster management cycle. In addition, little effort was put into engaging with the communities at any particular stage of policy, planning or implementation. The post-2005 institutional setup of national and provincial disaster management structures have continued to suffer from the institutional entanglement of social, political and economic issues related to institutional hierarchy, population growth, increasing urbanisation, and degradation of the environment (Halvorson and Hamilton, 2010; Ahmed, 2013).

The National Disaster Management Commission (NDMC), the apex body headed by the prime minister, did not hold a meeting for more than three years (Wasim, 2015). Also, the government is yet to establish a transparent and coherent mechanism for disaster risk financing (World Bank, 2015).

5. Conclusion

This paper has provided a historic-integrative view of disaster management structure, policies and institutions in Pakistan for the period 1955-2005. Disaster management is yet to receive due attention from policy makers and planners and, keeping in view the vulnerability profile of the country, it might take more time than otherwise expected to adopt effective disaster mitigation and management policies. Also, a historical pattern of marginalisation of local communities explains, in part, why disaster management policies have not fully delivered on the ground. Despite new centralised management institutions such as NDMC and NDMA, it may still take some time and effort to change the institutional inertia at federal and provincial levels.

Analyses of post-2005 disaster policies and experiences reflect the existence of short-term approaches to response and relief efforts, with relatively less strategic focus on prevention, preparedness and capacity building. Regulatory and legislative gaps and institutional weaknesses have persisted in terms of mitigating vulnerabilities and improving livelihoods (Deen, 2015). With a lack of top-down support, communities in the affected areas have begun to be more politically engaged (Fair *et al.*, 2014). However, the NDMA and associated institutions have remained unable to exploit community potential and increase community resilience, especially in those areas that are located in the floodplains or are regularly exposed to hazards. This is largely due to low awareness of the institutional inertia and the lessons from the pre-2005 DRR and management policies and practices.

This research also highlights a chronic absence of civil society organisations in disaster reduction and management policy and planning. Most of the NGOs and civic groups directly support government agencies in relief efforts. In fact these groups have shown the capacity to penetrate and provide relief in remote areas where government machinery and military teams could not gain access. This implies a need for the inclusion of such local, communal, religious and civil society actors at all stages of the disaster management cycle. Some organisations, like Rural Support Programmes Network and its associated bodies facilitate communities to undertake DRR and climate change adaptation activities through village and union disaster management committees, and in the process become better prepared (Ahmed and Nawaz, 2013). These aspects need to be built into disaster management policies in developing countries. More research and analysis is needed to explore a holistic-integrative approach to disaster governance with less bureaucracy, efforts to make use of local knowledge, expertise and experiences, and building institutional capacities for DRR, mitigation and management.

Notes

1. District Coordination Officer was called Deputy Commissioner before the introduction of the Local Government Ordinance 2001.
2. See, for example www.saarc-sadkn.org/countries/pakistan/civil_society.aspx

References

- Ahmed, P. and Nawaz, F. (2013), "End evaluation of RSPN Tahafuz Project: building resilience through community-based disaster risk management in the Sindh province of Pakistan", Rural Support Programmes Network, Islamabad.
- Ahmed, Z. (2013), "Disaster risks and disaster management policies and practices in Pakistan: a critical analysis of Disaster Management Act 2010 of Pakistan", *International Journal of Disaster Risk Reduction*, Vol. 4, pp. 15-20.
- Ainuddin, S., Aldrich, D.P., Routray, J.K., Ainuddin, S. and Achkazai, A. (2013), "The need for local involvement: decentralization of disaster management institutions in Baluchistan", *International Journal of Disaster Risk Reduction*, Vol. 6, pp. 50-58.
- Amenta, E. (2009), "Making the most of an historical case study: configuration, sequence, casing, and the US old-age pension movement", in Byrne, D. and Ragin, C.C. (Eds), *The Sage Handbook of Case-Based Methods*, SAGE Publications, New Delhi, pp. 351-366.
- Atta-Ur-Rahman, Nawas Khan, A. and Shaw, R. (Eds) (2015), *Disaster Risk Reduction Approaches in Pakistan*, Springer, Kyoto.

