



# Annual Report

## 2018-19



### SAARC Disaster Management Centre (IU)

Gujarat Institute of Disaster Management Campus,  
Koba- Gandhinagar Road, Village Raisan,  
B/h Pandit Deendayal Petroleum University,  
Gandhinagar- 382007, Gujarat, India.  
Ph. +91 79 23275801/04/33 | Fax. +91 79 23275814  
[www.saarc-sdmc.org](http://www.saarc-sdmc.org)

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## Background

SAARC region, by virtue of its unique geology, climate and socioeconomic vulnerabilities, is amongst the world's multi-hazard hotspots. The region bears the brunt of large-scale catastrophic disasters. Major population centers such as Kathmandu, Karachi, Kabul, New Delhi, Dhaka lie on key seismic fault lines or along coastal areas constantly buffeted by cyclones, floods, and storm surges. The latter extreme weather events will only increase in number and intensity due to the effects of climate change. Unplanned human settlements, unsafe building practices, and high population densities have further compounded the exposure and vulnerability of people and economies. As a result, earthquakes, cyclones, floods, tsunamis, droughts, and other disasters of every type and magnitude continue to consume lives, property, and livelihoods across the region.

Realizing the importance and need for the timely provision of relief support in humanitarian emergencies, South Asia Association of Regional Cooperation (SAARC) Disaster Management Centre (SDMC-IU) has been set up at Gujarat Institute of Disaster Management (GIDM) Campus, Gandhinagar, Gujarat, India in November 2016, with a vision to be a Centre of Excellence for regional cooperation and specialised service delivery to Member States for Disaster Risk Reduction (DRR), Response and Recovery for Sustainable Development. Eight Member States, i.e. Afghanistan, Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan and Sri Lanka are expected to be served by the SDMC (IU).

## Scope of Work

SDMC(IU) is expected to give a fillip to regional cooperation for holistic management of disaster risk in the SAARC region. It would serve the Member States by providing policy advice, technical support on system development, capacity building services and training. The Centre will facilitate exchange of information and expertise for effective and efficient management of disaster risk. As needed, the Centre will undertake projects and programmes to serve the needs of the Member States. It would seek to expand from a 'knowledge sharing' organisation to an 'action-response' organisation and develop Standard Operating Procedures, tools, guidelines and methodologies for different types and phases of disasters.

It is vital for SDMC (IU) to frame cooperation as technical responsibility for regional Disaster Management and Disaster Risk Reduction (DRR) making material contribution to the lives of vulnerable population and those exposed by the natural disasters. The centre is entrusted with the responsibility to support Member States in their DRR initiatives through application of Science & Technology, knowledge from multiple disciplines, exchange of good practices, capacity development, collaborative research and networking in line with the global priorities and goals and other relevant frameworks adopted by Member States.

In addition, the SDMC (IU) has been re-established for the expanded role by merging four erstwhile SAARC Centres namely

- (1) SAARC Disaster Management Centre  
(SDMC - New Delhi, India)
- (2) SAARC Meteorological Research Centre  
(SMRC - Dhaka, Bangladesh)
- (3) SAARC Forestry Centre  
(SFC - Thimphu, Bhutan)
- (4) SAARC Coastal Zone Management Centre  
(SCZMC - Male, Maldives).

Disaster Risk Reduction relevant functions of these centres are also a part of the scope of work.

## Vision

To be a Centre of Excellence for regional cooperation and specialised service delivery to Member States for Disaster Risk Reduction, Response and Recovery for Sustainable Development.

## Mission

To support Member States in their DRR initiatives through application of Science & Technology, knowledge from multiple disciplines, exchange of good practices, capacity development, collaborative research and networking in line with the global priorities and goals and other relevant frameworks adopted by Member States.

## Functions of SDMC

- i) Provide assistance in the formulation of Policies, Strategies and Sustainable Development Frameworks in relation to disaster Management and Disaster Risk Reduction
- ii) Undertake/ promote research for better understanding of the various meteorological phenomena of particular interest to the SAARC Region, with a view to enhance the capability of National Meteorological Services (NMSs) of the Member States, particularly in the field of early warning to provide support for preparedness and management of natural disasters involving relevant knowledge and operational institutions in India
- iii) Collect, compile, document and disseminate data, information, case studies, indigenous knowledge and good practices relating to disaster risk reduction, and sustainable development
- iv) Compile and collate information for the region required for weather forecasting and monitoring special weather phenomena.
- v) Strengthen regional response mechanisms to reduce loss of lives, injuries and to provide timely humanitarian assistance to people affected by disasters.
- vi) To identify organisations in the region dealing with relevant key focus areas, facilitate interaction, promote coordination and cooperation amongst institutions (ministries, authorities, inter-governmental organisations, international organisations, non-governmental organisations, funding agencies, etc.) and other stakeholders involved through networking for the exchange of experiences, information, data, expertise, knowledge and technology transfer in the key focus areas of SDMC
- vii) Organise training workshops, conferences, seminars, lectures for various stakeholders on key priority/focus areas of the Member States and on various aspects of disaster management.
- viii) Develop educational materials and conduct academic and professional courses on key priority/focus areas.
- ix) Develop training modules on various aspects of key priority/focus areas and conduct programmes for Training of Trainers including simulation exercises.
- x) Coordinate SAADMEx with the Member States.
- xi) Analyse information, undertake research and disseminate research findings on key priority/focus areas among the Member States.
- xii) Undertake preparation of databases, publication of journals, research papers and books, and establish and maintain online resource centre in furtherance of the aforesaid objectives.
- xiii) Collaborate with other global, regional and national centres of excellence to achieve synergies in programmes and activities.
- xiv) Conduct studies on assessment and management of disaster risks posing a threat



- to inclusive and sustainable development in South Asia.
- xv) Undertake research, projects, programmes contributing towards mitigating the impact of trans-boundary disasters.
  - xvi) Facilitate from within and outside the region supply of emergency needs in times of disaster, in line with SAARC disaster response mechanisms.
  - xvii) Facilitate exchange of experiences and technical support among Member States on National Action Plans for Disaster Risk Reduction.

## Activities undertaken during April 2018– March 2019

- 6.1 Preparation of Activity Plan  
SDMC (IU) prepared its annual Activity Plan for FY 2018-2019 based on the discussion in first Inter-Ministerial Meeting and shared with MEA, GoI.
- 6.2 Recruitment of the approved staff, as per the need.  
SDMC (IU) has done recruitment for the approved posts i.e. 10 out of total 11 posts and selected 9 candidates (1 Dy. Director; 2 Specialists; 2 Research Officers; 1 Administrative Officer cum System Manager; 3 Assistants).

### 6.3 Portal Development

#	Activity	Action Taken
1	SDMC (IU) Web Portal	New Web Portal has been developed and necessary information/ data are being updated on regular basis.  Draft Country Page for each country has been prepared. A Concept Note and a Template regarding the same is shared with all the Member States for their comments and approval.
2	SADKN & SADVA	SDMC (IU) constituted a Technical Committee to assess the efficacy of SADKN & SADVA Portals. It was decided to assign the task of migration of Portals to Centre for Development of the Advance Computing (CDAC), Pune on Nomination basis as per the GoI Communication. The Committee is studying the existing portals. Further actions will be taken up based on the recommendations of the Committee.  Meanwhile, SDMC (IU) has transferred the servers from NIC, New Delhi to GIDM Campus. These servers have been found to be non-functional. SDMC (IU), in consultation with Technical Committee, will develop the Plan of Action and implement the project.

## 6.4 Workshop/ Capacity Building Programs organized:

- i. Workshop on DRR in SAARC Region during 26 – 27 April, 2018 which was attended by 23 participants from All Member States except Bhutan. (Refer Annexure 1 for more details)
- ii. Care Protection and Participation of Children in Disasters during 4 – 7 September, 2018 which was attended by 26 participants from all SAARC Member States except Bangladesh. (Refer Annexure 2 for more details)
- iii. Hospital Emergency Preparedness and Response during 23 – 26 October, 2018 which was attended by 34 participants from all SAARC Member States. (Refer Annexure 3 for more details)
- iv. Disaster Loss Databases and Sendai Framework Monitoring during 13- 16 November 2018 which was attended by 35 participants from all SAARC Member States. (Refer Annexure 4 for more details)
- v. Utilization of Space based and Geospatial Information for achieving the targets of the Sendai Framework for Disaster Risk Reduction during 4 - 7 December 2018 which was attended by 24 participants from all SAARC Member States. (Refer Annexure 5 for more details)
- vi. Rapid Assessment to Resilient Recovery 29 January – 1 February 2019 which was attended by 23 participants from all SAARC Member States except Bhutan. (Refer Annexure 6 for more details)

