DECONSTRUCTING DISASTER MANAGEMENT: WITH SPECIAL REFERENCE TO CIVIL-MILITARY LINKAGES

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INTRODUCTION

Jammu and Kashmir (J&K) was once again in the news for devastation and intense trauma associated with hundreds of unnatural deaths. This time, the cause was not the commonly known beast of terrorism and/or cross-border attacks, rather the damage was caused by nature's fury in the form of unprecedented floods and inundation. The scale and intensity of extreme weather incidences like the J&K floods repeatedly bring out the inadequacies in the country's disaster response capabilities. Many international agencies, including the Department for International Development (DFID) and the Disasters Emergency Committee of the UK have also observed that there is urgent and serious need for substantial disaster preparedness measures in India. At the same time, shortfalls in disaster management capacity are not unique to India. The resources of the developed nations, including the US, have also been found wanting in appropriately responding to natural disasters. Due to limited resources and increasing disaster management

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demands/requirements, a developing and aspiring nation needs to explore all possible means of strengthening the national, regional and international disaster relief mechanisms. This calls for appropriate understanding of natural disasters and in-depth analysis of the existing disaster relief mechanisms.

This research paper is broadly divided into three sections. The first section focusses upon understanding disasters. The second section delves into the role of the military in the disaster relief framework and the effectiveness of foreign military assistance. This section also brings out the dynamics of civil-military relations in disaster relief. The third section brings the spotlight on South Asia and the disaster relief mechanism in India with special reference to the role of the military. Finally, some recommendations have been made towards meeting the challenges of disaster response.

UNDERSTANDING NATURAL DISASTERS AND DISASTER RESPONSE

Before defining a disaster *per se*, understanding hazards is essential as natural disasters are the disasters that follow natural hazards. A hazard, as defined by the UN International Strategy for Disaster Reduction (ISDR), is "a potentially damaging physical event, phenomenon or human activity that may cause loss of life or injury, property damage, social and economic disruption or environmental degradation". Natural hazards are broadly classified into three categories: hydrometeorological, geological and biological. ISDR defines a disaster as "a serious disruption of the functioning of a community or a society causing widespread human, material, economic or environmental losses which exceed the ability of the affected community or society to cope using its own resources". Man-made disasters have been kept out of the scope of this study.

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Disasters can be classified in many ways. According to the speed of their onset, disasters are typically of two types, viz. slow and rapid. Rapid-onset disasters take place suddenly. There may be no (or very little) warning of the hazard that causes them. Flash floods, tsunamis, earthquakes, windstorms, volcanic eruptions, landslides, avalanches and meteor strikes are common examples of rapid-onset natural disasters.

In the past two decades, there has been a considerable rise in the recorded number of natural disasters and the number of reported large-scale disasters—disasters wherein 10,000-99,999 people are killed or affected—has also increased substantially.[1] The large increase in reported disasters may be partly attributed to better reporting by the media, governments and humanitarian agencies. But the actual increase in the number of disasters is undeniable. Floods, windstorms and earthquakes are among the most common types of rapid-onset natural hazards. Most of the increase in the number of disasters has been accounted for by hydrometeorological hazards, primarily floods and windstorms. A flood is considered the most common type of natural hazard occurring in recent years. Floods typically affect large numbers of people but cause a relatively low number of deaths as compared to other disasters, including earthquakes. Floods generally require extended responses, especially if renewed rains occur. That means that humanitarian actors are required to maintain their field presence for a longer duration and are possibly required to respond to several disasters within a disaster.

In the 21st century, India has been witnessing increased frequency and magnitude of natural disasters, bringing its significantly high vulnerability to the fore. Analyses of major disaster response operations (be it the 1998 super cyclone in Orissa, the 2000 floods in Assam, the massive earthquake in Gujarat in 2001, the tsunami in 2004, the floods and earthquake in 2005,

1. Sharon Wiharta et al, *The Effectiveness of Foreign Military Assets in Natural Disaster Response: A Report by the Stockholm International Peace Research Institute* (Sweden: SIPRI, 2008).

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the 2013 cloudburst in Uttarakhand or the most recent floods in J&K) highlight a need to enhance disaster relief preparedness in India. In a relief operation, the emergency phase aims at providing immediate life-saving assistance in terms of evacuation and provisioning of shelter, water, food and basic health care. Subsequent needs include reconstruction and rehabilitation. These needs may continue for several years, particularly in the case of refugees and victims of socio-economic collapse. Alongside, a sense of humanity and a sign that someone cares is also crucial.

Disasters are becoming more complex with increasingly long-term consequences. Even the economically developed nations do not have adequate adaptation and mitigation resources/strategies to adequately respond to major disasters. More importantly, disasters disproportionately affect the poor. In countries with economic problems or political instability, disasters weaken already fragile public institutions; and essential services such as health, water and sanitation get severely hampered. As per some reports, over 90 per cent of the total disaster-related deaths occur in the developing countries, where the economic losses they cause hit far harder than in the industrialised/developed nations, and can virtually wipe out years of economic development.[2]

It is well proven that the amount of money spent on prevention pays richly and saves a lot in relief. The total quantum of aid provided for emergency assistance has been increasing but the funding that is available for assistance to individual relief efforts may have decreased, given the rise in the frequency, number and extent of disasters. Competition over resources is, therefore, intensifying the debate about cost-effectiveness in disaster relief. Hence, it is more important for the developing nations to

2. The Indian Red Cross Society official website. Accessed at http://www.indianredcross.org/program.htm on August 21, 2014.

adapt to and mitigate, disasters. India, an aspiring nation, also needs to appreciate the international disaster relief mechanisms, and find ways and means to strengthen and exploit the same at national and regional levels.

INTERNATIONAL DISASTER RELIEF ASSISTANCE

The primary concern for any government in the face of a major disaster is to save lives, alleviate suffering and maintain the general welfare of the people affected by it. The term 'disaster response' signifies the provision of assistance or intervention during or immediately before/after a disaster for life preservation and meeting the basic subsistence needs of the affected people. Disaster response preparedness is also largely related to disaster response as it includes pre-disaster activities that are undertaken to minimise loss of life, injury and property damage in an impending disaster, and preparation regarding rescue, relief, rehabilitation and other services that can be provided following the disaster.