- Cheema, A., Scheyvens, R., Glavovic, B. and Imran, M. (2014), "Unnoticed but important: revealing the hidden contribution of community-based religious institution of the mosque in disasters", *Natural Hazards*, Vol. 71 No. 3, pp. 2207-2229.
- Deen, S. (2015), "Pakistan 2010 floods. Policy gaps in disaster preparedness and response", *International Journal of Disaster Risk Reduction*, Vol. 12 No. 2015, pp. 341-349.
- Easterly, W. (2003), "The political economy of growth without development: a case study of Pakistan", in Rodrik, D. (Ed.), *In Search of Prosperity: Analytic Narratives on Economic Growth*, Princeton University Press, pp. 439-472.
- Fair, C.C., Kuhn, P.M., Malhotra, N. and Shapiro, J.N. (2014), "Natural disasters and civic engagement: evidence from the 2010-11 Pakistani floods", ESOC working paper, available at: <https://esoc.princeton.edu/files/natural-disasters-and-civic-engagement-evidence-2010-11-pakistani-floods>
- Ghaus, K., Memon, M.H., Iqbal, M.A., Ahmed, N., Aamir, N. and Areeb, T. (2015), *Gender and Social Vulnerability to Climate Change: A Study of Disaster Prone Areas in Sindh*, Social Policy and Development Centre, Karachi.
- Griffin, K.B. (1965), "Financing development plans in Pakistan", *The Pakistan Development Review*, Vol. 5 No. 4, pp. 601-630.
- Guha-Sapir, D., Below, R. and Hoyois, P.-h. (2015), *EM-DAT: International Disaster Database*, Université Catholique de Louvain, Brussels, available at: www.emdat.be
- Halvorson, S.J. and Hamilton, J.P. (2010), "In the aftermath of the 2005 Qa'yamat: the Kashmir earthquake disaster in Northern Pakistan", *Disasters: The Journal of Disaster Studies, Policy, and Management*, Vol. 34 No. 1, pp. 184-204.
- Imran, M. (2010), "Sustainable urban transport in Pakistan: an institutional analysis", *International Planning Studies*, Vol. 15 No. 2, pp. 119-141.
- International Federation of Red Cross and Red Crescent Societies (2010), "Plan 2010-2011 – disaster management and risk reduction: strategy and coordination", International Federation of Red Cross and Red Crescent Societies (IFRC & RCS), Geneva.
- Jacob, T. (2001), "Path-dependent Danish welfare reforms: the contribution of the new institutionalisms to understanding evolutionary change", *Scandinavian Political Studies*, Vol. 24 No. 4, pp. 277-309.
- Khan, M. (2007), "Disaster preparedness for natural hazards: current status in Pakistan", International Centre for Integrated Mountain Development (ICIMOD), Kathmandu.
- Kreft, S. and Eckstein, D. (2013), "Global Climate Risk Index 2014", Germanwatch e.V., Bonn.
- Lawrence, R.D. and Yeats, R.S. (1979), "Geological reconnaissance of the Chaman Fault in Pakistan", in Farah, A. and DeJong, K.A. (Eds), *Geodynamics of Pakistan*, Geological Survey of Pakistan, Quetta, pp. 351-357.
- McEntire, D.A. (2007), *Disaster Response and Recovery: Strategies and Tactics for Resilience*, John Wiley & Sons, Hoboken, NJ.
- Mustafa, D. (2001), "Colonial law, contemporary water issues in Pakistan", *Political Geography*, Vol. 20 No. 7, pp. 817-837.
- Mustafa, D. (2002), "To each according to his power? Participation, access, and vulnerability in irrigation and flood management in Pakistan", *Environment and Planning D: Society & Space*, Vol. 20 No. 6, pp. 737-752.
- Mustafa, D. (2003), "Reinforcing vulnerability? Disaster relief, recovery, and response to the 2001 flood in Rawalpindi, Pakistan", *Global Environmental Change Part B: Environmental Hazards*, Vol. 5 Nos 3-4, pp. 71-82.
- Mustafa, D. and Wescoat, J.L. (1997), "Development of flood hazards policy in the Indus River basin of Pakistan, 1947-1996", *Water International*, Vol. 22 No. 4, pp. 238-244.