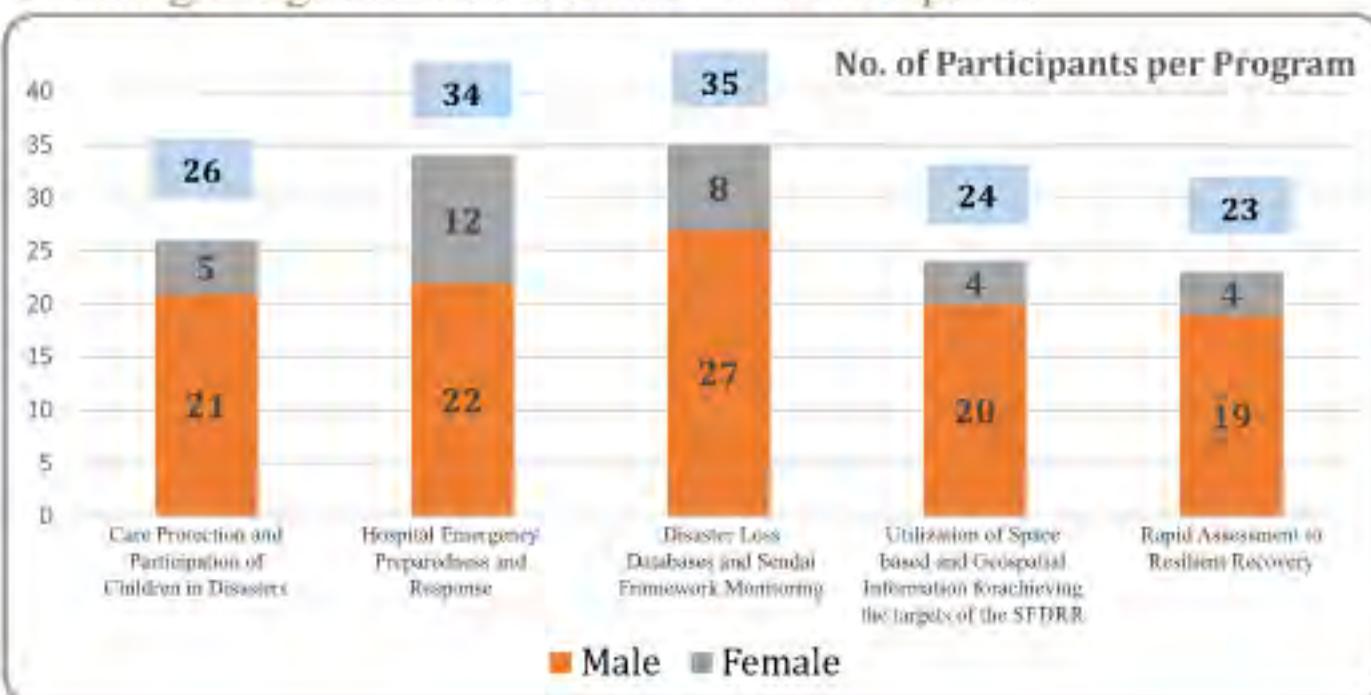
### Participants

142 Participants have been trained in five Capacity Building Programs

### Experts

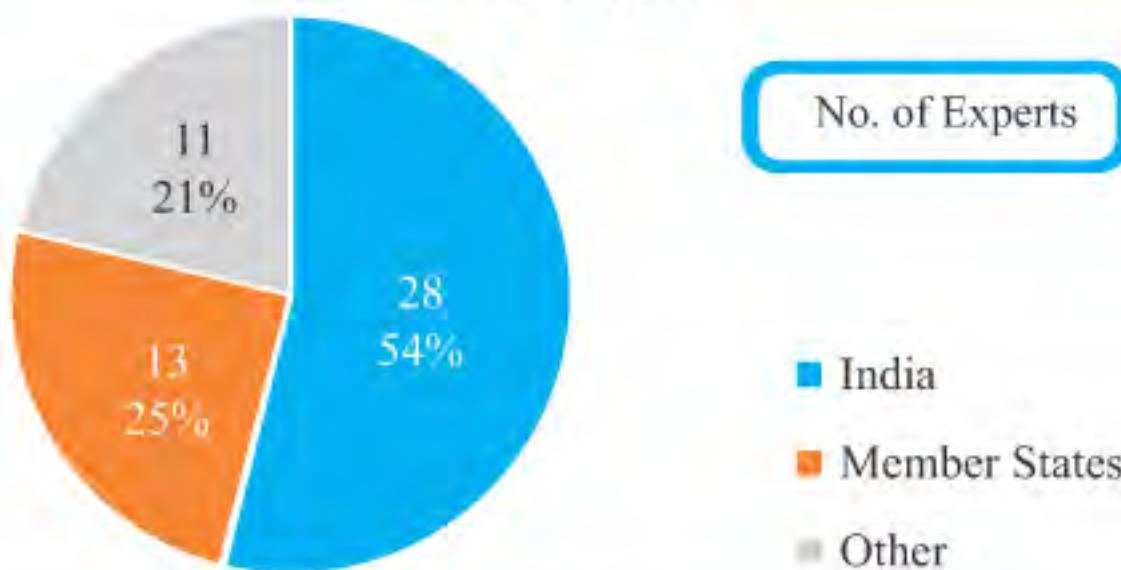
52 Experts (28 from India, 13 from SAARC Member States and 11 others) share their experiences

## Training Program-wise Number of Participants



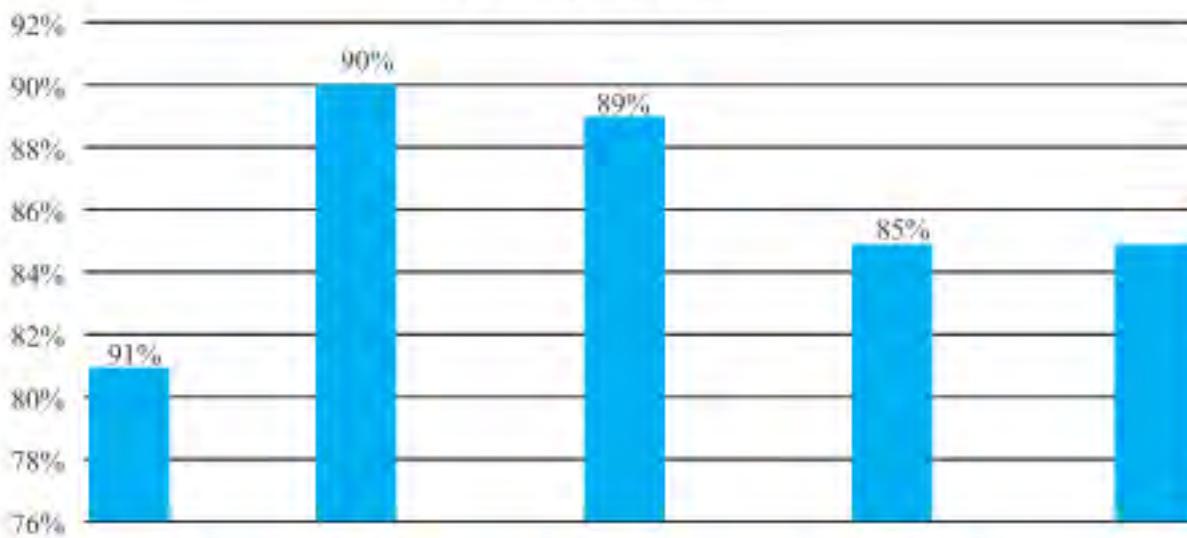
## Training Program-wise Number of Participants

No. of Experts



## Feedback from the Participants about the Capacity Building Programs

Quality of Inputs





### 6.3 Portal Development

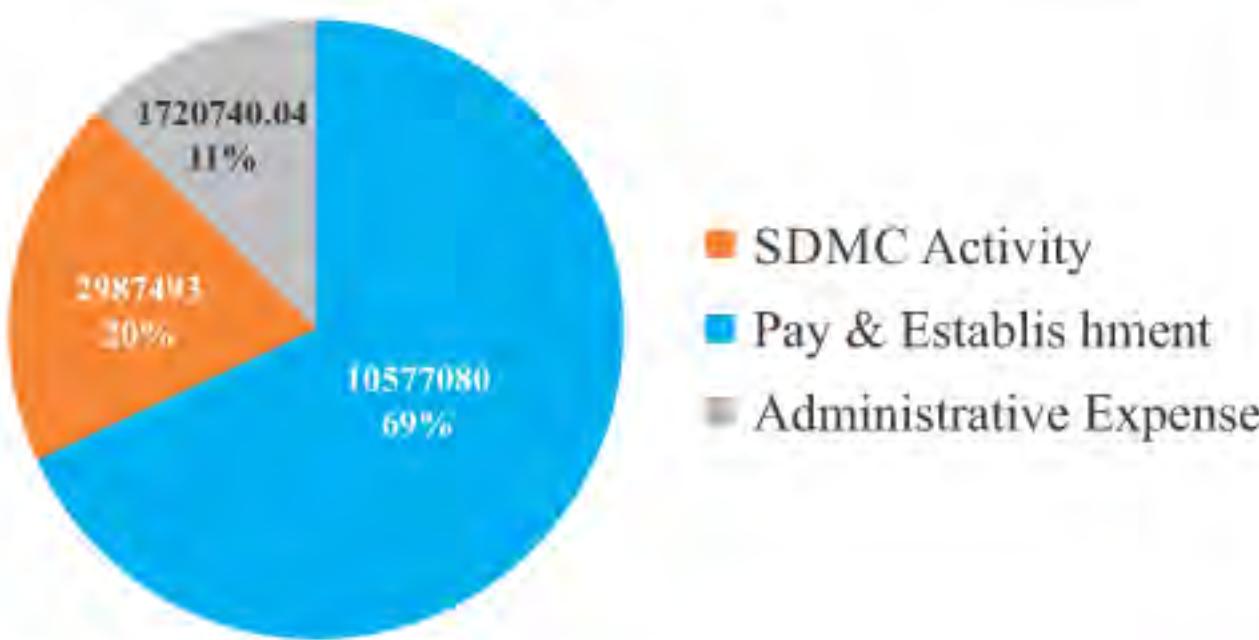
#	Activity	Action Taken
1	Implementation of STORM Project	<ul style="list-style-type: none"><li>o Discussion was held with Secretary, MoES in presence of the officials from IMD regarding the technicality of the Project and its current status.</li><li>o Further, a teleconferences were held on 8th January 2019 and 25 th March 2019 to discuss and ascertain the current status of the STORM Project and deliberate towards necessary completion / conclusion of the project wherein Officials from SAARC Secretariat, Bangladesh, Bhutan, Nepal, IMD and ISRO were participated.</li><li>o It was discussed in the meeting to complete the project as substantial work had been already done in the past. Further, it is suggested in the meeting to sign a fresh MoU between SDMC (IU) and ISRO as the earlier MoU signed between JSRO and SMRC had expired in 2017.</li></ul>
2	Programme on Development of Regional Response Mechanism (RRM) in the SAARC Region	<ul style="list-style-type: none"><li>o The Task Force for Development of Draft Regional Response Mechanism in SAARC Region has been constituted.</li><li>o Existing Regional Response Mechanism across the world and Response Mechanism in each of the SAARC Member States are being studied.</li><li>o Concept for RRM in SAARC Region and Agenda for the Task Force Meeting are being prepared.</li><li>o SDMC (IU) celebrated the 34th SAARC Charter Day on 8th December 2018 by organizing a half-day workshop in collaboration with UNSPIDER and IWMI wherein 24 participants from all the Member States were participated. (Refer Annexure 7 for more details)</li></ul>
3	Celebration of SAARC Charter Day	
4	Disaster Report of SAARC Region	<ul style="list-style-type: none"><li>o SDMC (IU) had meetings with various international agencies (i.e. UNESCAP, UNDP, etc.) to explore the possibilities to develop DRR Report for the SAARC Region.</li><li>o SDMC (IU) has also received a concept note on DRR report from NDMA.</li><li>o SDMC (IU) has approached GFDRR to provide technical support in developing the report too.</li></ul>

#	Activity	Action Taken
5	Development of Protocols	<ul style="list-style-type: none"> <li>o SDMC (IU) is studying the existing protocols and Early Warning Mechanism.</li> <li>o SDMC (IU) has also requested all the Member States to share information on Early Warning Mechanism in their respective nations to understand the same and develop the draft protocols for Tsunami and Cyclone.</li> </ul>
6	Quarterly Newsletter of SDMCi.	<p>Three volumes of the Newsletter have been published and available on SDMC (IU) web portal (Refer Annexure 8, Annexure 9 and Annexure 10 for more details)</p> <ul style="list-style-type: none"> <li>o Final volume of the newsletter for the current FY is being prepared and shall be issued in April 2019.</li> </ul>

## 7. Financial Status for the FY 2018-2019 (Amount in Rs.)

Funds Approved in FY 2018-19	Fund released in FY 2018-19	Expenditure incurred in FY 2018-19
4,52,10,000.00	2,26,05,000.00	1,52,79,313.04

### Expenditure Break-up



Workshop on  
Disaster Risk Reduction in  
SAARC Region 26 - 27 April 2018

# **DISASTER RISK REDUCTION IN SAARC REGION**

**PROCEEDINGS**

Venue :  
**Radisson Hotel Kandla,**  
Gandhidham, Gujarat, India

# Workshop On Disaster Risk Reduction in SAARC Region 26 – 27 April 2018 (Proceedings)

Venue: Radisson Hotel Kandla, Gandhidham, Gujarat, India



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## Background

SAARC is one of the most disaster prone regions of the world. Most of the natural disasters in South Asia are rooted in the geo-physical and hydro-climatic conditions of the sub-continent that connect several countries of the region. Countries in the region share similar risks and challenges as well as the same threats inherent to climate change. Realizing the importance and need for the timely provision of disaster management support in humanitarian emergencies, South Asia Association of Regional Cooperation (SAARC) Disaster Management Centre (SDMC (IU)-IU) has been re-established in November 2016 at GIDM Campus, Gujarat, India for expanded role by merging four erstwhile SAARC Centres viz. (1) SAARC Disaster Management Centre (SDMC (IU) – New Delhi, India); (2) SAARC Meteorological Research Centre (SMRC – Dhaka, Bangladesh); (3) SAARC Forestry Centre (SFC – Thimphu, Bhutan); (4) SAARC Coastal Zone Management Centre (SCZMC – Male, Maldives) with the mandate to support Member States in their Disaster Risk Reduction (DRR) initiatives through application of Science & Technology, promotion of multidisciplinary knowledge, exchange of best practices in the field of disaster management, capacity development, collaborative research and networking in line with the Global Priorities / Goals and other relevant frameworks adopted by Member States..