In any emergency, the first responders are the disaster-affected people and their governments. The International Disaster Relief Assistance (IDRA) comes into play when an affected nation perceives that the disaster response requirements exceed its capabilities and requests the international community for help. There could also be a scenario wherein an affected country is offered assistance even before it seeks, or contemplates seeking, it. The key objective of international humanitarian action is to support national efforts in protecting the lives, livelihoods and dignity of people in need. IDRA comprises material, personnel and services provided by the international community to an affected state and to meet the needs of the government/people affected by a disaster.

When a natural disaster strikes, a multitude of factors influence an affected country's decision to request for, or to accept offers of, international assistance, including:

- The scale of the disaster and the humanitarian needs it creates.
- The level of preparedness for such a disaster at the national and sub-national levels.
- The urgency of particular capabilities needed.

Many militaries have special units for disaster relief operations. The Swiss military is one such military known for its contribution in disaster management. With specialised units, its rescue corps is the main pillar of military disaster relief.

- The international relations policy of the affected nation and the prevailing geo-political situation

Foreign military assets comprise the personnel, equipment and services of a military nature provided by foreign governments with the consent of the affected state for IDRA. Regional multilateral frameworks and other methods of coordinating the deployment and use of military assets in international disaster relief assistance are largely in place. In the period 1997-2006, as reported by the Stockholm Peace Research Insititute (SIPRI), the military assets that contributed most commonly to international disaster relief operations by the responding countries were:

- Air transport, including aeroplanes used for the transport of relief items and personnel.
- Medical assistance (field hospitals and personnel).
- Expert personnel (in civil-military coordination and liaison, needs assessment and logistics).[3]

Mention of air transport as the primary military asset employed in disaster relief operations underscores the importance of air power. The roles that air power can play in disaster management/relief can be categorised under the following verticals:

- Reconnaissance of disaster area.
- Air transportation of personnel, medical teams, materials, supplies and disaster equipment.
- Air dropping of food, water and medicines, etc.
- Air evacuation of casualties/marooned people.
- Air transportation of VVIPs/VIPs, air force, army, civilian officials and Non-Governmental Organisations (NGOs).

3. Wiharta et al, n. 1, Executive Summary, p. x.

Many militaries have special units for disaster relief operations. The Swiss military is one such military known for its contribution in disaster management. With specialised units, its rescue corps is the main pillar of military disaster relief. The rescue corps comprises two verticals: the disaster relief standby company which can intervene within hours, and the disaster relief battalions which can be called up and deployed within days to ensure sustainability, concentration of forces and reinforcement. The specialised units of the rescue corps are also augmented with elements from other Service branches, including the air force, engineers, logistics and medical forces, military security and Nuclear, Biological, Chemical (NBC) defence forces.

The USA, having unmatched financial and military resources and a large network of overseas military bases, has an explicit policy of making its forces available for international humanitarian work. The European countries also deploy military assets for natural disaster responses in Africa, Central America, the Middle East and Asia, but rarely in Europe. Outside Europe, Australia, Canada, India, Japan and South Africa respond more readily to natural disasters in neighbouring countries than to those outside their region, unless they already have military assets in the affected region. The ASEAN Regional Forum (ARF) also promotes a greater role of military assets in regional disaster management. It believes that the more experience the militaries of the region have in dealing with disaster management, the better they will be in delivering in major disaster events. On the contrary, some countries have policies limiting the use of their military assets in international disaster response.

Many factors influence a government's decisions regarding offering/seeking/accepting military assistance. The considerations of the assisting country are somewhat more than those of the affected country, and the primary ones are:[4]

- The scale of the disaster and the humanitarian needs it creates.
- The assisting country's policies regarding the deployment of its military assets for international disaster relief.

4. Ibid.

In 1994, the Guidelines on the Use of Military and Civil Defence Assets in Disaster Relief (Oslo Guidelines) were issued to formulate an international normative and practical framework for the use of military and civil defence assets in natural disaster response.

- Whether the affected country has requested for foreign military assistance or not.
- The availability of military assets that are not engaged in higher priority tasks, and how quickly and easily those assets can reach the disaster site.
- National interests.
- Diplomatic and historical relations with the affected country.
- Media coverage of the disaster and the public pressure it generates.

The 2008 SIPRI report entitled "The Effectiveness of Foreign Military Assets in Natural Disaster Response" underscores India's readiness in responding to natural disasters, especially in its neighbourhood, whereas some countries have policies limiting the employment of their military assets in international disaster response.[5]

OSLO GUIDELINES ON THE USE OF FOREIGN MILITARY AND CIVIL DEFENCE ASSETS IN DISASTER RELIEF

In 1994, the Guidelines on the Use of Military and Civil Defence Assets in Disaster Relief (Oslo Guidelines) were issued to formulate an international normative and practical framework for the use of military and civil defence assets in natural disaster response. These guidelines address the use of foreign Military and Civil-Defence Assets (MCDA) in international disaster relief operations. MCDA are uniformed assets and services contributed by foreign military and civil-defence organisations for humanitarian assistance. They include relief personnel, equipment (e.g. air, ground and sea transport, communication equipment), and supplies and services (e.g. medical support, security services). MCDA are generally provided at no cost to the affected state and/or to the United Nations (UN), unless otherwise regulated

5. Ibid.

by an international agreement. MCDA, when deployed through a central request to support UN agencies is called UN MCDA. MCDA and UN MCDA are governed by individual Status of Forces Agreements between two countries and/or by the Oslo Guidelines on the Use of Foreign Military and Civil Defence Assets in Disaster Relief.[6]

The Oslo Guidelines highlight the principle that use of foreign military and civil-defence assets should be requested for only where there is no comparable civilian alternative.

The essential principles followed in extending military assistance in disaster relief are:

- Military assistance is generally not extended unless the civil administration asks for it though there are a few exceptions to this rule.
- The military is expected to be in a supporting role and not in charge.
- The military should strive to leave at the earliest, as soon as the civil administration is capable enough to manage the region. So local authorities should not be made dependent on the military.
- The military leadership should follow the laws governing military disaster response.

