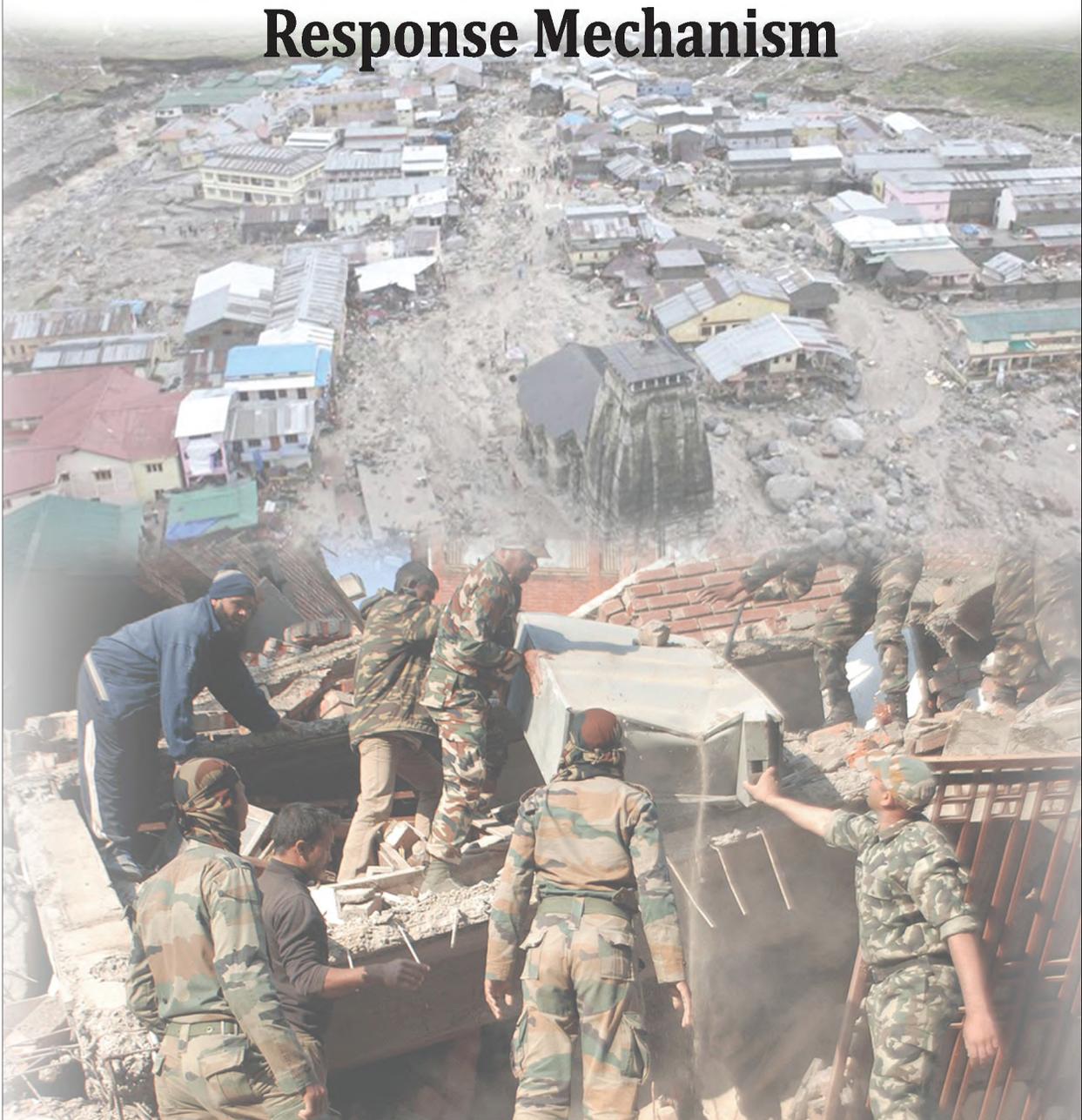




VIVEKANANDA INTERNATIONAL FOUNDATION



Revisiting India's Disaster Response Mechanism



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Revisiting India's Disaster Response Mechanism: Challenges and Way Forward

One Day Round Table Conference (May 6, 2016)

organised jointly by

Vivekananda International Foundation (VIF)

&

Policy Perspectives Foundation (PPF)



**Vivekananda International Foundation
India**



Contents

| | |
|--|----|
| 1. Foreword | 1 |
| 2. Programme / Agenda | 3 |
| 3. Concept Paper | 5 |
| 4. Minutes of the Round Table Conference | 7 |
| 5. Recommendations | 29 |
| 6. Speakers' Profile | 32 |

FOREWORD

In the overall disaster management framework of the country, effective response mechanism and preparedness at all levels acquire significant importance. This has been duly reflected in the Disaster Management Act 2005 by incorporating an exclusive chapter on 'Response' and mandating the constitution of National Disaster Response Force (NDRF) as a specialist force to deal with all types of disasters both natural and manmade. Over the last ten years NDRF has acquired a niche for itself for its professionalism



in handling different types of disasters. However, it has been increasingly felt that having one professional response mechanism at national level alone is not enough. What is required is a multi-level response mechanism: the NDRF and the Armed forces at national level; State Disaster Response Forces (SDRF) at state level; Fire & Emergency Services, Civil Defence, Police, Home Guards, NSS and NYKS etc at district level and well aware community at grass root level.

Having a multi-level disaster response mechanism at state, district and local levels is all the more important because handling of disasters is primarily the responsibility of state governments. Keeping these points in view, the Vivekananda International Foundation (VIF), in association with Policy Perspectives Foundation (PPF) organised one day Round Table Conference on 'Revisiting India's Disaster Response Mechanism : Challenges and Way Forward' on 6th May, 2016 at VIF premises in New Delhi. The conference was inaugurated by Shri Kiren Rijju, Hon'ble Minister of State for Home Affairs and was attended by experts and professionals from NDMA, NIDM, NDRF, Defence Services, AIIMS, VIF, PPF, Fire Services, Civil Defence, NSS, besides participants from Nepal, Tamil Nadu, Odisha, Bihar, Gujarat and Mizoram.

While the three sessions were earmarked for presentation and discussions relating to response mechanism to deal with disasters at national, state and district levels, the fourth sessions was dedicated to the important subject of Mass Casualty Management. I am happy to mention that the deliberations in all the four sessions were marked with

high degree of professionalism with a number of very constructive suggestions from the participants. All the important recommendations were duly compiled and have been forwarded at appropriate levels in the Government for consideration.

On behalf of the VIF and PPF, I would like to convey my sincere appreciation to all the participants for their valuable contribution making the conference a success.

New Delhi

7 October 2016



General N C Vij
PVSM, UYSM, AVSM (retd)
Director - VIF
Former Chief of the Army Staff
&
Founder Vice Chairman, NDMA

Revisiting India's Response Mechanism:
Challenges & Way Forward

Programme & Agenda

Friday, May 6, 2016

09.30 -10.00: Tea & Registration

10.00 -10.30: Inaugural Session

Opening Remarks : Gen N C Vij, Director, VIF (Former
Chief of Army Staff &
Former Vice Chairman, NDMA)

Key note address: Shri Kiren Rijiju, MOS (Home)

10.45 -11.00: Overview : Shri KM Singh, Former Member,
NDMA & Vice President, PPF

11.00-12.00: Session 1 - National Response Mechanism - NDRF:
Efficacy & Shortcomings

Chair: Shri OP Singh, DG NDRF

Speakers : Shri Arjun Katoch, Former Chief
of FCSS, UN OCHA, Geneva

Dr Amod Mani Dixit, ED NSET,
Kathmandu

12.00 -13.15: Session 2 - State Response Mechanism - SDRF:
Desirability, Organisational Structure & Role

Chair: Shri KM Singh, Vice President,
PPF

Speakers : Shri Satyajit Mohanty, Addl DG,
I/C ODRAF, Odisha

Shri SS Guleria, DIG, NDRF

Shri Zothansanga Hmar, State
Organiser, Disaster Management
Department, Mizoram

Shri AKJha, SDRF, Bihar

13.15 -14.00: Lunch

14.00 -15.30: Session 3 - District Level Response Mechanism:
Integration of Civil Defence,

Fire Services, Local Police, NSS, NYKS & Civil Society
in Response Mechanism

Chair : Shri Kamal Kishore, Member,
NDM

Co-Chair: Prof Santosh Kumar, ED, NIDM

Speakers : Shri Gagandeep Singh Bedi, Secy,
Rural Development, Tamil Nadu

Shri GS Saini, Director, National
Civill Defence College, Nagpur

Shri MF Dastoor, Director, Fire
Services, Ahmedabad

Corporation

Dr. Namrata Singh, NSS, Miranda
House, DU

15.30-16.30: Session 4 - Mass Casualty Management

Chair: Lt Gen (Retd) Dr JR Bhardwaj,
Former Member, NDMA

Speakers : Dr Muzaffar Ahmad, Former
Member, NDMA

Dr MC Mishra, Director, AIIMS

Dr SK Singh, DDG, Min of Health

& Family Welfare.