The Asian Ministerial Conference on Disaster Risk Reduction (AMCDRR) held in New Delhi, India in November 2016, brought together more than 50 countries and adopted the Asia Regional Plan which sets biennial milestones at the regional level for the implementation of the Sendai Framework. It is very important to share and understand the activities/ best practices being undertaken in the Member States in Disaster Risk Reduction (DRR). In order to implement the Sendai framework priority, the workshop on disaster risk reduction in South Asia region workshop was org during 26-27 April 2018,

gathering 24 delegates from SAARC member states and BIMSTEC, as an offered opportunity for learning and interaction between member states on the theme of disaster risk reduction with specific context to Sendai Framework of Disaster Risk Reduction (SFDRR).

## OBJECTIVES OF THE WORKSHOP:

- To take stock of DRR Initiatives taken up by the Member States and share the best practices amongst each other;
- Understand the needs of the Member States to be addressed in the coming years by the SDMC (IU) (IU);
- Develop some kind of monitoring mechanism for implementation of the Sendai Framework for Disaster Risk Reduction in the Member States;

## PROCEEDING OF THE WORKSHOP:



**Inaugural session:** The workshop was inaugurated by Mr P K Taneja, Director, SDMC (IU) and country delegates of member states. In his opening remark, Director, SDMC (IU) welcomed all the delegates for participating in special events to discuss on future strategy for Disaster Risk Reduction in South Asia. The Director

SDMC (IU) highlighted the importance of workshop and its relevance in context to Sendai Framework for Disaster Risk Reduction (SFDRR), Sustainable Development Goals (SDGs) and Conference of Parties (COP) 21 for the region. He

enlightened various initiatives and activities taken by SDMC (JU) like SAARC Charter day, training & workshops and development of SDMC (JU) portal and activities to be taken up like joint regional response mechanism and research among member states. He also requested member states to provide suggestions and input for development of early warning mechanism and implementation of STORM project.

#### **The significance of Sendai Framework for SAARC Region: Strategies for Implementation:**

**Mr. Kamal Kishore, Member, NDMA, New Delhi** highlighted the “Significance and strategies for implementation of Sendai Framework for Disaster Risk Reduction (SFDRR) for SAARC Region”. He discussed on priority and



targets of SFDRR focusing on reduction in losses, paradigm shift from Disaster Management to Disaster Risk management and emphasis on specific targets such as health, infrastructure, technology, and accountability. He also discussed on scope of SFDRR such as it includes both natural as well as man-made

disasters and there is greater emphasis on Build Back Better (BBB). He highlighted that one of the SFDRR target is related to reduction in mortality. In case of cyclones, mortality has been significantly reduced due to initiatives taken such as enhanced early warning and community based disaster risk management. He also highlighted to take into account the identification of 2-3 disasters where

mortality can be significantly reduced such as in India's heat wave mortality have been significantly reduced over the years.

He suggested to give emphasis on quantification of national targets; separate loss reduction targets particularly in Earthquake and other hydro meteorological hazards; issues of inequality needs to addressed because global targets are inequality blind; national and local dimensions of SFDRR in South Asia; increase in engagement of Local Governments in disaster risk management, strengthening accountability for disaster risk management; mobilization of risk-sensitive investment; need to develop national and local level DRR plans and strategies with targets and indicators for implementation of DRR; develop baselines for different targets and indicators by 2020; data readiness & its review at national level and to establish baseline database management system in the region.

Reflect on National Policies, Framework and Strategies of Member States in DRR with emphasis on implementation of SFDRR and their Needs: Best Practices and Lesson learnt

Chair: Lt. Gen. N.C. Marwah (Retd), Member, NDMA, New Delhi

Co-Chair: Mr Kunzang N. Tshering, Director-in-charge of the Disaster Management, BIMSTEC, Dhaka, Bangladesh.

#### **a. Afghanistan**

**Mr. Mohammad Aslam Sayas**, Deputy Minister of Admin and Finance Afghanistan, delivered his presentation on “Disaster



Management System in Afghanistan". He highlighted various steps taken for implementation of SFDRR in support of World Bank such as Natural Disaster Management Information System; Development of country hazard profile; training and capacity building of different stakeholders; strengthening of hydro meteorological services; development and installation of the database in 10 provinces.

#### b. Bangladesh

**Md. Shohidul Islam, Project Implementation Officer (PIO)** gave his presentation on "National Policies, Framework and Strategies for



implementation of SFDRR". He highlighted about Bangladesh hazard profile; previous history of disasters and lessons learnt; cyclone preparedness program; Bangladesh Disaster Management Act 2012 and also about best practices of Bangladesh.

#### c. India

**Brig. Ajay Gangwar, Advisor (Operations and Communications), NDMA** shared information on "National Policies, Framework and Strategies in DRR of India". In his presentation, he highlighted National Disaster Management Act (2005), National Policy (2009) DM Framework; National Disaster Management Plan (2016); Major Mitigation Projects such as National Cyclone Risk Mitigation Projects (NCRMP), National School Safety Programme (NSSP) and AAPDA MITRA programs. He also highlighted capacity building initiatives of NDMA such as training



modules & IEC Material; He also discussed about the NDMA regional initiatives for strengthening of international regional cooperation such as SAARC-South Asian Annual Disaster Management Exercise (SAADMEx, 2015); Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation Disaster Management Exercise (BIMSTECDMEx, 2017); Shanghai Cooperation Organisation (SCO, 2019); Asian Ministerial Conference on DRR (AMCDRR, 2016); meeting with BRICS ministers for Disaster Management (August 2016);

Tsunami Preparedness Training Programme for Pacific Island Countries (Nov 2017); workshop on Disaster Resilient Infrastructure (Jan 18) and India-Japan Workshop on DRR (Mar 18)

#### Suggestions and Recommendations

- Coalition for Disaster Resilient Infrastructure
- Development of Disaster Database
- Research/ Study on Climate Change

#### d. Maldives

**Mr. Ahmed Aslam Waheed, Project Manager (UNDP)** delivered his presentation on "SFDRR implementation in light of policies and frameworks". He discussed about the hazard profile of the Maldives; achievements at the end of HFA 2005. He also highlighted about the National Disaster Management Centre, Maldives initiatives towards the swift implementation of SFDRR for revival and development of the disaster loss database incorporated into a national information

hub-a



system integrated with GIS and remote sensing technology. He explained briefly on Maldives DRR initiatives for strengthening early warning and emergency communications; establishment of community emergency response teams across the country; linking DRR with Climate change and about multiple messaging systems – informing first responders on meteorological information.

#### **Suggestions & recommendations:**

- Knowledge platform to share the process of collection and maintaining database.
- Sharing of community based disaster management best practices.

#### **e. Nepal**

**Shri Shambhu Prasad Regmi**, Assistant Chief District Officer, Ministry of Home Affairs, Government of Nepal delivered his presentation on "National Policies, Framework and Strategies of



DRR". His presentation was based on three contexts: Nepal's shift from unitary to federal governance system; best practices and lessons learnt from April 2015 Nepal Earthquake and Implementation of Sendai

Framework for Disaster Risk Reduction. He also highlighted DRR priority actions such as implementation of Nepal Disaster Risk Reduction and Management Act (2017), international commitments, national law, policies and procedures; integration of disaster management in development planning; National Action Plan (NAP) for DRR (2017-30), National Strategy for Disaster Risk Management (2009) and about Institutional Framework at central, provincial and local levels. He also highlighted about the National Reconstruction Authority formed after Earthquake 2015.

#### **Suggestions & Recommendations**

- Emphasis on more investment in DRR and proper utilization of Fund
- Strengthening Coordination at regional, sub regional level and national level
- Enhance Community mobilization and sensitization for capacity building
- Develop Mechanism or System of Risk transfer like insurance and social protection
- Strengthen and Equip staff at field level
- Flexibility in laws, rules, procedures for better and quick relief and response.
- One door policy should not be adopted in relief and response but it may be used in reconstruction phase.
- Media management needs attention
- Disaster Management Plans needs to be tested at local level (mismatch between plan and reality)
- Relief materials should be provided as per the needs of the affected individuals.

#### **f. Pakistan**

**Lt Col (R) Raza Iqbal, T1 (M), Director (Implementation), NDMA Pakistan** delivered his presentation on Sendai Framework on DRR. In his presentation, he discussed about national disaster

management framework of Pakistan and initiatives taken by NDMA, Pakistan for SFDRR implementation. He also discussed about national and local level tool of risk assessment for special decision support system; Disaster Education and Awareness; Location-Based Disaster Risk Information; Disaster Loss Accounting at National and Local Levels; Legislative and Regulatory Framework related to DRR; Comprehensive and exclusive Multi-Hazard Early Warning System (MHEWS); List of Key Policies related to DRR; Accountability Mechanisms; National, Local and Sectoral Budget Allocation for DRR; Disaster Risk Transfer and Insurance; Risk Sharing and Financial Protection Mechanisms; Disaster Preparedness Contingency Plans; and about Post Disaster Recovery and Reconstruction.

#### Suggestions & Recommendations

- Micro Level Risk Assessment of entire Country in prioritized manner
- Institutional Strengthening with focus on District Disaster Management Authorities
- Enhance resilience capacity of communities through advocacy and awareness.
- Enhance early warning capacities for multi hazards.
- Develop and augment capacities to manage floods.
- Implementing building codes and retrofitting of existing infrastructures
- Develop Disaster Management Information Systems
- Capacity Building of the Government Officials and Community based DRM
- Disaster Risk Financing including micro level risk insurance mechanisms

#### G. Sri Lanka

Ms. Savithri Jayakody, Assistant Director, National Disaster Relief Services Centre, Sri Lanka presented on "Implementing Sendai Framework in Sri Lanka: Best Practices and Lessons learnt". In her presentation, she highlighted Disaster Management Institutional Framework in Sri Lanka and National Natural Disaster Insurance Scheme (NNDIS)

established under National Insurance Trust Fund under the Ministry of National Policies and Economic Affairs in 2016 and implemented by the Ministry of Disaster Management. She discussed on Government initiatives in Post-Disaster Needs Assessment; Post-Disaster Recovery Plan; Disaster-Resilient Housing Resettlement and establishment of a systematic post-disaster housing data collection and reporting mechanism. She highlighted lessons Learnt of NNDIS project such as high frequency of high-impact disasters makes it challenging to sustain the NNDIS solely through government funds; delays in the damage assessment to process insurance claims etc.