The Oslo Guidelines highlight the principle that use of foreign military and civil-defence assets should be requested for only where there is no comparable civilian alternative. They also provide principles and procedures for requesting for, and coordinating, military and civil-defence assets when these resources are deemed necessary and appropriate for humanitarian response. A Consultative Group on the Use of Military and Civil Defence Assets manages the Oslo Guidelines.[7]

However, application of the guidelines at the national level varies. Most notably, the articulation calling for foreign military assets to be used only as a 'last resort' has been interpreted and applied in different ways by

6. "Disaster Response in Asia and the Pacific: A Guide to International Tools and Services", a publication of the OCHA-ROAP Regional Office for Asia and the Pacific. Accessed at www.unocha.org/roap on August 16, 2014.
7. Guidelines on the Use of Foreign Military and Civil Defence Assets in Disaster Relief – "Oslo Guidelines." Accessed on August 20, 2014 at http://reliefweb.int/sites/reliefweb.int/files/resources/8706B7B69BD77E00C1257233004F0570-OCHA-Nov2006.pdf.

different actors. Essentially integral to the concept of 'last resort' is whether the military asset can offer unique capabilities and availability. There are some areas, including transport, logistics and the ability to deploy rapidly, wherein militaries unquestionably possess unique capabilities.

As per the Oslo Guidelines on the Use of Foreign Military and Civil Defence Assets [8] in Disaster Relief,[9]

> Military and civil defence assets should be seen as a tool complementing existing relief mechanisms in order to provide specific support to specific requirements, in response to the acknowledged "humanitarian gap" between the disaster needs that the relief community is being asked to satisfy and the resources available to meet them. Therefore, foreign military and civil defence assets should be requested only where there is no comparable civilian alternative and only the use of military or civil defence assets can meet a critical humanitarian need. The military or civil defence asset must, therefore, be unique in capability and availability.

At the same time, the Oslo Guidelines do not prevent foreign civil protection assets, civilian in nature and respecting humanitarian principles that can provide important direct and indirect contributions to humanitarian actions based on assessments of humanitarian needs and their possible advantages in terms of speed, specialisation, efficiency and effectiveness, especially in the early phase of relief response. The use of civil protection assets should be needs driven, complementary to, and coherent with, humanitarian aid operations, respecting the overall coordinating role of the UN. Thus, the Oslo Guidelines propagate different criteria for foreign military and civil Humanitarian Assistance and Disaster Relief (HADR) assets.

However, once it has been established that international assistance is needed, whether that assistance is provided by soldiers or civilians should

8. "Military Disaster Relief Swiss Armed Forces and Civil Affairs Support." Accessed at http://www.vtg.admin.ch/internet/vtg/en/home/themen/katahi.print.html on August 12, 2014.
9. The "Oslo Guidelines" were originally prepared over a period of two years and were released in May 1994. Thereafter, these guidelines were relaunched in 2006. The primary changes in this Revision 1.1 concern the addition of the word "foreign" in the title, as well as additions for clarification to paragraph 5 related to "last resort".

be of secondary importance. More significant is that the aid arrival is not delayed. However, this may not be the case in countries that are experiencing conflict or political instability, as the government institutions in these states are weak and the geo-political situation is much more complex. And in such circumstances, the arrival of foreign military aid may have different connotations and may also complicate the environment further.

EFFECTIVENESS OF FOREIGN MILITARY ASSETS

The capability of the military extending foreign military assistance is not the only criterion to judge its effectiveness. The effectiveness of foreign military assistance depends upon many other elements as well. The efficiency of operations largely depends on how well the military capabilities have been used within the larger operations and how well the operations have been coordinated by others, generally civilian actors. For harnessing the best results from foreign military assistance, the following need to be looked into:

- Generally, timeliness is the primary reason for deploying foreign military assets, especially in the initial days and weeks of the operation, as militaries have the necessary equipment that can expeditiously supply large quantities of relief products to the disaster areas and can also undertake search and rescue. Military aircraft in particular can transport large quantities of relief supplies and other assets, and military helicopters can support search and rescue operations. But timelines in HADR operations can often be affected by bureaucratic delays (at times, inescapable) such as the Status of Forces Agreement.
- The deployed military assets must be appropriate, determined by how well the capabilities meet the requirements. To ensure that appropriate resources are provided, it is necessary to link need assessments to the overall coordination framework.
- The effectiveness of such operations is also affected by the absorbing capacity of the affected country. While the ability to coordinate and use assets during the relief operations heavily relies on the institutional capability of the distressed country, militaries tend to be relatively

self-sufficient. Nevertheless, the arrival of large numbers of foreign militaries from different countries, with overlapping capabilities, can lead to serious absorption problems.

- Coordination between the civilian humanitarian actors and the military is indeed critical to disaster relief. As per the UN Under-Secretary General for Humanitarian Affairs and Emergency Relief Coordinator John Holmes: "Coordination between civilian and military actors is essential during an emergency response. The increasing numbers and scale of humanitarian emergencies, in both natural disaster and conflict settings, had led to more situations where military forces and civilian relief agencies are operating in the same environment." Differences in cultures, priorities and operating modes between the military and civilian staff can have critical impacts on information management, which is essential for the success or failure of relief operations.
- Cost is another critical issue of deploying armed forces, which is generally considered to be higher for military equipment than for civilian assets. There are concerns that foreign military assets place a disproportionate burden on humanitarian funds. However, in several countries, Defence Ministries cover some or all of the costs for overseas disaster relief, reducing their impact on humanitarian aid budgets.

DISASTER MANAGEMENT IN SOUTH ASIA

The Himalaya-Hindukush is the youngest, the largest and seismically, the most active mountain system of the world. This mountain system also has the largest non-polar glacial deposits which are increasingly melting due to the effects of global warming. Heavy rainfall and high silt load on water bodies cause recurrent floods over large areas. At the same time, South Asia also has a large area facing droughts due to scanty rainfall and depleting ground water level. A long coastline and many islands are threatened by cyclones, storm surge and sea level rise. It is estimated that the South Asian countries lose between 2 to 12 percent of the Gross Domestic Product (GDP)

annually on account of natural disasters.[10] Two-thirds of the disasters the region experiences are climate related and there has been a phenomenal increase in their frequency, severity and unpredictability in the recent times.[11]

Table 1: Disasters in South Asia[12] (1970-2009)

	Total		% Share	
Countries	**Events**	**Deaths**	**Events**	**Deaths**
Bangladesh	254	5,28,503	22.44	60.82
Bhutan	7	287	0.62	0.03
India	462	1,79,459	40.81	20.65
Maldives	5	325	0.44	0.04
Nepal	78	11,390	6.89	1.31
Pakistan	137	91,886	12.10	10.57
Sri Lanka	63	37,362	5.57	4.30
Afghanistan	126	19,794	11.13	2.28
Total	**1,132**	**8,69,006**	**100**	**100**

MODELS OF REGIONAL RESPONSE

There are various types of regional responses which are generally grouped into three primary clusters[13]:

- **Coordination Response Model:** Assistance from member countries is pooled by the regional organisation which coordinates the response. Example: Euro-Atlantic Disaster Response Coordination Centre (EADRCC).
- **Assured Response Model:** Assurance of assistance is arranged by the regional organisation through prior negotiations and commitments which

10. PG Dhar Chakrabarti, director, SAARC Disaster Management Centre, and executive director, National Institute of Disaster Management, *Regional Cooperation for Disaster Management in South Asia: Challenges and Opportunities for Regional Early Warning System for Natural Disasters*. Accessed at www.dmb.gov.bd
11. SAARC Workshop on Climate Change and Disasters: Emerging Trends and Future Strategies Kathmandu, Nepal, August 21-22, 2008, *Regional Cooperation on Climate Change Adaptation and Disaster Risk Reduction in South Asia: Road Map*. Accessed at http://saarc-sadkn.org/downloads/road_map%20CCA&DRR.pdf on October 4, 2014.
12. Chakrabarti, n. 10.
13. Ibid.

The 2004 Indian Ocean tsunami was a historic event that triggered a change in the region's outlook towards disaster management.

become binding on the member countries. Example: Regional Response Mechanism of Caribbean Disaster Emergency Response Agency (CDERA).

- **Voluntary Response Model:** Each member country, on a voluntary basis, earmarks assets and capacities for regional standby arrangements for response and relief. Asia is largely following this model. The Association of Southeast Asian Nations (ASEAN) and South Asian Association for Regional Cooperation (SAARC) have created frameworks for voluntary response following the principles of national sovereignty and democracy.[14]

SAARC AND DISASTER MANAGEMENT

The 2004 Indian Ocean tsunami was a historic event that triggered a change in the region's outlook towards disaster management. On June 25, 2005, a Special Session of the SAARC Environment Ministers was held at Male to deliberate on the issue of disaster management. In 2006, the Comprehensive Framework on Disaster Management in South Asia was developed in Dhaka aligned with the implementation of the Hyogo Framework of Action (HFA) 2005-2015: Building the Resilience of Nations and Communities to Disasters.[15] Subsequently, the SAARC Council of Ministers, on July 30, 2006, and the Fourteenth SAARC Summit, held in New Delhi in April 2007, approved the framework. The framework

14. "ASIA: Natural Disasters Spur Regional Cooperation" in *IRIN: Humanitarian News and Analysis.* Accessed at http://www.irinnews.org/printreport.aspx?reportid=79491 on September 13, 2014. The ASEAN Coordinating Centre for Humanitarian Assistance on Disaster Management (AHA) is a noteworthy initiative and the Association of Southeast Asian Nations (ASEAN) Regional Forum (ARF) has been taking many initiatives towards enhancing regional cooperation in disaster management. In 2008, ARF had announced its first region-wide disaster relief exercise and contemplated deployment of military assets as part of plans to deepen cooperation on disaster management. ARF also calls for greater civil-military cooperation and coordination in major disaster responses.
15. The Hyogo Framework for Action (HFA) 2005-15, a 10-year plan for building the resilience of nations and communities to disasters, endorsed by the UN General Assembly in the Resolution A/RES/60/195 following the 2005 World Disaster Reduction Conference, is the guiding principle being followed towards creating Regional Frameworks on Disaster Management.

provides a platform for the South Asian countries to[16]:

- Establish and strengthen the regional disaster management system to reduce risks and to improve response and recovery management at all levels.
- Identify and elaborate country and regional priorities for action.
- Share best practices and lessons learnt from disaster risk reduction efforts at national levels.
- Establish a regional system to develop and implement regional programmes and projects for early warning.
- Establish a regional system of exchanging information on prevention, preparedness and management of natural disasters.
- Create a regional response mechanism dedicated to disaster preparedness, emergency relief and rehabilitation to ensure immediate response.
- Create a regional mechanism to facilitate monitoring and evaluation of achievements towards goals and strategies.

In 2006, the SAARC Disaster Management Centre (SDMC) was established at the premises of the National Institute of Disaster Management (NIDM)in New Delhi with a mandate to serve the SAARC nations by providing policy advice and facilitating capacity building services, including strategic learning, research, training, system development and exchange of information for effective disaster risk reduction and management.

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16. South Asian Disaster Knowledge Network official website http://www.saarc-sadkn.org. Accessed on September 25, 2014.

Disaster Division, Hydrometeorological Disaster Division, Policy Planning Division and Biological and other Man-Made Disasters where professionals from the member states work to assess and analyse the risks of various disasters, identify the critical gaps, develop regional projects as outlined in the roadmaps, and implement and monitor the projects as per resources allocated for the same.

National Focal Points of the SAARC Disaster Management Centre, as nominated by the member countries, are as follows:

Table 2: National Focal Points of SAARC Member States

Afghanistan	Afghan National Disaster Management Authority
Bangladesh	Department of Disaster Management
Bhutan	Ministry of Home and Cultural Affairs
India	Ministry of Home Affairs
Maldives	National Disaster Management Centre
Nepal	Ministry of Home Affairs
Pakistan	National Disaster Management Authority
Sri Lanka	Ministry of Disaster Management and Human Rights

In India, the Ministry of Home Affairs, the national focal point, has a Disaster Management Division which is responsible for response, relief and preparedness for natural calamities and man-made disasters (except droughts and epidemics). This division is also responsible for legislation, policy, capacity building, prevention, mitigation and long-term rehabilitation.

As and when a member country needs assistance in the event of a disaster, it may request for such assistance directly from any other member country or through the SDMC (SAARC Disaster Management Centre). The requesting country specifies the scope and type of assistance while the assisting country notifies, directly or through the SDMC, the scope and terms of such assistance. The requesting country provides, to the extent possible, local facilities and services for the proper and effective administration of the assistance. The requesting country exercises overall direction, control and supervision of assistance within its territory.

SDMC has developed the South Asian Disaster Knowledge Network (SADKN), a gateway to knowledge and information on disaster risk management in South Asia. The SADKN web portal is a common platform for sharing knowledge and information among the multiple stakeholders of the member countries of SAARC on the multi-disciplinary and multi-sectoral issues of disaster risk assessment, risk prevention, mitigation and preparedness, and disaster response, relief, recovery and reconstruction.