16.30 -17.15: Concluding Session

Gen N C Vij, Director, V1F

Shri KM Singh, Vice President PPF & Former
Member, NDMA

Concept Paper

Round Table Conference: Revisiting India's Disaster Response Mechanism Challenges & the Way Forward

Enactment of Disaster Management Act 2005 was a defining step laying down a three tier institutional mechanism and providing for a holistic and integrated approach to Disaster Management (DM). It brought about 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.

A significant feature of the Disaster Management Act 2005 is provision of a separate chapter on Response mandating constitution of National Disaster Response Force (NDRF) as a specialist force to deal with any disaster or threatening disaster situation. Over the years NDRF has emerged as a single largest dedicated disaster response force in the world trained and equipped to handle any natural or manmade disasters. However, this Force remains afflicted with a number of constraints, be it in terms of infrastructure, training and equipment etc. to upgrade its efficiency up to the international standard.

Experience of dealing with disasters during the last one decade has shown that in a huge country like India with multi disaster vulnerability, the resources of NDRF and Army at national level need to be supplemented by corresponding resources at the cutting edge levels. Thus, the need of ensuring a four tier response mechanism namely, NDRF supplemented by well trained, equipped and dedicated State Disaster Response Force at the state level, Fire & Emergency Services, Civil Defence, Home Guards and local Police at district level and adequately sensitised community at the grass root level. In case of any disaster of grave intensity, the Armed Forces will continue to be called upon in a lead role. In this multi-level response mechanism, certain other organisations like NCC, NSS, NYKS and NGOs can contribute significantly, if integrated in the disaster response mechanism in the states in a structured manner. Equally important is the role of medical professionals in ensuring prompt medical response i.e., Management of

mass casualty, Trauma care & Preparedness for emerging Infectious diseases (Ebola, Zika, H1N1 & Dengue etc.)

Vivekananda International Foundation (VIF), New Delhi, in partnership with Policy Perspectives Foundation (PPF) held a Round Table Conference on the subject of "Revisiting India's Disaster Response Mechanism : Challenges and Way Forward" on 6th May 2016. This conference deliberated on the issues mentioned above with experts in the field and finalised recommendations for the Government aimed at ensuring an efficient multi level response mechanism with coordinated approach.

Minutes of the One Day Round Table Conference on "Revisiting India's Disaster Response Mechanism: Challenges and Way Forward"

Vivekananda International Foundation (VIF) organised one day Round Table Conference on "Revisiting India's Disaster Response Mechanism: Challenges and Way Forward" jointly with Policy Perspectives Foundation (PPF) at VIF, 3, San Martin Marg, New Delhi on May 6, 2016. Shri Kiren Rijju, Hon'ble Minister of State for Home Affairs inaugurated the Conference as the Chief Guest. Gen NC Vij, Director, VIF delivered the welcome address and Shri KM Singh, Vice President, PPF gave an overview of the Conference. Participants in the conference included members from NDMA, NIDM, NDRF, Defence Services, AIIMS, Medical Services, Fire Services, Civil Defence, NSS, besides representatives from Nepal, Tamilnadu, Odisha, Bihar, Gujarat and Mizoram.

Inaugural Session:

The programme started with welcome address by Gen NC Vij, Director VIF. In his opening remarks Gen NC Vij apprised the participants of various initiatives taken by NDMA in the field of DM. He mentioned that the Hon'ble Minister has always been supportive of conducting such brainstorming sessions to come out with some policy recommendations and initiatives for the Government.

Gen Vij mentioned about India's excellent response mechanism and its need to match up to response mechanism of other countries such as Australia, U.S.A, Russia and other developed countries. Outlining India's vulnerabilities to disasters, he mentioned that 58.6 % of entire land is vulnerable to earthquake due to its close proximity to Himalayan belt, 12 % of the country is vulnerable to floods and east coast of India is extremely vulnerable to cyclones. He mentioned that about 2% of the GDP of India is spent annually on post disaster recovery and added that the country cannot alleviate poverty and achieve our developmental goals unless concrete steps are taken to make the country disaster resilient. He suggested that we all need to look at DM holistically.

He remarked that response is just one part of DM, but it is equally important to focus on mitigation, capacity building, preparedness and

strengthening early warning systems for building resilience at the community level. Apprising the participants of the principal of disaster response, which works on a pro-active response mechanism, he impressed on the need of being prepared for even the unpredicted disasters. Referring to the operational capability of NDRF, Gen Vij highlighted the need of appropriate training infrastructure, well trained personnel and state of art technical equipments. He highlighted the need for a matching state response mechanism at all levels (state/district/block/panchayat). In this context, he cited the examples of dedicated State Disaster Response Force (SDRF) set up by some of the state Governments like Bihar, Odisha and Gujarat etc. He stressed that the focus should be on matching the capacities of SDRF with NDRF at all levels with requisite trained personnel and equipments. He impressed upon the need and importance of working out an effective coordination mechanism between various agencies involved at the centre and state levels in disaster response. He also requested Hon'ble Minister to create a separate National Disaster Response Reserve for equipment used during disasters.

Gen Vij concluded his opening remarks by apprising the participants that NDRF has already gone for two very important international assignments (Fukushima disaster and Nepal Earthquake) and received appreciation from Nepal and Japan governments for their excellence and added that we still need to build our expertise in the field of oil, nuclear and biological disasters.

The Chief Guest Shri Kiren Rijiju, MoS, Ministry of Home Affairs appreciated the initiative of organising the Round Table Conference and mentioned that he is happy to be a part of this a Conference. He mentioned that he will talk about the new and emerging issues rather than talking on the background as participants in this conference were all experts in this domain and have background on the same. He mentioned that there is a need to bring about high end technology to increase our capacity in the domain of response and for that we need to integrate all our key institutions such as Indian Institute of Technology, Indian Institute of Management and Indian Space Research Organization in the area of research & development. He

added that Jawaharlal Nehru University (JNU) will be conducting joint research programmes with NIDM for scholars in the field of DM. He also suggested involvement of private sector in the area as there is a financial crunch in the budget, although the 14th Finance Commission has allocated separate funds for the formation of State Disaster Response Force from April onwards.

He mentioned that though NDRF is performing very well, but there are some new issues emerging such as non-availability of critical equipments, especially in the area of management of fire and suggested that we need to come out of the 'jugad' culture and build our capability. He referred to the recent fire incident in Utrakhand, which caused massive loss and NDRF and Home Guards had to struggle to diffuse the fire not because of lack of their commitment, but because of lack of critical equipment required to diffuse the fire. He mentioned that countries like Russia and Australia are well equipped and are well versed to deal with fire disasters due to their large forest covers and we need to collaborate with them in order to build our capacities in the field of fire disasters. He mentioned that he went for a conference to USSR and there he met technocrats with doctorate degree in welding and this enlightened him on the importance of expertise in the domain of disaster response and how urgently we need to upgrade our equipment's and achieve expertise. Hon'ble Minister cited some incidents where the entire village in Manipur got submerged due to lack of technological intervention at the right time. He asserted that the Building Code for construction need should be followed and implemented. He also mentioned that since India is prone to all types of disasters due to its topography and density of population, we should make sure that we implement building and construction codes for making our nation disaster resilient. Hon'ble Minister suggested that the disaster rescue operations have to be of an optimum level while keeping Disaster Risk Reduction as the focus and specially at the local community level, as they are the first responders in case of any disaster.

He suggested that District authority should be fully empowered, equipped and strengthened aimed at creating resilience at grassroots level. He impressed upon the importance of awareness generation as

critical area. The Hon'ble Minister apprised the participants that India is considered as one of the leading nations in the field of DM by the UN and he was recently awarded as the 'Disaster champion'. Therefore, it is his obligation to make sure that India takes the lead role in the area of response too . He also informed that India will be hosting the Asian Ministerial Conference on Disaster Risk Reduction in Delhi for the first time this year.