#### Suggestions & Recommendations

- Technical support and advocacy are important in ensuring that principles of DRR are incorporated into planning
- Performance indicators and institutional arrangements must be in place to measure the progress of implementing DRR programs
- Disaster Risk Management must be adopted in both preparedness and response phases

**The Sendai Framework Monitoring Process for SAARC Region Chair: Mr. Kamal Kishore, Member, NDMA, New Delhi**

a. Mr. Timothy Wilcox, UNISDR (Asia and Pacific Region) deliberated his lecture on monitoring process of Sendai framework or Disaster Risk Reduction (SFDRR). He gave brief background about SFDRR and also highlighted the

relation between Sendai Framework and SDGs during his sessions. In his session, he highlighted about the feasibility (data availability and relevance) of the proposed indicators decided in Open-Ended Intergovernmental Expert



Working Group (OEIWG), 2016. He also explained about the voluntary data readiness reviews conducted globally in early 2017 before the Global Platform for DRR - 2017. He also explained that Sendai Framework Monitor System is online from March 2018 in which total of 54 countries have globally submitted (of which 9 countries from Asia Pacific Region) their data for Targets A to E as of 31 March 2018.

#### Suggestions & Recommendations

- Strengthening use of technology, tools and statistical systems
- Suggested use of Peer-to Peer monitoring evaluation;
- Encourage support from regional partners (such as SAARC) in use of monitor and collection of data to assist countries and monitor at the sub-regional level
- Encourage countries to use local, national and regional partners in reporting disasters
- Encourage south-south collaboration

b. **Mr. Hans Guttman, Executive Director, ADPC** delivered his presentation on "Regional Cooperation on Disaster Risk Management through South Asian Association for Regional Cooperation

(SAARC)" in support of Sendai Framework for Disaster Risk Reduction 2015-2030. He highlighted ADPC initiatives for supporting regional platforms for DRR like Regional Consultative Committee on Disaster Management (RCC) for promoting regional cooperation on Disaster Management; Asian Program for Regional Capacity Enhancement for Landslide Impact Mitigation (RECLAIM); Asian Preparedness Partnership (APP); Ready4Recovery (R4R). He also highlighted ADPC partnership with regional organization for support to Sendai Framework Monitoring processes as in development of country status reports on DRR and facilitate the progress of reporting under SFDRR. Mr. Hans highlighted Building Resilience through inclusive and climate-adaptive disaster risk reduction in Asia-Pacific.



#### Suggestions & Recommendations

- Stocktaking of SAARC Disaster Management Center initiatives to support SFDRR Monitoring and Reporting
- Promotion of Massive Online Open Course (MOOC)
- Updation of SAARC Disaster Management Knowledge Portal
- Updation and regional use SAARC Digital Vulnerability Atlas
- RCC-coherence agenda (South-South Cooperation)

**Recent Advancement and Application of Science and Technology in DRR Chair: Mr. P K Taneja, Director, SDMC (IU) (IU)**

a. **Dr. K H V Durga Rao, Head, Disaster Management Support Division, NRSC** gave his presentation on "Application of science and technology in disaster risk reduction". He explained about the importance of Space technology for DRR such as communication satellites, earth



observational satellites, navigational satellites and aerial platforms and in situ observations. He highlighted the initiatives of ISRO under the DMS programme which provide services of data and information required for efficient management of natural disasters in the country. He also mentioned about the geostationary satellites (Communication and Meteorological), Low Earth Orbiting Earth Observation satellites, and aerial survey systems together with ground infrastructure form the core element of the observation Systems for disaster management. He discussed on the establishment National Database for Emergency Management (NDEM) as decision support system of NRSC which provide services of monitoring natural disasters such as flood, cyclone, agricultural drought, landslides, earthquakes and forest fires at operational level and generate information from aero-space systems and it also help in disseminating real time information to concerned agencies for aiding in decision making. He also discussed about the major activities of

Disaster Management Support (DMS) Programme such as near real time monitoring of disasters (floods, cyclones, forest fires, landslides, earthquakes) using space based inputs; generation of vulnerability and hazard zonation maps and provide information for planning disaster mitigation measures; provides comprehensive disaster specific multi-scale database through NDEM.

**Suggestions & Recommendations**

- There is a necessity to increase the reach of NDEM through awareness among the general public
  - Training programs to government officials needs to be increased for better utilization of services
- b. **Dr. K.Sathi Devi, Scientist F & Head, NWFC, IMD, New Delhi**, delivered her presentation on "Prediction of Climatological Hazards over South Asia". She briefed about significant changes due to climate change such as increase in heat wave frequency over Central and Northwest India. She highlighted about regional support under various initiatives by Indian



Meteorological Department (IMD), Ministry of Earth Sciences (MoES), Government of India such as Regional Climate Centre (RCC); Regional Specialized Meteorological Centre (RSMC); Regional Training Centre (RTC); Severe Weather Forecast Demonstrating Project-Bay of Bengal; South Asia Flash Flood Guidance and about SAARC Storm Programme for the member states.

## Workshop Agenda

### **Day 1 – 26 April 2018**

09.00–09.30 09.30–10.00 10.00–10.45  10.45–11.30  11.30–12.00 12.00–13.30    Chair: Co-Chair:   13:30–14:15 14:15–15:45   Chair: Co-Chair: Kathmandu, Nepal   15:45–16:00 16.15–16.30	Registration Opening Ceremony Presentation on SAARC Disaster Management Centre (IU) Mr P K Taneja, Director, SDMC (IU) (IU) The significance of Sendai Framework for SAARC Region: Strategies for Implementation Mr Kamal Kishore, Member, NDMA, New Delhi Tea/ Coffee Reflects on National Policies, Framework and Strategies of Member States in DRR with emphasis on implementation of SFDRR and their Needs: Best Practices and Lesson learnt (20 Minutes each) Lt. Gen. N.C. Marwah (Retd), Member, NDMA, New Delhi Mr. Kunzang N. Tshering, Director-in-charge of the Disaster Management, BIMSTEC, Dhaka, Bangladesh 1. Afghanistan 2. Bangladesh 3. Bhutan 4. India Lunch Reflects on National Policies, Framework and Strategies of Member States in DRR with emphasis on implementation of SFDRR and their Needs: Best Practices and Lesson learnt (20 Minutes each) Lt. Gen. N.C. Marwah (Retd), Member, NDMA, New Delhi Mr. SangyeChewang, Director (ENB), SAARC Secretariat,  5. Maldives 6. Nepal 7. Pakistan 8. Sri Lanka Brief Wrap up by Co-Chair and Chair Tea/Coffee
<b>Day 1 – 26 April 2018</b>	9.00–10.00  The Sendai Framework Monitoring Process for SAARC Region

## Workshop Agenda

	Chair: Mr Kamal Kishore, Member, NDMA, New Delhi 1. Presentation from Mr Timothy Wilcox, Program Management Officer (Asia and Pacific), UNISDR 2. Presentation from Mr Han Guttman, Executive Director, ADPC, Thailand Tea/ Coffee
10.00 – 10.15	
10.15 – 11.45	Recent Advancement and Application of Science and Technology in DRR Chair: Mr P K Taneja, Director, SDMC (IU) (IU) 1. Space Technology Applications for Disaster Management in SAARC Region Dr Durga Rao, Scientist, NRSC 2. Prediction of climatological hazards over South Asia and Changing Climate Patterns over the Region Dr. (Ms.) K Sathi Devi, Scientist- F & Head (NWFC), IMD Lunch
11.45 – 12.30	
12.30 – 13.15	Priorities and Way Forward Facilitated discussion on identifying priority areas of SDMC (IU) (IU)
13.15 – 13.30	Closing Ceremony
15.00 – 19.30	Visit to Bhuj (Bhujodi Village-Traditional Shopping Market)

## Participant List

Country	Name	Designation	Office
SAARC Secretariat	Mr. Sangye Chewang	Director	Environment, Natural Disaster & Biotechnology Division (ENB), SAARC Secretariat, Kathmandu, Nepal
	Mr. Jigme Tshewang	Desk Officer	Environment, Natural Disaster & Biotechnology Division (ENB), SAARC Secretariat, Kathmandu, Nepal
BIMSTEC Secretariat	Mr. Kunzang N. Tshering	Director-in-charge of the Disaster Management	BIMSTEC, Dhaka, Bangladesh
	Mr. Sumon Kumar Shill	Network Administrator cum System Engineer	BIMSTEC, Dhaka, Bangladesh
Afghanistan	Mr. Mohammad Aslam Sayas	Deputy Minister of Admin and Finance	State Ministry for Disaster Management and Humanitarian Affairs
	Mr. Khan Mohammad Karimi	Acting Director of Afghanistan NDMA	State Ministry for Disaster Management and Humanitarian Affairs
Bangladesh	Mr. Md. Mahfuzur Rahman	Project Implementation Officer (PIO)	Project Implementation Officer (PIO), Daudkandi, Comilla
	Mr. Md. Shohidul Islam	Project Implementation Officer (PIO)	Project Implementation Officer (PIO), Keraniganj, Dhaka

## Participant List

Country	Name	Designation	Office
India	Lt. Gen. N.C. Marwah (Retd)	PVSM, AVSM, Member	National Disaster Management Authority, New Delhi
	Mr. Kamal Kishore	Member	National Disaster Management Authority, New Delhi
	Brig. Ajay Gangwar	Advisor (Ops)	National Disaster Management Authority, New Delhi
	Mr. Manoj Kasana	Second-In-Command (DM-I)	Ministry of Home Affairs, New Delhi
Maldives	Mr. Ahmed Aslam Waheed	Project Manager (UNDP)	National Disaster Management Centre
	Ms. Fathimath Saushan Moosa	Senior Administrative Officer	National Disaster Management Centre
Nepal	Mr. Shesh Narayan Paudel	Assistant Chief District Officer	Assistant Chief District Officer, Morang
	Mr. Shambhu Regmi	Assistant Chief District Officer	Assistant Chief District Officer, Rupandehi
Pakistan	Mr Md. Idrees	Member (DRR)	NDMA, Pakistan
	Officers from Pakistan joined via Video Conference		
Sri Lanka	Ms. A.M.L. Ranaweera	Assistant Secretary	Ministry of Disaster Management, Colombo
	Ms. J.A.D. Chandima Savithri	Assistant Director	National Disaster Relief Services Centre

## Other Officers/ Experts

ADPC	Mr. Hans Guttman	Executive Director	Asian Disaster Preparedness Center, Thailand
UNISDR	Mr Timothy Wilcox	Focal Point	Sendai Framework Monitoring in UNISDR Asia-Pacific Office
IMD, New Delhi	Dr. (Ms.) K Sathi Devi	Scientist- F & Head (NWFC)	Indian Meteorological Department, Mausam Bhavan, Lodi Road, New Delhi
NRSC, Hyderabad	Dr Durga Rao	Scientist	NRSC, Hyderabad



# **WORKSHOP REPORT ON CARE PROTECTION AND PARTICIPATION OF CHILDREN IN DISASTERS**

**4 – 7 SEPTEMBER 2018,  
GANDHINAGAR, GUJARAT**



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## Care Protection and Participation of Children in Disasters

4 – 7 September 2018, Gandhinagar , Gujarat

### Background

Children are one of the most vulnerable groups of a community during an extreme event. Children in general and children with disabilities in particular, need special assistance during a disaster. Children are directly affected by death and injuries as well as from diseases related to malnutrition, poor water and sanitation – conditions that are exacerbated by diseases. In addition, disasters disrupt education and can cause psychological trauma. Disasters also separate children from their families and increase vulnerability to trafficking, exploitation and abuse.