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The SADKN is a network of networks, with eight national portals and one regional portal, that would involve the national, provincial and local governments, international organisations, scientific, technical and academic institutions, non-governmental organisations, media and corporate sectors, communities and individuals in South Asia in sharing knowledge and good practices on disaster management. The SADKN portal is an endeavour to provide ready access to clear, understandable and user-friendly information about real-time, impending and historical disasters, details of hazards, vulnerabilities and risks of disasters, and knowledge of resources, references, images and videos on virtually every aspect of disaster management in a user-friendly manner. It is creating an environment that encourages people to create, learn, organise, share, use and reuse knowledge on disaster management. Its vision is to provide a one-stop unified point of access to disaster management knowledge and services and thereby accelerate and improve the quality of disaster mitigation and response in the region.[17]

The SAARC Disaster Management Centre develops roadmaps on different aspects of disaster risk reduction and management through a consultative process involving all the member states, various technical and scientific organisations, other stakeholders and resource persons in the

17. Official website of SADKN. Accessed at http://www.saarc-sadkn.org/about.aspx on September 21, 2014.

Resource constraints have been a major limiting factor in implementation of the agreed framework and roadmaps. Additionally, SAARC has been very conservative in receiving assistance from external sources.

region. Based on these roadmaps, programmes and activities are initiated at the national and regional levels for implementation of the roadmaps, and priorities have been fixed in the short, medium and long terms. Some of the prominent roadmaps that have been developed are:

- Application of Science and Technology for Disaster Risk Reduction and Management.
- Coastal and Marine Risk Mitigation Plan.
- Climate Change and Disasters: Emerging Trends and Future Strategies.
- Community-Based Disaster Risk Management in South Asia.
- Mainstreaming Disaster Risk Reduction in Development.
- Earthquake Risk Management.

Member countries usually agree to implement projects derived from these roadmaps and embodied in the Regional Framework of Disaster Management developed by the SAARC Disaster Management Centre. Despite institutional commitments, achievements with regards to these pursuits are still far from being comprehensive or substantial. The SAARC Comprehensive Framework on Disaster Management and the SAARC roadmaps on disaster risk reduction are not legally binding instruments although these have been unanimously adopted by the member states. Non-legal bindings have limitations on the implementation and enforcement of the framework and the roadmaps. Resource constraints have been a major limiting factor in implementation of the agreed framework and roadmaps. Additionally, SAARC has been very conservative in receiving assistance from external sources. Almost all the SAARC initiatives have been funded by contributions from the member states, as per the sharing formula worked out on the basis of the size and population of the member states. Due to resource constraints, there is always reluctance on the part of the member states to enhance their contributions, which constrains the

implementation of regional projects. At the same time, the SDMC has successfully implemented several projects on disaster management of regional scale with partial financial support from outside agencies like the United Nations Office for Disaster Risk Reduction (UNISDR), Asian Disaster Reduction Centre (ADRC) and World Bank.

Despite having established elaborate disaster response mechanisms, the prevailing structures are still far from having any semblance of a symbiotic relationship. Among other matters, the member states do not appear to be forthcoming in sharing critical data and information on trans-border hazards and vulnerabilities, particularly on issues like discharge and withdrawal of waters from rivers and reservoirs, rainfall in upper catchment areas, etc which are necessary for developing regional flood early warning systems, etc.[18] Such disjointed approaches highlight the mistrust prevailing among the SAARC nations. There is a pressing need to somehow strengthen mutual dependencies and thereby enhance the effectiveness of the existing SAARC disaster response mechanisms.

DISASTER RESPONSE MECHANISM IN INDIA

India is highly vulnerable to natural disasters: 58.6 per cent of its landmass is prone to earthquakes of moderate to very high intensity; over 40 million hectares (12 per cent of land) is prone to floods and river erosion; of its 7,516-km-long coastline, close to 5,700 km is prone to cyclones and tsunamis; 68 per cent of the cultivable area is vulnerable to droughts and hilly areas are at risk from landslides and avalanches. There is vulnerability to disasters/emergencies of Chemical, Biological, Radiological and Nuclear (CBRN) origin. These heightened vulnerabilities to disaster risks can be related to many factors including expanding population, urbanisation and industrialisation, development within high-risk zones, environmental degradation and climate change.[19]

18. *SAARC: Regional Progress Report on the Implementation of the Hyogo Framework for Action (2011-2013),* A Regional HFA Monitor update published by Prevention Web accessed at http://www.preventionweb.net/english/hyogo/progress/reports/. Accessed on October 4, 2014.
19. *National Policy on Disaster Management 2009* (New Delhi: National Disaster Management Authority, 2009), p. 1.

Post 2004 tsunami, with the enactment of the Disaster Management Act of 2005 there has been a paradigm shift from response and relief to mitigation and preparedness. Now the endeavour is to make disaster management a holistic, multi-dimensional, and multi-disciplinary approach involving diverse scientific, engineering, social, and financial processes.

In India, the approach of disaster response within a policy framework is of recent origin. In the past, when disasters struck, the Department of Relief and Rehabilitation under the Union Ministry of Agriculture was given the charge of providing relief material. Its approach was primarily post-disaster management-centric. However, post 2004 tsunami, with the enactment of the Disaster Management Act of 2005 there has been a paradigm shift from response and relief to mitigation and preparedness.[20] Now the endeavour is to make disaster management a holistic, multi-dimensional, and multi-disciplinary approach involving diverse scientific, engineering, social, and financial processes. The National Policy on Disaster Management (NPDM) 2009 envisages a paradigm shift, from the erstwhile relief-centric response to a proactive prevention, mitigation and preparedness-driven approach for conserving developmental gains and to minimise loss of life, livelihood and property.

Essentially, states are entrusted with the administrative responsibility for disaster preparedness and management as well as the task of responding to any kind of disaster. The Centre is mandated to intervene when the magnitude of the disaster escalates beyond the state authorities' capability. In such an eventuality, the extent of the Centre's intervention is dictated by the gravity of the disaster, the required scale of relief operations, and the central assistance required for augmenting the financial resources at the disposal of the affected state government.

20. Government of India (GOI), Ministry of Home Affairs (MHA), National Disaster Management Division, *Disaster Management in India - A Status Report, August 2004*. Accessed at http://www.ndmindia.nic.in/GoIUNDP/ReportPub/DM-Statu-%20Report.pdf on October 19, 2014.