Hon'ble Minister stated that NDRF has become more visible as compared to earlier times when the armed forces were used for leading response & rescue operations. He concluded by stating that he would be receptive to suggestions and recommendations made by the eminent experts in their domain during the round table conference for policy interventions and recommendations to broaden our vision on the post Sendai Declaration framework.

Overview of the Conference:

Shri KM Singh, former Member NDMA and Vice President Policy Perspectives Foundation (PPF) gave an overview of the conference delineating its objective. He complimented the National Disaster Response Force on its achievements in the past on various missions, including Kosi floods in 2008, triple disaster in Japan in 2011 and Nepal earthquake in 2015 etc. He mentioned that this round table conference had three important components namely, 'Revisiting the Response Mechanism', 'Challenges' and 'Way Forward' and suggested that the deliberations in this conference should be primarily on these three core areas. Referring to the three tier institutional mechanism in the DM Act 2005, he averred that response should also have similar three tier structure: at national level NDRF, at state level SDRF and at district level Civil Defence, Fire Services, Police, NSS, NYKS, Civil Society, PRIs and ULBs etc. He impressed on the need of implementation of the directions mentioned in the National Policy on Disaster Management (2009) as far as it relates to establishment of response mechanisms at state and local levels. He also suggested that the report on 'Revamping of Civil Defence'(2009), which was accepted by the Govt in 2009, leading to amendment of Civil Defence Act assigning it a role in DM, should be implemented.

Referring to the NDRF, Shri Singh mentioned that while this force has earned the unique distinction of being the single largest dedicated disaster response force in the world, it has many shortcomings which would need priority consideration by decision makers. One of the major problem is that till date this force does not have a national level training institution. In this context, he quoted the National Policy on DM, 2009 which mentions that "a national level academy will be set up to provide training for trainers in DM and to meet related national and international standards." He said that in pursuance of this, 150 acres of land was acquired for the National Disaster Response Academy at Nagpur over 3 years ago with the vision that this Academy will train trainers of NDRF, SDRF and also personnel of SAARC countries. With the recent decision of the SAARC Secretariat to have the SAARC Disaster Management Centre (SDMC) in India, it is important that the National Disaster Response Academy at Nagpur is set up on priority basis so that India takes up a leadership role in the field of training in disaster response in SAARC countries.

Session 1: National Response Mechanism - NDRF : Efficiency & Shortcomings.

Chair: Shri OP Singh, DG, NDRF

Panelists: Dr Amod Mani Dixit, ED, NSET, Nepal

Shri Arjun Katoch, Former Chief of FCSS, UN OCHA, Geneva

Shri OP Singh, DG NDRF, mentioned that there is a need of a cosmopolitan approach to look at the response mechanism of our country. He expressed his gratitude towards the NDMA for visualizing the state of the art dedicated response force- the NDRF. He impressed on the need to strengthen the response mechanism not only at the national level but also at state level. He mentioned that currently National Disaster Response Force is facing organizational deficiencies such as lack of technical equipments, trained personnel and strategies and hence there is a need to revisit the organizational needs in order to serve the main objective of the organization. He then mentioned that as a team they face challenges based on situations as

each disaster has its own new challenges and personnel and equipment requirements.

He suggested that management of the force, use of technology and developing systems are three aspects that need to keep pace in the current scenario and match up to emerging risks and make sure that appropriate institutions equipped with technology and expertise can be used as a catalyst. He suggested that there is a need to build expertise in the field by citing example of the recent fire in Uttarakhand where National Disaster Response Force was deployed although it has no capacity and training for responding to a fire disaster.

Shri OP Singh suggested that there is a need to invent mechanisms, tools, equipments with the targeted training and technological advancement for a better response in all sorts of disaster situations and towards this end micro zoning is a must. Primitive ways to conduct operations need to be replaced with the new technological tools and equipments. He mentioned that communication operational tools were unavailable earlier and the force had to depend on Army's satellite phones, but now they have collaborated with Inset satellite communication. He impressed upon the need of setting up of a modern EOC, on site coordination and resource categorisation for quick response. He also apprised the participants that the National Disaster Response Force Helpline was the only communication working during the recent Chennai floods and hence standardization of communication for effective and quick response is highly essential. He concluded by mentioning about his international exposure to Indonesia's well equipped Emergency Operation Centre and suggested that we need to replicate it in our country at both national and state levels for better coordination and response.

Shri Arjun Katoch, International Disaster Management Advisor to various Governments, made a crisp presentation on the national response mechanism and National Disaster Response Force. He shared some facts about the structural and non-structural construction across India and its vulnerability to earthquakes, in particular due to its close proximity to Himalayan belt. He mentioned that the strength of National

Response Management in India included; India's resilient and resourceful population, who are used to do things themselves and India's good enabling national legislation namely, the Disaster Management Act 2005, though unfortunately the Government has not been able to implement everything and chosen in bits and pieces. Also, it has a capable Armed Forces experienced in disaster response and well established administrative structure of Government all the way down to district and panchayat level, which is there since decades, besides a very extensive network of Red Cross, NGOs and Civil Society organisations reaching down to the grass roots level, but are not accessed and lastly, a strong social media reach.

He spoke about the weaknesses of National Response Management in India which included; absence of first responder capacity at the community level. He also highlighted that Fire Services & Civil Defence have been neglected and the legal environment did not allow private organisations to link CSR funds which are unutilized. He mentioned that in the Disaster Management Act there has been no involvement and integration of the Armed Forces in preparedness and response and also no involvement of Red Cross, NGOs, civil society, schools in disaster preparedness and response. He cited the example of Istanbul city's preparedness level among the population up to the mohalla level. He mentioned that there is no national public early warning system available in India unlike Japan, which has an excellent early warning system based on mobile phone for its citizens. He remarked that the Ministry of Home Affairs and NDMA have turf issues and NDMA is going through structural changes and it has lost its identity today. He mentioned that there are no procedures and plans in place for accepting and coordinating incoming international assistance in case of a disaster.

Shri Katoch suggested that the way forward for the national response included suggestions like; emphasizing on building community preparedness and first responder capacity on the lines of national mission like Swachh Bharat Abhiyan; enabling legal environment to promote community and municipality level disaster management as envisaged in DM Act 2005; practice coordination and Integration of

Armed Forces, NGOs and Civil Society in disaster planning at all levels; establishment of an autonomous NDMA and route finance to states through the apex body, induction of professional leadership in Ministry of Home Affairs & NDMA to deal with disaster management and plan for incoming international assistance in major disasters. Some of the shortcomings of NDRF, according to him, were the existing personnel policies unsuitable for its role, rotation of police personnel as a 5 year rule; lack of modern training facilities meeting the international technical and equipment standards for urban search and rescue; lack of specialist leadership and continuity; lack of exposure to international training and functioning with the Armed Forces.

His suggestions included some policy and administrative initiatives such as; establishment of coherent and logical personnel policies that facilitate long term development of experience and capacity; induction of modern equipment and training facilities; implementation of international technical standards for management and operations; induction of professional, stable, long lasting leadership for continuity and participation in international INSARAG training & exercises. He averred that NDRF is a good asset for localized disaster response, but is insufficient for a major disaster for which the response will have to be based on the Armed Forces as in any other country. Lastly NDRF needs to rethink its personnel policies and modernise itself even for its current role.

Shri Amod Dixit presented a snapshot on how to enhance emergency response capacity by providing various training systems. He mentioned about training in Medical First Response (MFR), Collapsed Structure Search and Rescue (CSSR), Community Action for Disaster Response (CADRE), Hospital Preparedness for Emergencies (HOPE) & Swift Water Rescue (SWR) and Training for Instructors (TFI) by promoting networking and collaboration among relevant individuals and institutions in the region.

According to him the approaches which need to be applied would include; training strategy, strictly structured training curriculum including meticulous quality control to internationally accepted

standards; focus on Instructor's development using adult education principles: national and regional adaptation, nationalisation (including translation), institutionalisation (including database information system), regional cooperation (TRNG Institutions & Professionals); Medical First Responder and Collapsed Structure Search Rescue Courses in Hindi & integration of in-house courses; civil interface for disaster preparedness and response awareness to various stakeholders and drills/ simulation exercises.