It is imperative to focus on the protection of the children by adopting effective mitigation measures. According to United Nations Convention on the rights of the child, they have the right to be first to receive attention during emergencies. Under the UN Convention on the Rights of the child (CRC) children have inalienable rights in all circumstances – including disasters when they are at their most vulnerable – and the right to participate in decisions that ultimately affect them. The CRC and Disaster Risk Reduction are mutually reinforcing. Moreover, children have particular needs that must be met for their healthy growth and development. The children of South Asia are among the most vulnerable in the world. One of every three child deaths globally occurs in South Asia. Nearly half of the world's undernourished children live in South Asia. More than a third of the world's children without basic education are from South Asia (SAARC Framework).

While various global and regional conventions, declarations and charters have been helpful in defining the rights of the child in difficult circumstances, these do not adequately address the special and multi-faceted needs of children in natural and manmade disasters.

31.5 % of the total population in South Asia is below 14 years of age (source: UNICEF – Facts on Children \_ ROSA 2011). Therefore, it is crucial that any effort to reduce disaster risk at the regional, national, local or community level takes into consideration both the specific vulnerabilities faced by children & the crucial role they can play in reducing disaster risk. With access to knowledge & skills

development, there is increasing evidence that children can contribute to disaster risk reduction (DRR) and help build the resilience of their communities. Child-centred DRR means focusing on specific risks faced by children, and involving children in efforts to reduce disaster risk to make their communities safer. It is an innovative approach to DRR that fosters the agency of children and youth, in groups and as individuals, to work towards making their lives safer & their communities more resilient to disasters. Recurring disasters pose a great development challenge for all SAARC countries. with this backdrop, SAARC Comprehensive Framework on Disaster Management and Disaster Prevention has been prepared during the year 2015 which is in force.

This workshop was organized SAARC Disaster Management Center(IU) for the government representatives from SAARC countries to reflect on the SAARC Framework for Care, Protection and Participation of Children in Disasters. Representatives from seven countries participated in the workshop.

## Day 1

- Inauguration
- Overview of Humanitarian Standards and UNCRC
- Identification of child vulnerabilities and opportunities for child vulnerability reduction

## Day 2

- Children in disasters : Child Protection
- Children in disasters : Health and Nutrition
- Children in changing climate
- Overview of SDGs

## Day 3

- Children in Child Centered Resilience
- Group work on SAARC framework for children in disasters
- Valedictory

## Day 4

- Overview of Child Centered Resilience
- Group work on SAARC framework for children in disasters
- Valedictory

## Workshop Report

### Day 1:

#### 1.1 Inauguration and Context setting:

The workshop on Care Protection and Participation of Children in Disasters began with the inaugural session with lighting of the lamp by key dignitaries and participant representatives from SAARC countries. First key

note address by Mr. P.K. Taneja Director, SDMC(JU) welcomed participants and emphasized on the need of capacity building for disaster risk reduction with special reference to changing climate and risks to children. The second key note address from Ms. Laxmi Bhawani, Chief, UNICEF-Gujarat elaborately explained the vulnerabilities of the children in disasters

and emphasized need for special attention and interventions for care, protection and participation of the children in disasters.

The inaugural session was then followed with a quick session on participants' introduction and context setting. The need for the discussion, consultation and revision of SAARC framework for care protection and participation was emphasized during the context setting.



#### 1.2 International Frameworks for Children in Disasters and State of the Issue

Facilitator: Mr. Murali Mohan Kunduru

The fundamental principles that govern the SAARC Framework for Care, Protection and Participation of Children in Disasters are based on the core principles of the Convention on Rights of Children and the humanitarian standards. This session provided insights to the participants regarding relevance of international frameworks with the key essentials of the interventions for care protection and participation of the children in disasters. The session began with quick discussion on



needs for legal frameworks and standards for humanitarian action.

The discussion was followed by video screening and post screening discussion on humanitarian principles, code of conduct and standards.

The issues and challenges in humanitarian actions were discussed. Second part of the session on Sphere handbook was facilitated using interactive power point presentation and discussion with reference to examples from SAARC countries. Participants also expressed their experiences of disaster responses. The third part of session discussed Minimum Economic Recovery

Standards (MERS) as an essential part of recovery processes. This part of the session also introduced the humanitarian inclusion standards for older people and people with disabilities as an essential part of humanitarian action. Next part of the session dealt with detailed discussion on nine commitments and quality criteria of Core Humanitarian Standards (CHS). The session was concluded with the discussion on relevance of UNCRC with humanitarian action.



### 1.3 Identifying sectoral needs of children from different age-groups

Facilitator: Mr. Mandar Vaidya

The vision of the SAARC Framework for Care, Protection and Participation of Children in Disasters is to reduce the vulnerabilities of children in every age and social group and to provide a comprehensive set of guidelines for national and local governments, international agencies and regional organizations, humanitarian agencies and social workers to address the special needs of children in disasters.

This session was planned with objective of helping participants to discuss and deliberate on the vulnerabilities of the children in the different age groups with special reference to life cycle approach. The session was facilitated using interactive power point presentation followed by group work. The first part of the session discussed the risk formula and its relevance with disaster risk reduction. The second part of the session elaborately discussed the life cycle approach and the

nature of disaster risks associated with each of the stage of child development. This part of the session also discussed disaster risks and the sector needs for vulnerability reduction at each stage of life cycle. The session was concluded with the group work on identification of the critical risks to the children with reference to the stages of life cycle and the existing schemes, government programme which are playing key role in addressing the vulnerabilities of the children. Almost every group expressed the need for improved programming for addressing the critical vulnerabilities like malnutrition, protection and neonatal care.

## Day 2:

The day two started with a quick recap of day one.

### 2.1 Child Protection in Emergencies (CPiE)

Facilitator: Mohammed Aftab

The SAARC framework Care, Protection and Participation of Children in Disasters emphasizes Child protection in emergencies is one of the key priorities for action. It states that Child protection requires a multi-disciplinary and multi-sectoral approach that is integrated with education, health and juvenile

justice. Child protection work aims to prevent and respond to cases of child protection violations. On this backdrop this session helped participants to discuss the issues in child protection during emergencies and the need for systematic interventions.

The first part of the session elaborately discussed family tracing and reunion of children during disasters. This involved discussion on the intervention with special reference to Identification, Documentation, Registration, Tracing, Reunification and follow up. Each of the phase of the intervention for family tracing in reunification was discussed in detailed with the help of examples from past disasters. The discussion was concluded with the discussion on key operational challenges. The second part of the session elaborately discussed gender based violence in humanitarian emergency context. The discussion began with the definition of gender based violence followed by relevance of addressing gender based violence with special reference to



humanitarian principles. The programme cycle for addressing gender-based violence was discussed.

The session was concluded by emphasizing four approaches to the programming for addressing gender based violence.

## 2.2 Child Survival – Health and Nutrition in Disasters

Facilitator: Dr Ravikant Singh and Dr. Narayan Goankar

Access to healthcare is a critical determinant for survival in the initial stages of a disaster. Disasters almost always have significant impacts on public health infrastructure and, consequently, on the wellbeing of affected children, women and men. During emergencies, children are especially vulnerable to increased rates of morbidity and mortality. The SAARC framework for Care, Protection and Participation of children in Disasters emphasizes on specialized heath care for



children during disasters with immediate measures ensuring child survival. This session elaborately discussed issues of child survival with special reference to health and nutrition.

The first part of the session facilitated by Dr. Ravikant, provided detailed information on the situational analysis of the SAARC countries about the status of child health and services with the help of maps. The next part of the session helped participants to discuss Key determinants of Child Health during Emergencies emphasizing resilient health infrastructure and services during normal times. The best practices in SAARC region were also discussed with special reference to role of child friendly spaces, inter-sectoral coordination and information management. The session was concluded with the discussion on challenges in programming for health and nutrition for children during emergencies.

The second part of the session facilitated by Dr. Narayan Goankar provided detailed insights in child centered programming for survival, health and nutrition with reference to disaster management cycle emphasizing disaster risk reduction. Next part of the session explained health programming with special reference to MISP, Early recovery and preparedness.

## 2.3 Children and Climate Change



Facilitator: Dr Rohit Srivastav

Analysis and projection indicates that the vulnerabilities of children in disasters will increase in South Asia due to the impacts of climate change and rapid urbanization that the region is experiencing at an unprecedented scale. Climate change will impact food security, nutritional standards and human health,

negatively affecting children to a greater extent than any other age segment of the population.

Migration of poor rural households to urban areas in search of employment will expose children to the poverty and squalor of urban slums and increase their vulnerability to exploitation of many forms. Thus children in

changing climate becomes important consideration for SAARC framework for Care Protection and Participation for Children in Disasters. On this backdrop this session facilitated discussion on impact of climate change on children with special reference to existing and emerging hazards.

The first part of the session discussed broader concept of climate change with reference to green house effect and its impact on developing countries. This part of the session provided insights on various frameworks for understanding predictions of climate change and potential impact on people. The second part of the session specifically focused on impact of climate change on children with special reference to health and well being. This part of the session also discussed need for climate adaptation in detailed. The session was concluded with the framework for solutions to deal with effects of climate change.

## 2.4 Relationship of Sustainable Development Goals (SDGs) with Children:

Facilitator Mr. Murali Mohan Kunduru

With new frameworks of SFDRR and SDGs in place agreed by governments it is also important to integrate priorities of these frameworks with SAARC framework for Care Protection and Participation of Children in Disasters. This session was planned and facilitated as the continuation of the session 1.2 on International frameworks. The session was facilitated using interactive power



point presentation. The session began with the discussion on humanitarian standards and resilience and an over overview of SDGs. In the next part of the session each SDG was discussed in detailed with reference to Care, Protection and Participation of children for resilience.

## Day 3:

The day began with a quick recap of day 2.

### 3.1 Education in emergencies:

Facilitator: Ms. Nagma Firdous

SAARC framework for Care Protection and Participation of Children in Disaster recognizes Education in Emergencies as one of the key priority actions. Considering children spend a considerable part of their daily lives in schools and other learning centers, it is essential to make these places safe from multiple hazards. All existing school buildings should undergo a safety audit and be made resilient as per the national government's building standards and codes, thereby ensuring the safety and resilience of such structures during disasters. On this backdrop this session provided information and experiences from the Indian initiative for school safety. The session was facilitated using power point presentation and quick group work. The first part of the session provided detailed overview of need for school safety and elements of school safety programming with the aim of resilience. Next part of the session was facilitated using group work which emphasized interventions for differently able children, capacity building, resilient school building and IEC for children.

### 3.2 Country Presentations:

This session provided opportunity to exchange experiences and information from SAARC countries regarding Children in disasters.

#### 3.2.1 Nepal

With Disaster Risk Reduction and Management Law 2017 and DRR national policy 2018, Nepal has geared up its disaster

management process from government to





communities in the post earthquake scenario. A coordination structure of National Council, Prudential committees, Executive committee, DDMC and LDMCs is playing significant role in ensuring resilience in structures and services. In the process of reconstruction, the safety of the new buildings and houses is the most important priority, for

earthquake resilience through construction, retrofitting, training, raising awareness and safety measures to ensure that these buildings are safe after a major disaster. Key initiatives include promoting prototypes for school building construction, mason's training, Public awareness, community mobilization programme.