But, on the ground, the states generally find themselves ill-equipped to respond to disasters of high magnitude and the central agencies play a major role in disaster response. A Supreme Court appointed committee on the recent catastrophic floods in J&K (September 2014), also flagged the state government's deficient response and praised the valiant response of the defence forces, National Disaster Response Force (NDRF) and local volunteers.[21]

The National Disaster Management Authority (NDMA), the apex disaster management body under the chairmanship of the prime minister, is mandated to lay down the policies, plans and guidelines for disaster management to ensure a timely and effective response to disasters. Primarily, there are three central organisations to deal with the subject of disaster management: the Ministry of Home Affairs (Disaster Management Division), NDRF and NIDM. NDMA is mandated to encourage identification of disaster situations that would affect more than one state and to promote better coordination among the states, central ministries and departments and other agencies concerned through the establishment of mechanisms on the lines of the Mutual Aid Agreement.

Further, for execution of various polices, the Central Relief Commissioner (CRC) is designated as the nodal officer for coordination of relief operation. The office of the CRC receives all the information related to forecasts and warnings from the Indian Meteorological Department and issues directions for an action plan to respond to the emerging situation.[22]

Various ministries are assigned the responsibility for hazard identification and risk assessment, and to respond to disasters related to their field of expertise.

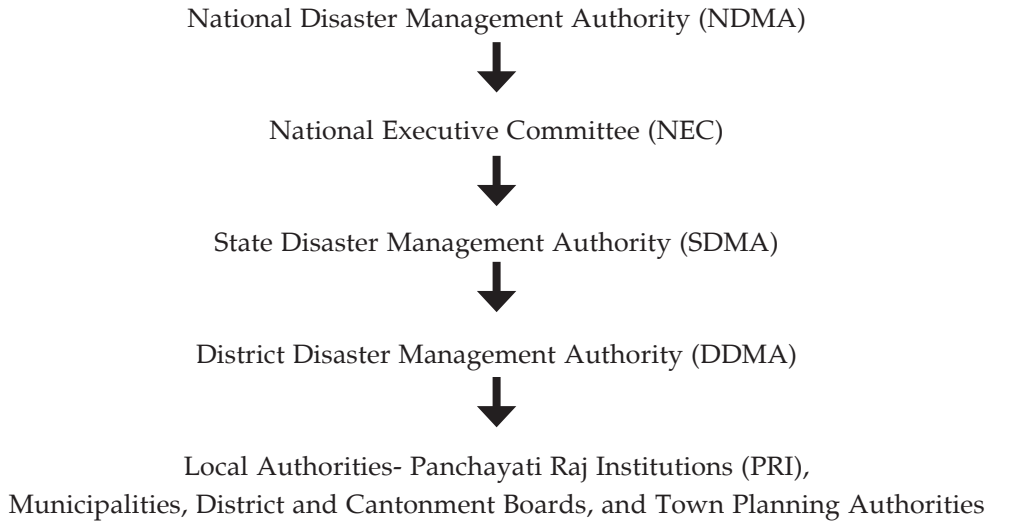
21. Krishandas Rajagopal, "As Floods Struck, Omar Government Went Missing, says SC Panel", *The Hindu* (Delhi), October 12, 2014.
22. H. Shivananda and P.K. Gautam, "Reassessing India's Disaster Management Preparedness and the Role of the Indian Armed Forces", *Journal of Defence Studies,* vol. 6 no. 1, January 2012, pp. 102-113.

Table 3: Responsibility of the Various Ministries in the Wake of Disasters[23]

Disasters	Nodal Ministry
Earthquakes and Tsunamis	MHA/Ministry of Earth Sciences/Indian Meteorological Department (IMD)
Floods	MHA/Ministry of Water Resources/ Central Water Commission (CWC)
Cyclones	MHA/Ministry of Earth Sciences/IMD
Droughts	Ministry of Agriculture /IMD
Biological Disasters	Ministry of Health and Family Welfare
Chemical Disasters	Ministry of Environment and Forests
Nuclear Disasters	Ministry of Atomic Energy
Air Accidents	Ministry of Civil Aviation
Railway Accidents	Ministry of Railways

Source: National Disaster Management Authority, Government of India, 2011.

Fig 1: Institutional Framework under the Disaster Management Act, 2005



In spite of thoughtful conception and establishment of elaborate national disaster management structures under the National Disaster

23. Ibid., p. 106.

Management Authority (NDMA) placed directly under the prime minister, inadequacy of resources continues to be a sore point. The State Disaster Management Authorities (SDMAs) are yet to be established in some of the states. In some states, the establishment of SDMAs remains symbolic as they are nothing more than the changed name of the department of relief and rehabilitation, home guards and emergency fire services manned with ad hoc personnel.

The NDMA is mandated to deal with all types of disasters, but major crises having serious or national ramifications are handled by the National Crisis Management Committee (NCMC), headed by the Cabinet secretary. NCMC is supported by the Crisis Management Groups (CMGs) of the central nodal ministries and assisted by the National Executive Council (NEC) on a requirement basis.[24]

The NDRF (National Disaster Relief Force), the force responsible to respond to disasters, has very limited capabilities primarily because of its very small size. Reportedly, the NDRF comprises 10 battalions, three each from the Border Security Force (BSF) and Central Reserve Police Force (CRPF) and two each from the Central Industrial Security Force (CISF) and Indo-Tibetan Border Police (ITBP). Each battalion consists of 1,149 personnel and has 18 specialised search and rescue teams of 45 personnel.[25] There are reports that two more battalions have been approved. But these numbers are virtually insignificant in the response to a disaster of high magnitude.

As the civil administration remains ill equipped for quickly initiating a tangible response to major disasters, the armed forces continue to be the only credible option available to the nation to handle these disasters. Though the responsibility of coordinating disaster response and relief operations lies with the Home Ministry, the armed forces under the Ministry of Defence, are routinely called out to assist, act upon, and manage, the situation. For instance, when the tsunami hit the Indian coast on December 26, 2004, the Indian armed forces, coordinated by the Integrated Defence Staff (IDS), efficiently handled relief, rescue and evacuation work. Whether it was the

24. n.19, pp.12-13.
25. "NDRF to Add Two More Battalions," *The Times of India* (New Delhi), September 10, 2014.

On account of their vast potential to meet any adverse challenge, speed of operational response and the resources and capabilities at their disposal, the armed forces have historically played a major role in emergency support functions. These include communication, search and rescue operations, health and medical facilities and transportation, especially in the immediate aftermath of a disaster.

Kashmir earthquake of 2005, the tropical cyclone in Bangladesh in 2007, the flash floods in Ladakh's capital Leh in 2010, the Sikkim earthquake of September 2011, the 2013 flash floods in Uttarakhand or the 2014 floods in Jammu and Kashmir, the armed forces have been the flag bearers of disaster management.