He suggested that India's needs for enhancing the early response capacity included; Informal Community SAR to national professional SAR Continuum; SAARC level regional coordination and network; close interaction with ASEAN; close interaction with professional / training organisations globally; proliferation of in-country NDRF to SDRF to DDRF (District DRF) to Community DRF (CDRF); volunteerism as one goes towards the community; scientific research in disaster response technology, a national level or SAARC level R & D unit; production of SAR/MFR equipment in the region; institutionalising the program through linking the program with national/ state and district plan and policies, adaptation of the courses in local context, translation in local languages and making cost of training affordable, but without compromising on standards and quality.

Shri Nakul Tarun raised the issue of INSARAG certification for NDRF and desired to know the present status of this long standing proposal. He suggested a systematic study of manpower and equipment requirement of NDRF and SDRF in the country.

Maj Gen (Retd) Badani suggested implementation of 'brick system' for equipments in NDRF on the lines of Army. He impressed upon the importance of coordination between Army and NDRF during normal period.

Shri AK Jha, SDRF, Bihar suggested review of training material as presently it is identical for officers and constables.

Session 2: State Response Mechanism - SDRF : Desirability,
Organisational Structure & Role.

Chair : Shri KM Singh
Former Member, NDMA & Vice President, PPF

Panelists: Shri SatyajeeetMohanty, Addl DG, I/c ODRAF, Odisha

Shri SS Guleria, DIG, NDRF

Shri Zothansanga Hmar, State Organiser, DM Dept,
Mizoram

Shri AK Jha, SDRF, Bihar

Shri KM Singh commenced the session by mentioning that the concept of states constituting their own dedicated 'State Disaster Response Force' on the pattern of NDRF was first mooted in a presentation by him in the Annual Conference of DGPs in Vigyan Bhawan in 2006. MHA approved this proposal and issued direction to states accordingly. Thereafter, this suggestion also found mention in the National Policy on Disaster Management 2009 mentioning that "The States/ UTs will be responsible to develop their own response potential progressively and complete the process at the earliest. This will comprise training and equipping of State Response Forces, Community Preparedness & creation of response caches at the district level".

Elaborating on the importance of states having their own dedicated SDRF, he mentioned that the same is needed as central forces take time to reach the disaster site, whereas the local Police has the advantage of first to arrive and being well conversant with the terrain, language, local sensitivities and resources, besides having a well developed communication system. He mentioned that SDRF would be operationally effective if it is a dedicated force for disaster related duties only, is trained and equipped on the lines of NDRF and has a fixed tenure of at least 3 to 5 years with certain allowances as incentive. He suggested that during normal period the SDRF should be utilised for community capacity building and awareness generation exercises, besides conducting mock exercises for natural and manmade disasters along with other agencies. He complimented the states like Bihar, Odisha, Gujarat, Assam and Mizoram etc for constituting effective SDRFs and hoped that other states will follow suit.

Shri Satyanjit Mohanty, Addl DG, I/C ODRAF, Odisha, mentioned about the devastation caused by super cyclone in Odisha in 1999, which triggered the process of the state govt building its DM capacity in a big way since 2001 with creation of Odisha State Disaster Management Authority and Odisha Disaster Rapid Action Force (ODRAF). Highlighting the commendable work done by ODRAF over the years, he mentioned how they extended helping hand to the neighbouring state of Andhra Pradesh following cyclone 'Hudhud' in 2014. He mentioned that significant features of ODRAF are that it is a specialist force with state of art emergency equipment and training and also well prepared SOR. He added that it's present strength of 10 units is being enhanced by another 10 units.

He apprised the participants of the main objectives of ODRAF, which include reducing casualty during Disasters; clearance of channels of communication; quick deployment of personnel and equipment, reduce dependence on Army/ Paramilitary Forces and support Institutional arrangements. He concluded by presenting snap shots of ODRAF's pictorial clippings.

Shri SS Guleria, DIG, NDRF, reminded the participants of the ethos of the DM Act-2005 which empowers States/UTs to build capacities for disaster response. He referred to the National Policy on Disaster Management-2009 which enjoins upon each State/UT to raise SDRF. He mentioned that in the meeting chaired by the Cabinet

Secretary on 'Crisis Management Plan' on 12th March, 2012 emphasis was laid on the capacity building of Police in DM. Similarly, 178th report of the PAC of MHA on DM in the country recommended evolving mechanism to strengthen SDRF. He disclosed that 22 states have issued Gazette notification to constitute SDRF, but so far only 12 states have SDRFs in place.

He mentioned that the challenges faced by SDRF ranged from selection of manpower to procurement of equipment, lack of training infrastructure, absence of pool of instructors, lack of funds and lack of commitment on the part of Government machinery. The way forward, according to him, include need of having some legal provision in

the DM Act 2005 for the states to raise SDRF and also earmarking certain percentage of the State Disaster Response Fund for capacity building to be utilised for SDRF only. He also suggested procurement of equipments for SDRF on priority basis and added that it will facilitate procurement process in the states if all the equipments required for SDRF are put on DGS&D rate contract. He also suggested raising of CBRN teams, wherever required, especially for protection of Nuclear Power Plants & Industrial installations with procurement of various technical equipment on priority.

Shri Zothansanga Hmar, State Organizer, DM Dept, Mizoram, mentioned that Mizoram has its own response mechanism where the Disaster Management and Rehabilitation Department is the nodal department for managing disasters in the state. Also all line departments are expected to extend full cooperation during response. The State EOC, DEOCs and other control rooms are activated with full strength during a disaster situation.

He further explained that the state has 4 tier response mechanism for conducting operations; firstly, at the local community level where participation of village/ local volunteers, NGOs (Branches of Young Mizo Association, YLA, YCA and MTP) is there; secondly, Sub-Divisional level where participation of Local Police, Fire Services, NGOs, Sub Division administration is there ; thirdly, District/State administration level where participation of SDRF / Paramilitary Forces, who are available in the districts, is there and fourthly, State/National level where participation of NDRF and other organization atnational level is there.

He gave a snapshot of the strength of Mizoram SDRF with a total strength of 758 personnel drawn from the 7 Battalions of the Mizoram Armed Police and the Indian Reserved Police battalions. He, however, mentioned the problem being faced is due to frequent transfer of trained personnel within their battalion and mentioned that this problem may be solved only if the trained personnel are made part of dedicated SDRF with fixed tenure.

Shri AK Jha, Bihar State Disaster Response Force (BSDRF) mentioned that in 2010 Govt of Bihar accorded sanction for raising of one Battalion

of State Disaster Response Force on the line of NDRF for search and rescue operations during various disasters and restoration of essential services. The challenges, according to him, faced by Bihar SDRF included deficiency of experienced officers to lead rescue operations and non-availability of NDRF trainers for training the SDRF personnel. He mentioned that since community members are the first responders in a disaster situation, it is very important to create awareness among the community on the response mechanism. For this the youth need to be trained at the panchayat level on various do's and don'ts during a disaster and conducting training on first aid treatment. He suggested that it will facilitate the states in raising the SDRFs if a policy decision is taken to make available trained personnel of NDRF at officers level on deputation to states to command the SDRF.

Shri PP Srivastava, Former Member, NEC suggested that steps should be initiated to involve civil society, youth, faculty members in universities and colleges, teachers and students at all levels, govt employees and local police in the DM framework. He also impressed upon the importance of local vulnerability mapping and capacity building of first responders with requisite motivation.

Shri SS Saini, Director, National Civil Defence College, Nagpur suggested integration of Civil Defence in state disaster response mechanism and its utilisation in community capacity building.

Session 3: District Level Response Mechanism : Integration of Civil Defence, Fire Services, Local Police, NSS, NYKS and Civil Society in Response Mechanism.

Chair: Shri Kamal Kishore, Member, NDMA

Co-Chair: Prof Santosh Kumar, ED, NIDM

Speakers: Shri Gagandeep Singh Bedi, Secretary, Rural Development, Tamil Nadu

Shri SS Saini, Director, National Civil Defence College, Nagpur

Shri MF Dastoor, Director, Fire Services, Ahmedabad Corporation

Dr Namrata Singh, Coordinator, NSS, Miranda House, Delhi

Shri Kamal Kishore introduced the subject to the participants and referred to his experience of participation in a conference on capability of Fire Services some time back where he realised that Fire Services are not well equipped to deal with disaster situations at the local level and fast on site response still remains a challenge.

Prof Santosh Kumar, ED, NIDM, highlighted the importance of civil society organisations and youth participation in the response mechanism.