### **3.2.2 Afghanistan:**

With fragile security situation Afghanistan government is involved in promoting social protection programme for children in disasters led by Ministry of Labor and Social Affairs in coordination with Ministry of Women Affairs, Ministry of Counternarcotic, Ministry of Ministry of Refugees and Repatriation Ministry of

Finance, ANDMA

(Afghanistan National Disaster Management Authority), CSO (central Statistics Office). Key services provided in social protection programme in 33 provinces are

- CPAN (Child Protection Action Network) a coordination mechanism among all stakeholders
- Orphanages (covers orphan girls and boys, between age of 3-18)
- Kindergarten 2-6 yrs. old boys and girls
- Day care center
- Rehabilitation Centers
- Social Safety Net (Cash Transfer to most vulnerable people)



Lack of coordination and awareness is the biggest challenge along with remoteness and lack of skilled human resources. Capacity building, coordination and budget allocation are the key considerations for the future solutions.



### 3.2.3 Maldives:

Being an island country Maldives is affected by Tsunami, Storms, Floods, Fires and Earthquake. Maldives is also facing impact of climate change. With the disaster risk reduction act in place the country has taken significant initiatives in enhancing community based disaster risk management, early warning, flood mitigation, insurance and loans. Reaching out to islands, lack of skills human resources and changing weather patterns are the key challenges in disaster risk reduction. Maldives is emphasizing on capacity building and knowledge exchange as solutions for future.

### 3.2.4 : Pakistan:

Dealing and learning from past disaster experiences Pakistan has developed its policy framework for Disaster risk reduction and children including National Policy Guidelines on Vulnerable Groups in Disasters 2014, SOPs on Child Protection in Emergencies 2014, SOPs on Separated, Unaccompanied and Missing Children in Disasters, 2014, Pakistan School Safety Framework Guidelines 2016. The programme has resulted into production of key knowledge resources including



- Pakistan School Safety Framework (PSSF) and Training Toolkit (Teacher's Guide, Trainer's Guide, Evaluator's Guide and Evaluator's Handbook)
- Integrating GBV Prevention Intervention in Pakistan School Safety Framework 2017
- Additional Chapter/ Toolkit on "GBV, Bullying & Psychosocial Support in Pakistan School Safety Framework 2017
- Climate Change Adaptation Toolkit

The process has also produced IEC material including documentary, picture books, posters for children. Lack of coordination and awareness is the biggest challenge along with availability of resources. Strengthening coordination, resource allocation and systematic scaling up approach are the key considerations for the future solutions.

### 3.2.5 : Bhutan:

Bhutan has high risk of earthquake along with glacial lake outburst, floods, and fires. Bhutan has disaster management coordination system in place according to Disaster Management Act 2013. Bhutan has developed inclusive disaster management programmes for children addressing needs of differently able children as well. Key features of this programme are

Inclusive Teaching Learning Material and systematic school disaster management planning with child participation. Key challenges are Increasing risks, Low institutional and technical capacities, Insufficient mainstreaming of DRR and climate change, Multi-sectoral coordination, Lack of capacity and coordination to develop multi-hazard atlas and Inadequate budget for recovery and re-construction. Fully function incident command system, capacity building and enhanced coordination are the key solutions for future.



### 3.2.6 : India:

National school safety guidelines and the programme are the key achievements for India. The perspective of school safety includes safe school, safety during travel and safety at home. NDM Guidelines on School Safety ensures all hazard approach and specific actions that can be undertaken by different stakeholders. The national school safety programme has reached out to 8600 schools in 22 states with Training Modules & IEC Material, Teachers trained as Master Trainers, School DM Plans & Mock Drills, Non-Structural Measures and Retrofitting.

### 3.2.7 : Sri Lanka

With systematic coordination mechanisms among ministries and National Council for disaster management Sri Lanka has taken significant initiatives for disaster risk reduction including early warning towers, community based disaster risk reduction, awareness generation and school safety. The school safety initiatives include school safety planning, mobile van for awareness, mock drills, competitions and IEC material etc.

### 3.3: Child Center Disaster Risk Reduction Programming:

Facilitator: Mandar Vaidya

This session was the continuation of the session number 1.3 emphasising life cycle approach to child vulnerability reduction. This session was facilitated using interactive power point presentation which explained the process of mainstreaming disaster risk reduction in development programming. The first part of the session explained the concept and significance of child centered risk assessment with special reference to life stages. The second part of the session emphasized on identification of opportunities for mainstreaming children's risks in development programming. The session was concluded with the discussion on inter-departmental and inter-sector coordination.

### 3.4 SAARC Framework for Care, Protection and Participation of Children in Disasters

Facilitator: Murali Mohan Kunduru

Key purpose of the workshop on Care, Protection and Participation was to solicit participants' feedback, inputs on the SAARC framework. This session provided comprehensive presentation on the same for further discussion in groups. The ten points of Regional Road Map for Implementation of the SAARC Framework for Care, Protection and Participation of Children in Disasters were discussed in detailed.



## Day 4:

The day started with a quick recap of day three.

### 4.1 Child Centered Resilience Building in South Asia

Facilitator: Ray Kancharala

This session was facilitated using interactive power point presentation and encouraging participants to think about RESILIENT AND

CLIMATE SMART CHILD (RCSC). The first part of the session provided comprehensive conceptual explanation to Climate adaptation and resilience followed by child center approach to resilience. Next part of the session discussed H-E-L-P model (Health, Nutrition, Water, Sanitation, Hygiene,



Education, Resilient Livelihood, Social Protection as well as Child Protection) for child centred resilience and adaptation key elements of programming including family resilience planning, comprehensive school safety, child participation and CCDRR. The session was concluded with the discussion on changes in policy and practice needed for child Centred resilience.

## 4.2 Group work on SAARC Framework for Care, Protection and Participation of Children in Disasters

At the end of the workshop participants provided their insights and recommendation on 10 points of Regional Road Map for Implementation of the SAARC Framework for Care, Protection and Participation of Children in Disasters. The group work presentation is consolidated in following table.

10 points of Road map	Recommendations
A. Assessment	<ul style="list-style-type: none"> <li>Age and Gender-specific Risk Assessments – Risk Informed Planning</li> <li>Come out with preparedness plans from communities to global level.</li> </ul>
B. Evacuation, S & R	Capacity Building of Task Forces / Disaster Response Forces to handle children, especially girls, CWD and terminally ill
C. Food Security & Nutrition	Include CWD, Children with HIV-AIDS, Terminally ill, SAM& MAM
D. WASH	Include school WASH with specific focus on Protecting Drinking Water sources and also Specific provisions for Girls and Boys
E. Emergency Medical Care	Special Focus on Long Term Illnesses (Palliative Care)
F. Mental Health – Psycho-Social Care	Early Training of Such Resource from schools and communities – Develop a cadre of trained persons
G. Build up Environment	Take views and opinions of children in designing of schools
H. Protection	<ul style="list-style-type: none"> <li>Expand to include children affected by conflict, war, displacement, IDP</li> <li>Should be inclusive of children with special needs and adolescent girls</li> </ul>
I. School Safety	Involvement of Education Ministry and incorporation of Risk and Resilience in curriculum
J. Children Participation	Develop specific policy and guidelines for Children participation, as outlined in Sendai Framework

**General Recommendations:**

- ✓ To include a point which caters to provide a framework for the unaccompanied children
- ✓ To include a point for Evaluation and monitoring mechanism
- ✓ To have a database between countries through SAARC platform.
- ✓ To include a point to capacity building and training of focal person from each SAARC member Countries
- ✓ Review the SAARC Framework in line with other global frameworks such as SDG's, Paris Agreement and Sendai Framework



The workshop was concluded with the valedictory session. The session began with warm welcome to the dignitaries and providing them an Overview of the workshop process. This was followed by the key note address by Dr. Yasmin Ali Haque, Country Representative UNICEF. In her key note address she emphasized

the need for child centered disaster risk reduction and risk informed planning. She also appreciated exchange of thoughts and experiences in the workshop. Mr. P. K. Taneja, Director General of GIDM also appreciated participants contribution for the enhanced SAARC framework for Care, Protection and Participation of children in disasters. He also emphasized the need for continual capacity building and exchange among SAARC countries for building resilience in the changing climate. The workshop was concluded with certificate distribution and vote of thanks.



**Workshop on**  
**"Care, Protection and Participation of Children in Disasters"** during 04-07, September 2018.  
**Participant Sheet**

	Participants Name	Designation	Country Name	Flag	Contact Details	
					Mobile Number	Email Address
1	Mr. Allah Dad Qarluq	Manager of Risk Analysis, ANDMA	Afghanistan		00 93 774681615	allahdad.sq2015@gmail.com
2	Mr. Ibrahim Ghafary	Ministry of Education, Kabul, Afghanistan	Afghanistan		00 93 787075721	mi.ghafary@moe.gov.af mighatarg@gmail.com
3	Mr. Sayed Hameed Sadsat	Officer	Afghanistan		00 93 744126655	hsameed.hamnawa@gmail.com
4	Ms. Chencho Dem	Disaster Focal Teacher, Wangsel Institute, Paro	Bhutan		-	demchencho@gmail.com
5	Mr. Karma Dorji	Senior Admin Officer, Department of Disaster Management, Ministry of Home and Cultural Affairs	Bhutan		-	ihsendup@goc.bt
6	Mr. Galey Tenzin	Senior Program Officer, Children Division, National Commission for Women and Children	Bhutan		00 975 77204262	glenzin@ncwc.gov.bt
7	Ms. Nitishben R Joshi	Program Officer, CNCP, Gujarat State Child Protection Society, Gandhinagar	India		-	-
8	Ms. Pushpa Joshi	Education Specialist	India		00 91 9717168333	pjoshi@unicef.org
9	Mr. Kamlesh Prajapati	Project Co-ordinator	India		00 91 9429317434	kamleshprajapati2011@gmail.com
10	Mr. Dhaval S Bhatt	Assistant Engineer, S.P.O, Gandhinagar	India		00 91 9898389757	bhattdhaval80@yahoo.com
11	Mr. Vedprakash Gautam	CP Specialist	India		00 91 9435709610	vegautaf@unicef.org
12	Mr. Rajesh Kapoor	CEO, COHESION	India		00 91 9825329739	cohesionfoundation@gmail.com
13	Mr. Vijaybhai D Parmar	Protection Officer, DCPU, Gandhinagar	India		-	-
14	Ms. Shilpa Vaishnav	Project Co-organizer, UNICEF, Banaskantha, Gujarat	India		00 91 9909689520	shilpassv@gmail.com