- Mustafa, D. and Wrathall, D. (2011), "Indus basin floods of 2010: souring of a Faustian bargain?", *Water Alternatives*, Vol. 4 No. 1, pp. 72-85.
- National Disaster Management Authority (2013), "National disaster risk reduction policy", Ministry of Climate Change, Government of Pakistan, Islamabad.
- Neal, D.M. (1997), "Reconsidering the phases of disaster", *International Journal of Mass Emergencies and Disasters*, Vol. 15 No. 2, pp. 239-264.
- Noji, E.K. (2005), "Disasters: introduction and state of the art", *Epidemiologic Reviews*, Vol. 27 No. 1, pp. 3-8.
- Planning Board of Pakistan (1956), "The First Five Year Plan: size, objectives and limitations", Planning Board of Pakistan.
- Quarantelli, E.L. (1988), "Disaster crisis management: a summary of research findings", *Journal of Management Studies*, Vol. 25 No. 4, pp. 373-385.
- Quarantelli, E.L. (1997), "Ten criteria for evaluating the management of community disasters", *Disasters*, Vol. 21 No. 1, pp. 39-56.
- Rumbach, A. and Foley, D. (2014), "Indigenous institutions and their role in disaster risk reduction and resilience: evidence from the 2009 tsunami in American Samoa", *Ecology and Society*, Vol. 19 No. 1, p. 19, available at: <http://dx.doi.org/10.5751/ES-06189-190119>
- Sustainable Development Policy Institute (1993), "The Eight Five Year Plan: basic framework justice in Pakistan", Sustainable Development Policy Institute (SDPI), Islamabad.
- The Dawn* (2009), "Rescue-1122 launched in Peshawar", *The Dawn*, 1 August, available at: www.dawn.com/news/892888/rescue-1122-launched-in-peshawar
- UNISDR (2005), "Disaster management policies and systems in Pakistan", United Nations International Strategy for Disaster Reduction (UNISDR).
- UNISDR (2009), "UNISDR terminology on disaster risk reduction", United Nations International Strategy for Disaster Reduction (UNISDR), Geneva and Islamabad, available at: www.unisdr.org/eng/library/UNISDR-terminology-2009-eng.pdf (accessed 19 September 2009).
- Wasim, J. (2015), "Govt criticised for keeping NDMA dormant", *Dawn*, available at: www.dawn.com/news/1218915
- Wescoat, J.L. Jr, Halvorson, S.J. and Mustafa, D. (2000), "Water management in the Indus basin of Pakistan: a half-century perspective", *International Journal of Water Resources Development*, Vol. 16 No. 3, pp. 391-406.
- Westley, C., Murphy, R.P. and Anderson, W.L. (2008), "Institutions, incentives, and disaster relief: the case of the federal emergency management agency following Hurricane Katrina", *International Journal of Social Economics*, Vol. 35 No. 7, pp. 501-511.
- Wisner, B., Blaikie, P., Cannon, T. and Davis, I. (2004), *At Risk: Natural Hazards, Peoples' Vulnerabilities and Disasters*, Routledge, London.
- World Bank (2015), "Fiscal disaster risk assessment: options for consideration", World Bank, Islamabad.
- Yu, W., Yang, Y.C., Savitsky, A., Alford, D., Brown, C., Wescoat, J. and Debowicz, D. (2013), *The Indus Basin of Pakistan: The Impacts of Climate Risks on Water and Agriculture*, World Bank Publications, Washington, DC.

About the authors

Dr Abdur Rehman Cheema is a Team Leader Research at the Rural Support Programmes Network, a Pakistan-based non-profit company. He has conducted research on the role of community-based religious institution of the mosque in disaster response, relief, preparedness and rehabilitation. Currently, he is involved in a programme to reduce rural poverty in Pakistan by involving people in their own development through a process of social

mobilisation leading to formation of community organisations (CO), village organisations (VOs) and local support organisations (LSO). Dr Abdur Rehman Cheema is the corresponding author and can be contacted at: arehmancheema@gmail.com

Dr Abid Mehmood is a Research Fellow in the Sustainable Places Research Institute. His broader research expertise is in social innovation and environmental governance. He has experience of research in socioeconomic development, social innovation and social cohesion for local and regional development policy and practice. He has also conducted research on climate change resilience policies and practice in London and Northeast England.

Dr Muhammad Imran is an Associate Professor at the Massey University, New Zealand. His research argues for a greater recognition of the role of politics and understanding of people's perspective on contemporary urban and regional development.