Shri Gangandeep Singh Bedi, Secretary, Rural development gave a presentation on the status of the district level response mechanism in Tamil Nadu. He stated that the problems that he proposes to highlight and recommendations that he proposes to suggest are all based on his experience at the ground level and a broad understanding of the DM as a subject. Monitoring the situation on ground as a District Collector, he realised that a major problem was the lack of coordination between the various centers during a disaster. Reporting the numbers and figures of the devastation caused, at every stage, was very time consuming task and therefore, he suggested that government should create an online software for the management of the onsite data which could be updated without getting in to protocols. He remarked that robust communication plays a vital role in systemizing the communication and mentioned that it is relatively good within the NDRF, but not in civil administration. He commented that civil administration is still not well equipped with satellite phones and other modes of emergency communications. He informed the participants that Tamil Nadu Government, in collaboration with UNDP, has created a communication model for early warning system for the community members. He mentioned that in this mechanism, besides the District Collector, BDOs/ Police/NSS/ and Youth are intimated and warned during onset of a disaster.

He mentioned that lack of any laid down coordination mechanism for international aid, private financial assistance and help from NGO's lead to a chaotic situation during any disaster and therefore suggested that the NDMA may formulate a proper channel for coordinating such assistance. Referring to shelter management, he mentioned that in Tamil Nadu shelters have been constructed on elevated land (safe zone) and the community members are trained to flock around the shelters during a disaster situation and added more such shelters need to be constructed. He mentioned about his district level experience of community based disaster risk management (CBDRM) and suggested that NDMA should do the hand holding of states in this field of CBDRM. He also suggested that the NDMA and SDMA should review their mitigation strategies on a regular basis.

Shri G.S. Saini, Director, National Civil Defence College, Nagpur mentioned about Integration of Civil Defence in response mechanism. He stated that in 95% of all emergencies, bystanders or victims themselves are the first to provide emergency assistance or rescue and therefore, Civil Defence all over the world, including in India, has been assigned a government program that provides guidance and assistance in preparing for, responding to and recovering from public emergencies that result from conflict or natural disasters. He explained that Civil Defence plays a vital role in response as the response of a person closest to the place of emergency is the fastest and most effective, provided he is well trained. He mentioned that being a community based organisation, the Civil Defence volunteers have a good understanding of local hazards, risks involved, damage potential and the consequences. They are also in a better position to respond with local resources and equipment and determine need for additional resources, including technical response and preparing the ground for Tech-Responders. He broadly explained the role and functions of Civil Defence, as provided in the charter during the pre-disaster, mid- disaster and post-disaster phases.

Referring to the Report of the High Power Committee (HPC) for 'Revamping of Civil Defence', constituted by the MHA, he mentioned that the key recommendations of the HPC included: Civil Defence is to

be integrated in DM framework at grass root level, 'town specific' concept of Civil Defence to be changed to 'district specific', Civil Defence coverage to be extended to all districts in the country, integrating the Civil Defence with Panchayati Raj Institutions (PRIs) and Urban Local Bodies (ULBs) , encouraging public- private partnership with involvement of corporate sector and Civil Defence to be a community based voluntary organisation.

Shri M.F Dastoor Director, Fire Services, Ahmedabad Corporation mentioned about the role of Fire services in India and added that while capability of Ahmedabad Municipal Corporation to diffuse fire at local level is relatively good, at the national level there is acute shortage of expertise and equipment to deal with major fire incidents. He impressed upon the need and importance of priority attention to be accorded to training of personnel and procurement of modern equipments. He mentioned that type of vehicles required for different types of locality or terrain are not specified and there are no rule books or framework for onsite fire management. He mentioned that response to fire incidents is generally very slow due to the terrain, water availability and availability of the right vehicle. Referring to casual attitude of people, he impressed on the importance of strengthening the local network. He remarked that the district administration generally shirks its responsibility after informing about the disaster to the fire department, least realising that there is a constant need of coordination for information on various aspects such as, communication, shelter, medical assistance, water supply and drainage etc.

Dr Namrata Singh, NSS Coordinator, Miranda House, Delhi University, emphasised that youth have the capacity to innovate, educate, and reach out to their immediate and extended families and the wider community to raise awareness and change behaviour to reduce the risk of disasters. She mentioned that launched in 1969, NSS is spread over 299 universities covering 3.2 million students and it symbolises the 'bottom- up' approach. She averred that inclusion of youth in disaster response mechanism is crucial in building a global culture of safety and resilience and safeguarding their future. It is also a shrewd long term

investment to protect and expand on hard earned developmental gains. She suggested one week attachment of NSS volunteers with NDMA/ NDRF and added introduction of some system of certification to NSS volunteers by the Coordinator. According to her the way forward should be identification of accessible emergency services in the neighbourhood area, resource mapping of hospitals, doctors and other experts and building awareness. She concluded her presentation by saying "train the NSS volunteers in DM, make risk resilience training mandatory for NSS volunteers and NSS outreach camps to develop pro -active community engagement with neighbourhood mapping for disaster risk and vulnerability".

Session 4: Mass Casualty Management

Chair: Lt Gen (Retd) Dr JRBhardwaj, Former Member, NDMA

Panelists: Dr Muzaffar Ahmad, Former Member, NDMA

Dr.M. C Mishra, Director, AIIMS

Lt Gen Dr. Bhardwaj, former Member NDMA, initiated the discussion in this session by elaborating on the importance of emergency medical response system. He apprised the participants that the session was divided in three main areas : Mass Casualty Management, Trauma Management and Trends of Emerging Diseases.

Dr. MC Mishra, Director AIIMS initiated his presentation by citing some facts and figures on deaths due to injury. He mentioned that injury is the third commonest cause of death in all ages involving a loss of 3% of GDP. He explained how disaster risk reduction can minimise the loss of life and minimise disruption of critical services. He suggested that mitigation measures should directly focus on the critical issues e.g. water management for droughts and floods. He emphasised on the need of internal hospital planning as part of a regional plan as no single hospital alone can deal with a disaster situation. He supported this by giving an example of the Delhi High Court bomb blasts in 2011 where all the casualties were rushed to Ram Manohar Lohia Hospital and the hospital was unable to cater to all the casualties because its capacity was full.

Dr Mishra elaborated on the four main elements of mass casualty namely, medical response, hospital networking, pre hospital care plan and central communications and lastly, hospital contingency planning. He mentioned that elements for assessing medical preparedness included physical resources, such as infrastructure, equipment and technology, human resources, staffing, training, organisational structure and administration. He added that key to effective and efficient hospital networking is good and reliable communication system where multiple modes of communications should be used. He added that transportation is another component of networking. It includes number of vehicles and modes of transportation available nearby in case of a disaster situation. Another important component that he added is the materials (CT Scan, facility, Blood Bank network) and lastly, the teams of professionals for quick medical response.

He explained at length about how we gain from networking during a disaster situation. He mentioned that we are able to analyse the existing resources in terms of material/man power, capabilities, and limitations in giving medical response to the affected population, which also helps in further planning for future. He stated that sharing the knowledge with other hospitals gives them a chance to analyze their own resources too for best utilization of resources, especially in a disaster scenario for optimum utilisation of each health facility.

He spoke about the importance of communication and coordination between the initial first responders like, Police Department, Fire/HAZMAT Department, Defence Services, local ambulance services (non-integrated), established EMS Services, Red Cross and other voluntary organizations. Citing his experience he mentioned that communication and coordination between all organisations have to react not only individually but in a coordinated manner to increase the efficiency of the response. He laid focus on the need for hospital contingency planning and mentioned that planning should also include the scenario in which hospital itself is a victim of disaster (e.g. fire, explosion, flooding, earthquake etc.). Therefore, for these facilities, it is of utmost importance to make a Hospital Disaster/Contingency Plan, as absence of hospital disaster plan

can create a chaos during a disaster situation. He clarified that there is no universal Hospital Disaster Plan which can be implemented in all hospitals and in all situations. The various phases of hospital contingency planning include, pre-disaster phase (planning phases) in which the staff is educated and trained, Hospital Disaster Committee/Mass Casualty & Management Committee are formed, disaster or activation phase and post disaster analysis , where critical self review is done. He also mentioned about the central command (Incident command) system and media management, with a designated spokesperson responsible for all press briefings and public contacts to avoid information based on speculations. He concluded by talking about the Trauma Centre set up in India and their collaboration with international trauma centres for building an international standard trauma care facilities.