	Participants Name	Designation	Country Name	Flag	Contact Details	
					Mobile Number	Email Address
15	Mr. Saurabh K Singh	Assistant Director, GSDMA, Gandhinagar, Gujarat	India		00 91 7069494500	sksgsdma@gmail.com
16	Mr. Mahendra R.	Consultant- UNICEF	India		00 91 9910713005	mahen1811@gmail.com
17	Mr. Abbaraju	AP HRDI	India		-	-
18	Mr. Hussain Rasheed Moosa	Deputy Director General, Ministry of Education, Maldives	Maldives		00 960 7786890	schoolhealth@moe.gov.mv
19	Mr. Mohamed Ahzam Abdulla	Assistant Project Officer, National Disaster Management Centre, Maldives	Maldives		00 960 7779421	mohamed.ahzam@ndmc.gov.mv, ahzam.pws@gmail.com
20	Ms. Aishath Ashiya Shathir	Program Officer, Ministry of Gender & Family, Maldives	Maldives		00 960 9191949	ashiya@gender.gov.mv
21	Mr. Rajendra Kumar Paudel	Joint Secretary, Ministry of Women, Children and Senior Citizen	Nepal		00 977 9851132510	rjpaudel@gmail.com
22	Mr. Chiranjibi Gustam	Director, Education and Human Resource Development Centre Nepal	Nepal		00 977 9843219456	chiranjibi43gtm@gmail.com
23	Ms Sujata Khatri	Section officer, Ministry of Home Affairs	Nepal		00 977 9847183948	sujatakhatri11@gmail.com
24	Ms. Amna Naseer	Training Coordinator, National Institute of Disaster Management, Pakistan	Pakistan		00 92 3244031853	amnanaseer099@gmail.com
25	Mrs. Maryam Taj Din	Assistant Director, National Disaster Management Authority, Pakistan	Pakistan		00 92 51 9204197	maryamtajdin@gmail.com
26	Mr.H.D.G. Priyantha	Assistant Director, District - Disaster Management Centre	Sri Lanka		00 94 713512772	hdgpriyantha@dmc.gov.lk
27	Mr. R.M.C Nimalweera	Child Rights Promotion Officer, Ministry of Women and Child Affairs	Sri Lanka		00 94 710887162	wicki1986ng@gmail.com
28	Mr. K.G Pushpakumara	Director of Education, National Colleges of Education Branch, Ministry of Education	Sri Lanka		00 94 711511168	pkahagalla61@gmail.com

# SAARC

## Disaster Management Centre (IU)



23rd to 26th October, 2018

# HOSPITAL EMERGENCY PREPAREDNESS AND RESPONSE

Training Report



**SAARC Training Programme  
on  
Hospital Emergency Preparedness & Response  
at  
Gujarat Institute of Disaster Management, Gujarat  
23rd -26th October 2018**



## ORGANIZERS

### SAARC DISASTER MANAGEMENT CENTRE

SAARC Disaster Management Centre (SDMC), is an Inter-Governmental Body, set up in October 2006 currently functioning as Interim Unit in Gujarat Institute of Disaster Management campus, Gandhinagar Gujarat. The Centre has the mandate to serve eight Member Countries of South Asia Association of Regional Cooperation (SAARC) – Afghanistan, Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan and Sri Lanka – 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 in South Asia. The Centre is a sleek body of professionals working on various dimensions of disaster risk reduction and management in South Asia.

The SDMC (IU) is hosted in the premises of Gujarat Institute of Disaster Management (GIDM) having world class training facilities. GIDM conducts various training programs for Government, Semi Government officials at various levels.

## PARTNERS



### GUJARAT INSTITUTE OF DISASTER MANAGEMENT (GIDM)

The Gujarat Institute of Disaster Management (GIDM) is registered as an autonomous society under the Government of Gujarat. The Institute has been entrusted with the responsibility of human resource development, capacity building, training, research and documentation in the field of Disaster Management. Website: <https://gidm.gujarat.gov.in/>



### ASIAN DISASTER PREPAREDNESS CENTER (ADPC)

Asian Disaster Preparedness Center (ADPC) is an intergovernmental organization that works to build the resilience of people and institutions to disasters and climate change impacts in Asia and the Pacific. Established in 1986 as a technical capacity building center, ADPC became an intergovernmental organization after nine founding members ratified its Charter. Member countries include Bangladesh, Cambodia, China, India, Nepal, Pakistan, the Philippines, Sri Lanka, and Thailand.

### **3. PARTICIPANTS**

34 participants working in the field of Disaster Management and Health Administration remained present from all the Member States including Afghanistan, Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan and Sri Lanka in the training program. The list of the participants is given in Annexure 1. The program served as a platform for the professionals working in the related field to interact and share their experiences on the various aspects of Hospital Preparedness, emergency management, Interagency co-ordination relevant in the SAARC region.

### **4. METHODOLOGY**

An interdisciplinary team of experienced practitioners and experts provided a balanced set of methodologies to the sessions with theory, practical experiences, interactive and participative lectures, group discussions, presentation, field visit, case studies and sectoral examples. Certificate of completion awarded to participants upon successful completion of the training program.

### **5. TRAINING FACULTY & FACILITIES**

Leading senior and international expert provided the training from Asian Disaster Preparedness Centre, National Disaster Management Authority, India, National Institute for Prevention and Social Medicine, Bangladesh, Ministry of Health, Afghanistan, Institute of Medicine Nepal, working on the field of disaster management.

The training was held in the conference hall of Gujarat Institute of Disaster Management, which is equipped modern infrastructure facilities like academics, hostel, auditorium, fitness centre, play area, steam bath, meditation room, dining halls and well-developed library.

### **7. COURSE SCHEDULE**

The entire training was scheduled for three day divided into lectures, field visit and group exercises. Every Morning Yoga Sessions were organised by the participants. The course schedule was as given below:

**DAY 1: 23 October 2018**
**Foundation of Emergency Management/ Reducing Disaster Risks in Health Facilities**

0900-0930	Participant Registration	SDMC (IU)
0930-1000	Workshop Introduction <ul style="list-style-type: none"> <li>• Workshop purpose and objectives</li> <li>• Workshop schedule</li> </ul> Expectations, Ground Rules	Mr. John Abo ADPC Thailand
1000 – 1030	Opening Ceremony	SDMC (IU)
1030 - 1100	Group Photo and Tea Break	
1100-1230	Basic Concepts & Principles: Hospital Emergency Risk Management <ul style="list-style-type: none"> <li>• DRM Terminologies</li> <li>• Risk Management Process</li> </ul>	Mr. John Abo ADPC Thailand
1230-1330	Lunch	
1330-1445	Hospital Risk Assessment <ul style="list-style-type: none"> <li>• Risk Assessment process</li> <li>• Structural and Non Structural component of hospitals</li> </ul>	Dr. Mona Anand ADPC India
1445-1500	Break	
1500-1600	Country Experience: Hospital Risk Assessment	Dr. Shaheda Hamid NIPSOM, Bangladesh
1600-1615	End of day consolidation of sessions and Q&A	SDMC (IU) & ADPC
1630-1930	Visit to Dandi Kutir, Gandhinagar	

**DAY 2: 24 October 2018**
**Hospital Emergency Preparedness and Managing Hospital Emergency Operations During Crisis**

0900-0915	Review and synthesis of previous day	SDMC (IU) & ADPC
0915-1015	Hospital Incident Command System (HICS)	Mr. John Abo ADPC Thailand
1015-1030	Break	
1030-1200	TABLETOP EXERCISE: Scenario-based Hospital Emergency Coordination Exercise	Mr. John Abo ADPC Thailand
1200-1300	Lunch	
1300-1415	Crisis Communications Exercise on Communication	Dr. Mona Anand ADPC India
1415-1430	Break	
1430-15.15	Country Experience: Protecting health facilities from intentional attacks	Dr. Hidayatullah Al Noor Ministry of Health Afghanistan
1515-1600	Country Experience: Hospital Flooding	Dr. Novil Wijesekara MOH Sri Lanka
1600-1615	End of day consolidation of sessions and Q&A	SDMC (IU) & ADPC
1630-1930	Visit to Sidi Saiyad ni Jali, Ahmedabad	SDMC (IU)

**DAY 3: 25 October 2018**
**Hospital Emergency Preparedness and Managing Hospital Emergency Operations During Crisis**

0900-0915	Review and synthesis of previous day	SDMC (IU) & ADPC
0915-1015	Development of Hospital Emergency Response Plan and National Safe Hospital Guidelines	Dr. Saurabh Dalal NDMA India
1015-1030	Break	
1030-1130	Exercise: Management as a Tool for Capacity Development	Mr. John Abo ADPC
1130-1230	Management of Chemical Biological and Radio-Nuclear Emergencies including improvised explosive device	Dr. Saurabh Dalal NDMA India
1230-1330	Lunch	
1330-1500	Mass Fatality Management Country Experience: Management of the Dead bodies and the missing in disasters	Dr. Samarika Dahal Institute of Medicine Nepal
1500-1515	End of day consolidation of sessions and Q&A	SDMC (IU) & ADPC
1515	Break	

**DAY 4: 26 October 2018**
**Hospital Emergency Preparedness and Managing Hospital Emergency Operations During Crisis**

0900-0915	Review and synthesis of previous day	SDMC (IU) & ADPC
0915-1000	Significance of SFDRR & Hospital preparedness	Mr. Kamal Kishore Member, NDMA India
1000-1015	Tea Break	
1015-1215	Final Simulation Exercise Briefing	Mr. John Abo ADPC Thailand
1215-1300	Lunch	
1300-1400	Simulation Exercise & Debriefing	Mr. John Abo ADPC Thailand
1400-1500	Closing Ceremony	SDMC (IU)
1530-1545	Tea	

## DAY 1: 23 October 2018

Foundation of Emergency Management/  
Reducing Disaster Risks in Health Facilities

### INAUGURAL SESSION:

The Training programme was inaugurated on 23rd October 2018 at 09.35AM in the presence of dignitaries like Shri. P. K Taneja, Director, SDMC, Mr. John Abo ADPC Thailand, Dr. Shaheda Hamid NIPSOM, Bangladesh.

Course Coordinator welcomed all the delegates and dignitaries and introduced the course objective, significance of the course and schedule. Introduction of the delegates and experts was also given.



Mr. P.K. Taneja, Director (SDMC) expressed his gratitude to all the delegates, experts supporting the programme and motivated participants towards making the programme successful. He emphasized on the significance providing health care during the disasters and need for training in context of Hospital Emergency Preparedness and Response.

He highlighted the emphasis given by the SFDRR on reducing losses to the Critical Infrastructure including Hospitals. He also encouraged delegates to share the respective best practices, case studies and procedures followed by Member states so as to learning from each other may be facilitated. He also shared his experiences as in Health Department and urged for better preparedness in all the levels towards hospital safety.

### Basic Concepts & Principles: Hospital Emergency Risk Management

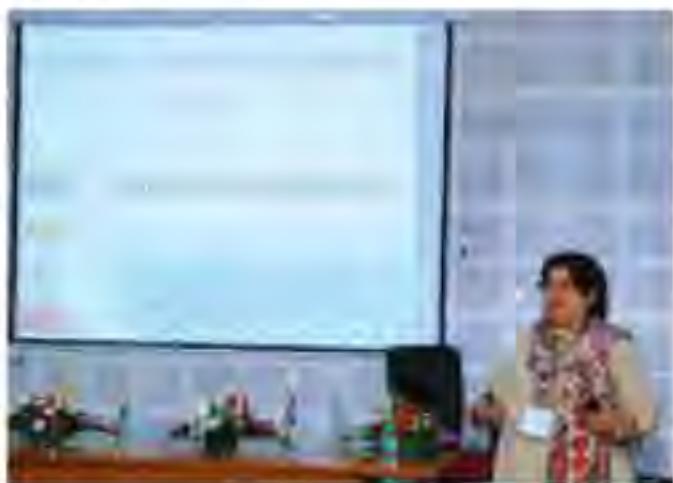


**Mr. John Abo, ADPC Thailand** delivered a session on Basic Concepts & Principles: Hospital Emergency Risk Management. Mr. Abo, briefed participant about the objective of the programme and also explained the purpose and need of this training programme.