Aid to civil authorities during calamities is indeed one of the primary mandates of the defence forces, but this mandate is meant to work on the principle of being the 'last to enter and the first to leave'. However, in most post-disaster operations, the armed forces have been seen as 'the first to enter and the last to leave', assuming functional control of the disaster management activities.

The National Disaster Management Policy, approved by the Union Cabinet in October 2009, acknowledges the role of the armed forces in disaster management and appreciatingly states,

> Conceptually, the Armed Forces are called upon to assist the civil administration only when the situation is beyond their coping capability. In practice, however, the Armed Forces form an important part of the Government's response capacity and are *immediate responders in all serious disaster situations*. On account of their vast potential to meet any adverse challenge, speed of operational response and the resources and capabilities at their disposal, the Armed Forces have historically played a major role in emergency support functions. These include communication, search and rescue operations, health and medical facilities and transportation, especially in the immediate aftermath of a disaster. Airlift, heli-lift and movement of assistance to neighbouring

countries primarily fall within the expertise and domain of the Armed Forces.[26] [Emphasis added]

This recognition is essentially because of innumerable examples of sterling performance by the Indian military in HADR operations, against all odds. To mention a few, in the 2001 Bhuj earthquake, despite 95 dead and hundreds wounded in the Air Force Station Bhuj, this station exhibited a high degree of professionalism by assuming the task of being the primary base to receive aid for the complete area. Similarly, during the 2004 tsunami that struck the Andamans Islands and the eastern coast, the devastation at Air Force Station Car Nicobar resulted in the loss of life of 116 personnel, including women and children. Notwithstanding this loss, the surviving air warriors dedicated themselves to the disaster response operations and the station, being the only connection to the outside world, became the nodal relief centre. The destruction was so widespread that 30 transport aircraft and 16 helicopters flew round the clock to help the island territories. Additionally, two IL-78 aerial refuelling tankers were stripped of their fuselage fuel tanks overnight to carry relief material, and no international assistance was sought. [27] The Indian Air Force (IAF) had also extended assistance to neighbouring nations. Air-bridges were established for the Andaman and Nicobar Islands (Operation Sea Wave), Sri Lanka (Operation Rainbow) and the Maldives (Operation Castor); helicopters, including the IL-76, An-32, Do-228—almost all available fixed-wing and rotary-wing effort—were employed. In Sri Lanka, within the first two days, the IAF positioned six medium lift helicopters and undertook 445 missions, flying about 315 hours and airlifting about 330 tonnes of material and 882 passengers till the helicopters returned after almost a month. Two long range AVROs modified for para-drop were sent to the Maldives to undertake inter-island operations on its short field runways. The effort involved 155 sorties airlifting about 170 tonnes of load and 885 passengers. Similarly, during the Uttarakhand flash floods of 2013, under Operation Rahat, the IAF flew 3,544

26. Ibid., p. 13.
27. Manmohan Bahadur, "Disaster Relief is Good Diplomacy", in *Mail Today* (New Delhi), June 14, 2014.

Appointing a former military leader, Gen NC Vij, former chief of the army staff, as the founder vice chairman of NDMA is also recognition of the fact that military leaders are expected to be well-versed with the nuances of disaster management essentially because of their routine exposure to the same.

missions and transported 24,000 passengers and 800 tonnes of load.[28] In J&K this year, 84 military aircraft were deployed for rescue and relief operations. About one lakh people were rescued by the joint efforts of the armed forces and the NDRF.[29]

In recognition of the Indian military's contributions in disaster management, and to exploit this unparalleled national potential, the chief of the Integrated Defence Staff of the Chiefs of Staff Committee has been appointed a member of the NEC, the executive committee of the NDMA mandated to assist the NDMA in the discharge of its functions and also to ensure compliance of the directions issued by the central government.[30] Appointing a former military leader, Gen NC Vij, former chief of the army staff, as the founder vice chairman of NDMA is also recognition of the fact that military leaders are expected to be well-versed with the nuances of disaster management essentially because of their routine exposure to the same.

Gen Vij, having first-hand knowledge of disaster management policies and operations, has brought out the inadequacy of the prevailing disaster management infrastructure,

> There is no gainsaying that we are much behind the world in our levels of preparedness to meet the challenges of grave disasters, especially in the case of earthquakes. While the enactment of the Disaster Management Act 2005 was a much laudable pioneering step by the Government; to be result oriented, the follow-up needs to be far more vigorous. We now know the

28. Nishant Gupta, *The Indian Air Force in India's National Defence:2032* (New Delhi: KW Publishers, 2014), pp. 65- 66.
29. Group Captain Ashok K Chordia, "IAF in Noncombat Operations," *Geopolitics,* vol. 5, issue 5, October 2014, pp 8-14.
30. n. 19.

path which must be traversed and the strategy stands evolved, but we need to shift to top gear to attend to preparedness deficits on crash priority to save lives. Business as usual attitude of the officialdom and non-availability of the dedicated disaster management staff at all levels (generally an addendum to revenue departments in the states) pose insurmountable problems."[31]

THE WAY FORWARD

Generally, it is felt that prevailing civil-military coordination mechanisms are not adequate for a seamlessly smooth disaster response mechanism. For organising an effective response to disasters, the military and the civilian authorities, such as the police, fire services and first aid providers, need to better appreciate each other's procedures as well as capabilities and limitations. Even the developed countries are experiencing this inadequacy and for overcoming coordination issues, simulations and training on a regular basis are considered necessary.

The differences in the culture, priorities and operating modes of military personnel and those of civilian actors have a direct impact on relations between the civilian and military spheres. Coordination between military assets and civilian humanitarian actors has been one of the greatest challenges, that has been further enhanced by the increasing deployment of foreign military assets. Information management is crucial to the success or failure of any relief operation.

The aforementioned 2008 SIPRI report also recommends improving the capacity of military commanders and forces in potential contributing countries so that they can take part in natural disaster relief alongside humanitarian actors. The United Nations Office for the Coordination of Humanitarian Affairs (OCHA), can play a significant role in addressing this issue. Ensuring that military doctrines, standard operating procedures, field manuals and training practices adequately include the humanitarian principles and elements of the Oslo Guidelines would also be helpful. Humanitarian actors may also be involved in the designing of the military

31. Gen NC Vij, "The Earthquake and Tsunami in Japan of 11th March 2011: A Wake up Call for India." Accessed at http://www.vifindia.org/print/684 on September 22, 2014.