Dr. Muzaffar Ahmad, former member NDMA, spoke about salient gaps in emergency medical response & preparedness and non-implementation of 'Guidelines on Mass Casualty Management' by states. He mentioned that the reasons for the same are; lack of designated rapid response teams and certified first medical responders, lack of trained armed forces, NDRF, CAPF & state police personnel, lack of competency and skills for emergency care in health workers, lack of DM Plans for on-site emergency medical response & mass casualty management in hospitals, lack of trained/ skilled health workers, lack of knowledge about golden hour concept, lack of initiative for developing capacity, lack of proper EMS - equipped ambulances with trained manpower, absence of policy for pre hospital care, lack of proper traffic guidelines for ambulances movement, lack of mobile hospitals with diagnostic and operative facilities which could be deployed nearer to site as is being done in other countries, lack of helicopter ambulances, absence of designated psycho-social support teams, lack of proper communication facilities, lack of coordination between health, fire services, police, Govt, and DM department, lack of policy for competency development for BLS, PHTLS, ATLS for specialist doctors and other staff in urban and rural areas, lack of proper regulatory mechanism, lack of adequate resources, non- availability of training

centres for CBRN emergency response in the health sector, non-availability of PPE amongst the responders, lack of availability of antidotes, lack of inter-agency coordination, poor communication and networking amongst the health institutions in government & private Sectors, lack of occupational health workers in India and lack of training institutions in occupational health.

He outlined the way forward and the focus areas for public health in emergencies which included; pre- hospital care (first medical responders), plans for medical response, chemical industrial disaster preparedness, CBRN emergency preparedness, epidemic/ pandemic preparedness, nutrition in emergencies for vulnerable groups & reproductive health group, mobile hospitals, capacity development for emergency medical response & preparedness, development of hospital DM plans, skill and competency based training to all health care providers. He suggested that emergency medical response & preparedness for mass casualty management should acquire priority in the education curricula of medical nursing. He suggested that the need of the hour was to enhance the capacity of NDRF/ other first responders in medical response at site and also increase the medical component of NDRF in terms of equipments, disposables and other essential medical supplies & ambulances. He impressed upon the need of back up mobile hospitals and suggested for provision of 100 bedded containerised hospital with operative and diagnostic & supportive services to be located in North, South, North East, west and one at Delhi to be arranged by and maintained by NDRF for quick deployment.

Referring to the importance of Global Positioning Systems in medical response system, he mentioned that GPS technology and patient tracking can assist in planning for coordinated patient movement throughout the disaster area. CBRN sensors can document those areas affected by contamination and facilitate the safe movement of patients along the continuum of care. Apart from GPS systems, he also laid emphasis on preparedness of laboratory facilities, veterinary laboratory, vaccines & drugs, tertiary care facilities for management of radiation casualties and in CBRN emergencies. He also laid emphasis on

hospital safety guidelines, which included design and safety of hospital buildings and structural & non structural fire safety in hospitals.

He concluded his presentation by talking about the role of media and it's critical role in information and knowledge dissemination in all phases of DM and effective partnership with media in the field of Community awareness, early warning and dissemination.

Lt Gen (retd) Dr. Bhardwaj, former Member, NDMA mentioned about the trend of emerging diseases and our preparedness level to cope with them. He gave out some key facts on Ebola disease such as a total of over 30 000 cases of Ebola virus disease (EVD) and around 20,000 deaths reported. He mentioned that the affected countries fall in two categories: first being those with widespread and intense transmission (Guinea, Liberia, and Sierra Leone) and second are those that have had initial cases or had localised transmission (Mali, Nigeria, Senegal, Spain, and the United States of America). He spoke about the factors responsible for emerging infections namely, ecological changes & agricultural development, changes in climate and weather, changes in human demographics and behaviour, microbial adaptation and change. He laid emphasis on risk assessment like preparation of risk profile which included event dynamics, basic epidemiological indicators, agent, host, distribution, transmission and spread, periodic review by expert group, review of scientific developments like source and route of infection. He concluded by talking about the importance of research & development for combating biological disasters of such type and creating a better preparedness level.

Concluding Session:

Gen NC Vij, Director, VIF

Shri KM Singh, Vice President PPF & Former Member,
NDMA

Shri KM Singh thanked all the participants for very productive brain storming sessions and mentioned that the recommendations of this conference will be forwarded to the appropriate level in the Government by VIF.

Gen NC Vij, Director, VIF mentioned in his concluding remarks about uncertainty of onset of any disaster in terms of time and place and therefore, impressed on the need of changing the mindset of all stakeholders towards preparedness. He said that NDMA, which is mandated as an apex authority in the field of DM, has done a great job in preparing guidelines for all types of disasters, though they still need to be enforced. He mentioned that all District Collectors have been provided with adequate authority and resources under the DM Act 2005 and they should exercise the same for better preparedness. He appreciated Army's role in disaster response and mentioned that its participation should be made larger in the DM Act. He impressed on the need to strengthen our response capacities to handle CBRN emergencies. He mentioned that NDRF needs to be better equipped with technical equipment and personnel training and emphasis should be laid on deploying young men in the response force. He focused on SDRF's role in state and mentioned that it needs to be made mandatory for every state to have its own disaster response force.

Gen Vij suggested that NDRF, SDRF and Civil Defence need to be more active in building community awareness for various stakeholders. There is a need to focus on conducting more school safety programmes at the ground level. He remarked that we need to keep the vulnerability factor in consideration while working on the preparedness level. He mentioned that medical response is also a very important segment in disaster management and while a lot has been done in this field, there is still an ample scope for building a stronger medical emergency response system in India. He thanked the partner organisations NIDM and PPF for being part of this initiative for the Round Table Conference and concluded by saying that disasters don't choose and come and therefore we need to have better coordination between NDMA and MHA for achieving an international standard response mechanism in India.

Recommendations:

I. National Level:

1. National Disaster Response Academy:

For a specialist force like NDRF, which has the unique distinction of being the single largest dedicated disaster response force in the world, a dedicated training institution of international standard is a must. MHA had given, in principle, approval of setting up a national level training institution (National Disaster Response Academy) long back, meant for training of trainers of NDRF, SDRF and also trainees of SAARC countries. In pursuance of this decision, 150 acres of land was acquired at Nagpur nearly three years ago and an EFC proposal for ₹ 100 crores was sent to MHA by the NDRF to set up this Academy.

This Academy would not only help in enhancing the professionalism of NDRF and SDRF, but would also put India in a leadership position to impart training to responders of SAARC countries and other countries in South East Asia in the field of disaster response. As such, formal approval for construction of a state of art 'National Disaster Response Academy' along with sanction of staff, as proposed by NDRF, may please be accorded on priority.

2. Quick Decision for International Deployment of NDRF in Emergencies

At present there is no system in place for expeditious decision of international deployment of NDRF within 10/ 12 hours of getting the requisition from affected country. During the triple disaster in Japan in March 2011, the NDRF team was despatched 15 days after the disaster due to delayed decision by the Govt. In this regard, a SOP, prepared by NDMA, was forwarded to Ministry of Home Affairs (MHA) in 2014. It needs approval of the Govt of India at the earliest.

3. Certification for deployment of NDRF team under the aegis of UN OCHA

NDRF has earned a niche for its professionalism, but is still not qualified for any international deployment under the umbrella of the UN OCHA. To qualify for any such deployment, a specially selected team (80/ 90 personnel] have to go through the rigorous process of IEC (International

Search & Rescue Advisory group External Classification), which is a long drawn process. In principle decision of Govt to have an IEC certified team of NDRF is needed.

4. National Emergency Operation Centre:

At present there is no NEOC (National Emergency Operation Centre) in Delhi. The NEOC is the nerve centre of national level disaster management framework. Govt needs to take an early decision to have NEOC of international level in Delhi.

5. National Disaster Response Reserve of Relief: (NDRR)

Procurement of various relief items in the aftermath of any major disaster is invariably a major problem and takes time. To overcome this problem, NDMA had sent a detailed proposal to the MHA for approval of a 'National Disaster Response Reserve' with relief items to take care of two simultaneous disasters (one each in plain area and hilly area) affecting four lakh people. This project of 'National Disaster Response Reserve' amounting to ^ 250 crores was approved by the 13th Finance Commission for procurement of essential relief items. Govt is requested to accord administrative sanction of this proposal of NDRR pending with MHA.

6. Up gradation of equipments of NDRF:

The inventories of tools, equipment and accessories as also transport of NDRF for launching specialised effective response need up-gradations from time to time. Govt needs to look into this aspect on priority.

II. State Level:

1. Amendment of DM Act 2005 to include SDRF in Chapter VIII

States may be encouraged to accord priority to set up their own dedicated 'State Disaster Response Force', as suggested in the 'National Policy on Disaster Management' (2009). Union Govt may consider amendment to Chapter VIII of Disaster Management Act 2005 to include a provision for constitution of 'State Disaster Response Force' by states.

2. Providing NDRF trained officers on deputation to SDRF

It would facilitate training, equipping & operationalisation of SDRF if

NDRF trained officers & Sub officers are made available to states. MHA may consider taking a policy decision on such deputation policy.

3. Implementation of Report on 'Revamping of Civil Defence' (2009)

Union Govt may accord priority to implementation of the report of NDMA on 'Revamping of Civil Defence', which has assigned major role to Civil Defence in Disaster management. States may be advised to initiate steps for integration of Civil Defence in state disaster response mechanism and its utilisation in community capacity building.

4. Considering huge inadequacies in the field of personnel, equipments and training at all levels in the Fire Services, a time bound action plan for upgradation of Fire Services in the country to meet the increasing challenges in this field needs to be considered.

III. Health Sector:

1. Legislation for Paramedic cadre by Ministry of Health & Family Welfare
2. Ambulances services in all states, (presently it is there in 2 states only)
3. Highway ambulance services all along the national highways by NHAI
4. Basic life support ,advanced life support and ATLS courses for doctors and nurses
5. Helicopter ambulance services in Metros
6. Up-gradation of emergency medical services at district and upward hospitals
7. MOU with private hospitals for emergency times
8. Compulsory Hospital Disaster Hospital Management Plans
9. State Govts to train specialised first responder teams for prevention of spread of Infectious diseases
10. Increase in the Hospital beds especially in bigger cities.
11. Tele medicine for Emergency onsite
12. Need to have Mobile field hospital

Speaker's Profile

1. Shri Kiren Rijiju

Personal Life and Education:

Born in Nafra, Arunachal Pradesh on November 19, 1971, Shri Kiren Rijiju's life is an embodiment of national integration. After doing his schooling from Arunachal, he did his BA (Hons) from the prestigious Hansraj College of Delhi University and followed it up with a law degree from the Faculty of Law, Delhi University. He is married to Smt. Joram Rina Rijiju, an Assistant Professor of History.

Public Life:

Coming from a politically active family, Shri Rijiju showed a keen interest in public affairs from his student days. At the age of 31 he was appointed as a Member of the Khadi and Village Industries Commission, Government of India (2002-04). In 2004 he was elected to the 14th Lok Sabha from West Arunachal Pradesh constituency, which is one of the largest in the country.

As a MP, Shri Rijiju quickly earned the respect of his more seasoned colleagues by his active participation in parliamentary work both inside and outside the House. He served on many important committees of Parliament in the 14th Lok Sabha. With a more than 90% attendance record, and with an impressive regularity in raising questions of national and international importance and participating in key debates, he was duly adjudged as the Best Young Parliamentarian by the media.

Despite growing up in one of the most remote and underdeveloped regions of the country, he has embraced the opportunities life has offered him and today is widely recognised as the voice of the North East both within the Government of India and in the public eye. He has been a passionate advocate of greater integration of the North East with the national mainstream. Shri Rijiju was elected to the 16th Lok Sabha on May 16th 2014. In recognition of his work, he was inducted by Prime Minister Shri Narendra Modi into the Council of Ministers as a Minister of State in the Ministry of Home Affairs on May 26th, 2014.

2. General NC Vij, PVSM, UYSM, AVSM

General Nirmal Chander Vij is the Director, Vivekananda International Foundation (VIF). He was the founder Vice Chairman of the National Disaster Management Authority (NDMA) from 28 Sep 2005 to 28 Sep 2010, with the status of a Cabinet Minister. Gen NC Vij had retired from the Indian Army, as the 21st Chief of Army Staff on 31 Jan 2005, after 43 years of distinguished service to the nation.

Earlier he was the Director General of Military Operations (DGMO) during the Kargil War wherein the Country won a historic battle. Gen Vij also had the distinction of commanding two Corps, including a Strike Corps on the Western Borders and a Corps deployed in Active Counter Insurgency Operations in the North East. He was also Army commander of Southern Command during his distinguished career in the armed forces.

3. Shri KM Singh

Shri KM Singh joined Indian Police Service in 1968. During his 46 years of Govt service, he served in the Intelligence Bureau of the Govt of India for nearly three decades, which included about 7 years in J&K. He also served in the Indian High Commission London as Minister, Coordination from 1996 to 2000. He held the post of Director General, CISF from 2003 to 2005. On retirement from Govt service in 2005, he was appointed the same year as a founder Member of National Disaster Management (NDMA) with the status of Minister of State in the Union Govt. His second term as Member, NDMA ended in 2014. He has been responsible for conceiving and setting up the National Disaster Response Force (NDRF) from scratch. He is an alumni of NDC, New Delhi.

4. Lt Gen (Retired) Dr JR Bhardwaj

Lt. General (Dr) J R Bhardwaj, former Director General Armed Forces Medical Services is also one of the founder Members of NDMA. He has vast medical experience nationally and internationally in the field of

teaching, research and patient care in the field of Neurosciences. As Member NDMA, Dr Bhardwaj initiated number of disaster risk reduction activities in the fields of Mass Casualty Management and Emergency Medical response. He is also the author of number of National Guidelines on CBRN, Management of Pandemics and Psychosocial and mental Health care etc, besides organising a number of capacity development programmes related to patient care. He has been Chief Consultant to Govt. Of Gujarat for preparation of Plans for Chemical Industry and Govt, of Uttarakhand for preparing Medical Contingency plans for Disasters. Presently, he is actively involved in number of programmes of capacity development and training for Prevention of Disaster in Chemical Industries and management of man made disasters. He is also working as consultant /Advisor to MoH&FP, FICCI, WHO & Boverian Nordic, a pioneer MNC in R&D for Vaccine development for Emerging Infections like Ebola H1N1, Dengue and Chikengunia.

5. Dr Muzaffar Ahmad

Dr. Muzaffar Ahmad, former DG Health and Medical Education, J&K and former Member, NDMA is a fellow of International Medical Sciences Academy and fellow of National Academy of Medical Sciences India. He has written more than six books and has over 110 publications in reputed national and international journals. He is recipient of a number of awards for distinguished services, which include Sriram award for best publication by National Academy of Medical Sciences, award for outstanding Service for Humanity in Earthquake 2005 by Indian Institute of Public Administration, Dr. B C Roy National Award for his contribution in medical Services and Life time achievement award by Indo global Health international conference in 2014

As Member, NDMA, he formulated a number of guidelines, which include Guidelines on Hospital Safety, School Safety, Role of NGO's in disaster management, Community based Disaster Management and Emergency Management Exercises etc. He is presently working on a project of Impact of Climate change on Health with special reference to Impact of HeatWave in Metro cities of India.

6. Dr M C Mishra

Dr MC Mishra has completed 35 years of distinguished service at AIIMS. He established the JPN Apex Trauma Centre, AIIMS. Under his leadership and guidance AIIMS has been witnessing much needed development & expansion not seen since its inception. He is the recipient of Dr BC Roy national award of Medical Council of India in 1966 and was awarded Commonwealth Medical Fellowship at University of Manchester in 1988. Besides being recipient of many other prestigious national and international awards, Dr Mishra has published around 200 original articles in Indexed International Journals and has been invited to deliver lectures at various national and international conferences. He is responsible for getting an MOU signed between NDMA and JPN Apex Trauma Centre for training of NDRF personnel in trauma care and deployment of joint teams of NDRF and JPN Apex Trauma centre in any major disaster within the country or abroad.

7. Shri Kamal Kishore

Shri Kamal Kishore has worked on disaster risk reduction and recovery issues for over 22 years. Prior to joining as Member, NDMA, he worked with the United Nations for nearly 13 years in New Delhi, Geneva and New York. As UNDP's regional advisor for South and South-West Asia, he supported more than 10 countries on a range of public policy and institutional development issues. Shri Kamal Kishore has supported post-disaster recovery through strategic advice, needs assessments, programme development and coordination after major disasters in Bangladesh, India, Indonesia, Iran, Myanmar, Pakistan, Philippines and Sri Lanka. Prior to UNDP, he served at the Asian Disaster Preparedness Centre as Director of Information and Research, and Manager of the Extreme Climate Events Programme covering Indonesia, Philippines and Vietnam. This was preceded by intensive field experience with TARU in India where work on post-disaster reconstruction after Uttarkashi (1991) and Latur (1993) earthquakes allowed him to apply his professional skills as an architect.