A comprehensive disaster management approach has to look beyond the traditional vulnerabilities and the region should be prepared to face any eventuality, expected as well as unexpected.

training framework on humanitarian assistance and disaster response.

Disaster management holds critical significance for South Asia. The region being highly vulnerable to natural disasters, with a limited response capability, has no option but to explore futuristic solutions. As climate change is leading to occurrence of unprecedented disasters and an increase in the frequency of extreme weather incidences, an effective policy has to be evolved, catering for the five 'Rs': Risk assessment, Risk prevention and mitigation, Relief, Recovery and Reconstruction.

A comprehensive disaster management approach has to look beyond the traditional vulnerabilities and the region should be prepared to face any eventuality, expected as well as unexpected. Unprecedented floods in J&K highlight the need to be prepared for the unexpected. The floods in J&K in 2014 were the worst in 100 years, whereas as per the National Policy on Disaster Management (NPDM) of 2009, on flood zones, Kashmir is not an area that is vulnerable to floods.

NPDM 2009 acknowledges the fact that disasters do not recognise geographical boundaries and major disasters may often simultaneously affect several countries. Therefore, it will be the national endeavour to develop close cooperation and coordination at the international level in all spheres of disaster management. It also lays emphasis on building strategic partnerships at various levels. [32] Hence, regional capacities should be developed to respond to disasters, and relevant institutional relationships should be strengthened, particularly between existing regional organisations like SAARC and the UN regional offices. This would also improve the effectiveness of foreign military assets in disaster relief and coordination with other actors. As per the NPDM 2009, the central government is to facilitate coordination with the UN agencies, international organisations and governments of foreign countries in the

32. n. 19, p. 14.

field of disaster management. The Ministry of External Affairs (MEA) in coordination with the Ministry of Home Affairs (MHA), is to facilitate external coordination/cooperation.[33]

In addition to the MEA and MHA, in the pursuit of international cooperation, it is essential to involve the Ministry of Defence (MoD) as well essentially because of two main reasons. First, there is a high likelihood of overseas help coming in the form of foreign military assistance. And military-military coordination is generally better than civil-military action. Secondly, in case India has to extend assistance in disaster relief, experience suggests that the Indian military would be the likely instrument of choice. No other government machinery is more capable and experienced in disaster management, at both domestic and international levels.

In India, the involvement of the military in HADR operations is a vital dimension of civil-military relations. There have been repeated recommendations towards using the expertise of the armed forces for bolstering the capacity of the civil authorities, including the disaster response forces. This would enable the latter to achieve self-reliance and, thus, reduce their dependence on the armed forces. But the moot question is, in the present socio-economic limitations, would India be able to afford duplication of resources?

Many civil and military leaders are of the opinion that in the given circumstances, rather that expecting the NDMA to be adequately prepared to respond to major disasters as the first line of response, it would be more appropriate to take measures to strengthen the Indian military in such a manner that it is better prepared, trained and equipped to handle this national requirement. A former additional secretary of the Cabinet Secretariat has recommended that the government must set up a centre for excellence in disaster management for the Indian armed forces. To ensure that in the field formations the military equipment meant for war is not used for secondary tasks in the disaster-prone areas, field formations are recommended to be given brick formations (logistics)

33. Ibid., p. 12.

specifically for disaster response at the earliest.[34]

The military is also required to be involved in needs assessment activities. Involving military representatives in assessment activities would facilitate identification of the most useful role that military assets can play in complementing civilian capabilities. It would also strengthen civil-military coordination.

The decision to deploy military assets as part of international disaster relief assistance should be based primarily on the humanitarian needs and interests of the relief effort and the affected country and communities. In particular, the burden of coordination and the real and opportunity costs of accommodating and operating the assets for the affected government must be taken into account.

National disaster management plans in countries which are particularly prone to natural disasters, including India, should include provisions on how to assess the need for foreign military assets, how to request for them, how to manage offers of military assets from foreign countries and how to manage the assets when they arrive. It should always be kept in mind that the mandates and competencies of humanitarian and military organisations are different—this fact should never be lost sight of.

The implications of natural disasters on international relations are quite subjective and difficult to predict. But there is also a high potential of spurring regional/international cooperation. Natural disasters can also be instrumental in improving bilateral relations. The J&K floods in 2014 comprise a case in point. Just before the floods, Indo-Pak relations were appearing to be highly strained. Foreign secretary level bilateral talks scheduled in August 2014, could not be conducted because the countries had differences of opinion on certain issues and India was disturbed by Pakistan's approach. But soon after, the floods in Pakistan, Pakistan Occupied Kashmir (POK) and J&K made the Indo-Pak leadership overlook immediate as well as traditional differences and they immediately extended courtesies and offered disaster management help to each other.

34. Mohan Das Menon, "We Must Define the Role of Armed Forces in Disaster Management" *The New Indian Express,* June 30, 2013. The author is a former additional secretary, Cabinet Secretariat.

In responding to a disaster, besides the limitation of response capabilities, another critical challenge is to reconcile the two contradictory needs i.e. the need for speed, to move quickly in response to a disaster to save lives, provide food and housing, and establish order and security; and the need to take the time to accurately assess and understand the situation in all its complexity, to grasp the needs and desires of the affected community, and to involve the community in the short and long-term recovery efforts. This paradoxical challenge of needing to 'go slow' in order 'to go fast' needs to be addressed with maturity.

Responsiveness, reach and flexibility make air power the first choice of the civil authorities in disaster relief and humanitarian assistance operations. As India is acquiring new air power assets, including the C-17 Globemaster, C-130 Super Hercules, 100+ new Mi-17 V-5s and 15 Chinook heavy lift helicopters, its disaster relief potential would be of a very high order, equalled by very few nations.[35] India should exploit this capability in fostering regional cooperation by consciously reassuring and reemphasising that it believes in the philosophy of peaceful coexistence and defensive defence. The region should be made to understand that these assets would be better utilised for disaster response and preparedness in the region, rather than employing them in offensive military action against each other. And this is feasible only if we strengthen mutual cooperation and promote an environment of trust, avoiding doubts, suspicion and scepticism.

The most critical dimension in any kind of collaboration at any level, be it the community, national, regional or international, is the degree of trust achieved between the collaborating individuals, groups, institutions or nations. The interacting identities working towards a common goal have no option but to strive for a working environment based on mutual trust.

35. Bahadur, n. 27.