8. Shri OP Singh

Shri OP Singh belongs to 1983 batch of UP cadre. Besides holding several postings of responsibility in UP, he has also served in Special Protection Group (SPG), CRPF and CISF. In CISF, his area of responsibility was security of airports in the country and specialised VIP protection to certain categorised persons. In his present posting as DG NDRF, he has led the force from front in J&K floods in 2014 and Chennai floods in December, 2015. In Nepal earthquake in 2015, the NDRF did commendable work under his able guidance and leadership by reaching Kathmandu with utmost promptitude and rescuing victims from rubbles. He holds Master degree from Delhi University, MBA in Disaster Management and M Phil from Madras university. He is an alumni of National Defence College, New Delhi. He has been awarded with Indian Police Medal for Gallantry, India Police Medal for Meritorious Service and President's Police Medal for Distinguished Services.

9. Prof Santosh Kumar

Prof. Santosh Kumar is currently The Executive Director, of National Institute of Disaster Management, Ministry of Home Affairs, Govt, of India. He is a Policy Planning and Capacity Development expert with 25 years of experience in different positions in the Development Planning. A PhD. in Economics, he studied Gender & Development in IDS, Sussex UK and got professional training in Disaster Risk Management from Israel. He has also worked as Director of SAARC Disaster Management Centre serving for eight countries-Afghanistan, Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan and Sri Lanka since 2013. Prior to joining NIDM he also worked as Disaster Management Specialist with the World Bank. Backed with International exposure at World Bank and Government exposure in different capacities working at the national and state levels, he is an experienced hand in designing, Planning and implementing mitigation and long term disaster recovery plan and projects. He brings with him the rare combination of exposure variation from grass root to national to regional level in all aspects spanning DRR with special expertise in post disaster loss assessment, Recovery and

inclusive Disaster Risk Reduction. His contributions since 1995, at the global level include drafting for Sendai Declaration, Japan 2015, Hyogo Framework of Action, 2005 and successive Asian Ministerial conferences, International recovery platforms, World Reconstruction Forums, Global Platform for Disaster Risk Reduction and other international events organised by UN, World Bank and other international organisations.

10. Shri Arjun Katoch

Shri Arjun Katoch, a former officer of Indian Army, joined the UN Department of Humanitarian Affairs in 1993 and served with them for a number of years in the field in Somalia, Armenia and the Great Lakes Region of Africa. From 1999 -2009 he was Chief, Field Coordination Support Section of the UN OCHA in Geneva and was responsible for managing the UN Disaster Assessment and Coordination (UNDAC) team and International Search and Rescue Advisory Group (INSARAG). During this period, he has been responsible for immediate international emergency response to over 140 major disasters and emergencies around the world

After retirement from the UN in 2009, he is a Disaster Management Advisor who has supported various Governments and international agencies around the world including Nepal and India. From 2012-2015 he was Mentor to Saudi Arabia and Qatar for urban search and rescue issues. He was the Team Leader of the UNDAC team to Japan for the Great Tohoku earthquake, tsunami and Fukushima- Daiichi nuclear emergency in 2011 and also a member of the UNDAC team to Nepal after the April 2015 earthquake.

11. Dr Amod Mani Dixit

Dr Amod Mani Dixit, Executive Director, NSET, Nepal is a committed professional dedicated to the field of Disaster Risk Management (DRM) on a mission mode for more than 30 years. He is the founder and leader of a uniquely successful non-profit/ non- governmental organisation

(NSET, 1993-date) focused on disaster risk reduction issues. His experience ranges from planning, designing and implementing small projects such as a mason training programme to development of strategy and policies and action planning at national to district levels. He has implemented projects in all countries of SAARC (except Maldives), many countries of Central Asia and South East Asia. He has contributed immensely towards capacity building of NDRF by the 'Training of Trainers' course for Collapsed Structure Search & Rescue (CSSR) conducted under his guidance under the PEER programme of NSET, Nepal.

12. Satyajit Mohanty

Satyajit Mohanty belongs to 1988 batch of Indian Police Service and is borne on Odisha Cadre. In the career spanning over 25 years Sh Mohanty has been posted in a number of police Districts and Ranges, worked in the Anti corruption Department, Fire and Civil Defence Department, Police Headquarters and Training Directorate. At present he is posted as ADGP, Headquarters, PHQ holding additional charge of law and order. He is the operational head of the Odisha Disaster Rapid Action Force (ODRAF), the premier SDRF in the country. He holds Master of Science degree and Bachelor degree in Law from Utkal University, Master Degree in Human Rights from Pondicherry University and Post Graduate Programme in Public Policy & Management from IIM, Bangalore & Maxwell School of Public Policy, Syracuse University, USA. He is a recipient of Police Medal for Meritorious Service in the year 2004 and President's Police Medal for Distinguished Service in the year 2012.

13. Shri SS Guleria

Shri SS Guleria joined BSF in 1987. He has 20 years' experience of Border Management and Internal Security and 8 years' experience in the field of Disaster Management. He holds Masters' degree in Disaster Management. He has been trained in various courses meant to handle natural and man made disasters. He is UNDAC (United Nations Disaster

Assessment and Coordination) course qualified. He actively participated and led operations in various disasters such as Cyclone Phailin, J&K Flood, Cyclone Hudhud and Chennai flood etc. Two of the NDRF Battalions at Kolkata and Patna have been raised by him. He is recipient of UN Peace Keeping medal and President Police Medal for Meritorious Services.

14. Shri GS Saini

Shri GS Saini, a former Short Service Commission officer of Indian Army, has expertise in handling explosives, radars, sound ranging equipments etc. After discharge from Short Service Commission, he joined as a faculty member in The National Civil Defence College (NCDC) in 1982 and has been the key figure of this institution for the last 34 years. In the NCDC, he teaches subjects of Civil Defence, Safety from explosives, Nuclear / Biological/ Chemical Hazard Management and Disaster Response Management. He participated in the 1st WMD First Responders Operations training at Richard, Washington (USA) in 2002. He was also part of the team of Ministry of Environment & Forests which visited Germany for study of "Industrial Disaster Risk Management" practices in various hazardous industries in 2010.

15. Shri MF Dastoor

Shri MF Dastoor, a graduate from National Fire Service College, Nagpur, has over 32 years of experience in the field of Fire and Emergency Services. He has undergone a number of professional training courses in the field of Fire Engineering, which include Instructors Course in Fire Engineering and Advance Diploma in fire Engineering. He is responsible for modernising the Fire Services set up at Ahmedabad. Besides handling the incidents of fire, he along with his team has remained actively involved in handling many of the natural disasters in Gujarat. He is recipient of President of India medal for Meritorious Services, besides a number of other medals, which include Mayor's medal for Bravery.

16. Dr. Namrata Singh

Dr. (Mrs) Namrata Singh is an Assistant Professor in the Department of Political Science at Miranda House, University of Delhi. She is the convener of NSS, Miranda House. After her graduation and post-graduation from Patna University, she obtained her Ph D from University of Mumbai. Her field of specialization is Public Administration and Public Policy. However, at the undergraduate level, where she is presently teaching, she has handled courses on Colonialism and Nationalism in India and Western Political thought, besides her areas of specialization. She has extensively contributed in the journal published by the Government of India "Management in Government". She presented a paper on Urban Governance in the USA. She has been actively involved in design and development of Course curriculum in the IGNOU and ILLL, Delhi University

17. Shri AK Jha

Shri AK Jha, a post graduate from Patna University and MBA from Xavier Institute of Social Sciences, Ranchi, joined BSF as Asst Comdt in 1997. He has been a part of the Disaster Response Force for 10 Years. He was instrumental in raising the 1st NDRF Battalion at Guwahati and thereafter, in raising the 9th NDRF Battalion at Patna. He is a qualified trainer in Collapsed Search & Rescue (CSSR), Medical First Response (MFR), and Indian Command System (ICS). He has vast experience in procurement of tools, equipment and accessories of NDRF Battalion. He is with the SDRF, Bihar and has been responsible in shaping it as model SDRF Battalion.

VIF Publications

| Title | Author | Year |
|---|------------------------|----------------|
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