He discussed agenda and briefed about the expectation from individuals and explained the Ground Rules. He presented about the Concepts & Principles for Hospital Risk Management, its Terminologies and Process associated with management of Risk. He explained that Risk management is very important decision-making process which is used to establish policies, hazards identification, risk assessment and their importance for planning for Hospital Safety. He also explained the importance of HSI-Hospital Safety Index in Identifying key hospital vulnerabilities and Capacity for Emergency Management.

#### **Hospital Risk Assessment: Risk Assessment process, Component**

**Dr. Mona Anand, ADPC India** delivered a session on Hospital Risk Assessment process with emphasis on Structural and Non Structural component of hospitals. She briefed about basic safety requirement level of all hospitals during emergencies and urgent interventions necessary to be taken up. She also explained major challenges towards developing coping capacities for management of major emergency incident. She also discussed about training of hospital staff for emergencies, and to develop Emergency Response Plans.



#### **Country Experience: Hospital Risk Assessment**



**Dr. Shaheda Hamid NIPSOM, Bangladesh** discussed on Country Experience: Hospital Risk Assessment, she explained about how to understand the risks factors in their facility and utilize the result of the assessment in developing corrective action plans to improve hospital safety from disasters. Dr. Hamid further discussed the case study of Bangladesh and the Parameters and Scoring methodology considered for Hospital Risk Assessment during Emergencies and disaster. The four main parameters taken in consideration were Geographical, Structural safety, Non-structural safety, Functional capacity / Emergency & Disaster Management.

## DAY 2: 24 October 2018

### Hospital Emergency Preparedness and Managing Hospital Emergency Operations During Crisis

#### Hospital Incident Command System (HICS) : Mr. John Abo

Mr. John Abo from ADPC Thailand presented about the Hospital Incident Command System that enhances co-ordination and clarity amongst all the stakeholders. He explained the Principle of ICS, also discussed about the basic structure of HICS and its functions along with basic requirements in establishing a hospital command center.



He explained the role of Command Center and importance of command transfer, types of command center and levels of Command and role of Hospital Command center, importance of making special command center during Emergency.

#### TABLETOP EXERCISE:

#### Scenario-based Hospital Emergency Coordination Exercise



With the help of group activity, Mr. Abo explained the need of development of system for management of multiple actions needed to be taken during emergency. He explained various aspects of Incident Command System (ICS) and process of allocating specific roles and responsibilities for the staff members in the Hospitals. He further discussed the Roles of Incident commander, Safety Officer, Liaison Officer, etc. and other significant designations under ICS. He also emphasized on systematic plan for development of ICS and validating it through mock exercises.

#### Crisis Communications, Exercise on Communication

Dr. Mona Anand from ADPC India explained various challenges about Communications during Crisis situations. Through practical session / group exercises she demonstrated the role of right communication during Crisis. She further explained ways in which Emergency communication helps to minimize deaths, disease and disability by engaging various stakeholders, public, by rapid, transparent information exchange, taking into account their social, religious, cultural, linguistic, political and economic contexts.





### Participant learning about Crisis Communication through Exercise

#### Country Experience: Protecting Health Facilities from Intentional Attacks:

**Dr. Hidayatullah Al Noor** shared Afghanistan experience about protecting health facilities during time of attacks. He said there is an alarming increase in no. of attacks, staggering and an unacceptable number of violent attacks on healthcare in Afghanistan. He talked about planning and management of such threats against the hospital, issues like abductions and overall management of situation that includes uncertainty and risk of life of medical person in working in Afghanistan.



#### Ministry of Health Afghanistan Country Experience: Hospital Flooding:

**Dr. Novil** shared country's experience about Hospitals in Floods and Landslides: Hospitals in Floods and Landslides: He explained about the place of hospital in Disaster Management Framework, National Public Health Emergency Operation centre(PHEOC), Rapid assessment Emergency Drug list, Emergency Drug Stock, Clinical Guidelines, Hospital response, and Tri forces response during floods in Sri Lanka in 2016.

## DAY 3: 25 October 2018

### Hospital Emergency Preparedness and Managing Hospital Emergency Operations During Crisis

#### Development of Hospital Emergency Response Plan and National Safe Hospital Guidelines: Dr. Saurabh Dalal NDMA India

Dr. Dalal shared the Indian experience towards need and process of development of National Hospital Safety Guideline in India. He briefed about various components of the guidelines and its significance for Hospital emergency preparedness.

He encouraged all the member states to develop necessary guidelines so as to strengthen the health infrastructure throughout the SAARC Region. He also emphasised on the multi-hazard and multi-stakeholder involvement in the same.



#### Exercise Management as a Tool for Capacity Development: Mr. John Abo ADPC



Mr. Abo explained different stages of the cycle of continuous improvement for hospital emergency management and highlighted the need of regular exercises / mock drills as a tool for Capacity Development. He also explained in details common barriers in conducting a successful exercise, methods of designing the exercises, types of exercises, etc. He highlighted on the need of Debriefing of the exercises critically to enhance further preparedness.

#### Mass Fatality Management, Country Experience: Management of the Dead bodies and the missing in disasters : Dr. Samarika Dahal, Institute of Medicine Nepal

With the examples Nepal Earthquake – 2015, Mr. Dahal explained various issues and challenges towards dignified management of the Dead Bodies like the quantum of dead bodies that overwhelms the local systems and psychological consequences of the improper management of Dead bodies.

She also explained the role of the society fabric and undermine relation between persons, relatives and neighbours and its disaster impacts on them. She discussed various issues involved in the preparedness for dignified management of the dead bodies.



## DAY 4: 26 October 2018

### Final Simulation Exercise Briefing training by Mr. John Abo ADPC Thailand

A simulation exercise of 7.3 magnitude earthquake with epicentre 50 km far from Small Town was conducted giving participants specific roles and responsibility. Further, they were also given some resources and the event was supposed to be managed using the same resources.



### COURSE EVALUATION

The program Hospital Emergency Preparedness and Response aimed to bring in the knowledge from various SAARC Member States on same platform and facilitate exchange of experiences amongst the hospital professional from the SAARC Member States.

The program was designed for Hospital management professionals and practitioners to learn the knowledge on disaster resilient technologies and improve upon it with local people in a participatory process. Accordingly, SDMC (IU) has planned the sessions intends to highlight these indigenous skills and practices used locally amongst the SAARC Member States. Based on the feedback from the participants, and the follow-up discussions, participants expressed high levels of satisfaction about course content and theme coverage. Overall logistic arrangements were also being appreciated by the Participants.

Many participants felt that the duration of course was short. All the participants found that all the lectures delivered by the faculty members were excellent and very good. Overall course is evaluated as very good to excellent. The summary of course evaluation is given below:

## Annexure I: Details of Participants

### **AFGHANISTAN**

1.	Name : Dr. Muhammad Iqbal Murad Area : Expert of Disaster Management, State Minister or Disaster Management & Humanitarian Affairs, Afghanistan Contact No : +93 799203002 Email : dr.iqbalmurad@gmail.com
2.	Name : Dr. Najibullah Suhraby Area : Emergency I/C at Wazir Mohammad Akbar Khan Hospital, Ministry of Public Health, Afghanistan Contact No : +93 778668250 Email : najib.suhraby@gmail.com
3.	Name : Dr. Najibullah Kamawal Area : Director of Nangarhar Public Health, Ministry of Public Health, Afghanistan Contact No : +93 700638309 Email : nangarhar@moph.gov.af kamawaln@gmail.com

### **BANGLADESH**

4.	Name : Mr. Mohammed Mainuddin Chowdhury Area : Joint Secretary, Health Services Division, Ministry of Health & Family Welfare, Bangladesh Contact No : +880 1552546870 Email : mainchow62@yahoo.com
5.	Name : Mr. Md. Anisur Rohman Area : Director, Department of Disaster Management, Bangladesh Contact No : +880 1711056098 Email : rohmananisur@yahoo.com

## Annexure I: Details of Participants

6.	Name : Mr. Meer Ahemed Tariqul Omar Area : Deputy Chief, Ministry of Disaster Management and Relief, Bangladesh Contact No : +880 1552409278 Email : anjoli3bd@yahoo.com
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### **INDIA**

7.	Name : Mr. Harihara Kumar Area : Sector Manager, GSDMA, Gujarat Contact No : +91 9052521292 Email : hariharkumardevada@gmail.com
8.	Name : Mr. Ashwinova Ghosal Area : Sector Manager, GSDMA, Gujarat Contact No : +91 8017292393 Email : ashwinova.gsdma@gmail.com
9.	Name : Ms. Ekta Thaman Area : Assistant Director, GSDMA, Gujarat Contact No : +91 9501809412 Email : ektathaman.gsdma@gmail.com
10.	Name : Ms. Uzma Gani Area : Sector Manager, GSDMA, Gujarat Contact No : +91 9561905831 Email : uzma.gsdma@gmail.com
11.	Name : Dr. Kashyap M. Buch Area : Class 1 Physician & i/c Chief District Medical Officer, Kutch- Bhuj, Gujarat Contact No : +91 9825229007 Email : drkbuch@yahoo.co.in

## Annexure I: Details of Participants

	Name	:	Dr. Rajeev Gairola
12.	Area	:	G.D.M.O, Uttarakhand
	Contact No	:	+91 9719777711
	Email	:	drrajeev.gairola@gmail.com
	Name	:	Dr. Lalramnghaki
13.	Area	:	CEA, DHME, State Coordinator, Mizoram
	Contact No	:	+91 9612519067
	Email	:	magjson@gmail.com
	Name	:	Dr. Lalthlengiani
14.	Area	:	Deputy Director, DHME, Mizoram
	Contact No	:	+91 9436142265
	Email	:	drliani@gmail.com
	Name	:	Dr. Netharius P Laloo
15.	Area	:	Senior Specialist, Civil Hospital, Shillong
	Contact No	:	+91 9436164031
	Email	:	nplaloo65@gmail.com
	Name	:	Dr. Robert R Marak
	Area	:	Junior Specialist, O/o DM & HO, East Khasi Hills, Shillong, Meghalaya
16.	Contact No	:	+91 9615289714
	Email	:	dr.robert.rema@gmail.com
	Name	:	Dr. Sarita
	Area	:	State Program Officer (Training), State Health Society, Bihar
17.	Contact No	:	+91 9470003004
	Email	:	trainingcellshsb@gmail.com

## Annexure I: Details of Participants

18.	Name : Mr. Anurag Kumar Sinha Area : Hospital Manager, Sadar Hospital, BIHAR SHARIF, Nalanda, Bihar Contact No : +91 9471000956 Email : anuragkumar321@gmail.com
19.	Name : Mr. Vijay Chandra Jha Area : Hospital Manager, Sadar Hospital, Motihari, Bihar Contact No : +91 9973615036 Email : jha.vijay29@yahoo.in
20.	Name : Smt. Nazifa Hazarika Ahmed Area : Project Officer, Health & Family Welfare Department, Assam Contact No : +91 8811918932 Email : po.asdmahealth@gmail.com
21.	Name : Mr. Partha Pratim Sarmah Area : District Project Officer, Office of the Deputy Commissioner, Assam Contact No : +91 9864240264 Email : parthasarmah92@gmail.com
22.	Name : Mr. Prankrishna Gogoi Area : District Project Officer, Office of the Deputy Commissioner, Assam Contact No : +91 9864855138 Email : pran_gogoi@yahoo.com
23.	Name : Dr. Rahul Kishore Singh Area : State Nodal Officer, CEA, NHM, Jharkhand Contact No : +91 9431353922 Email : dr.raulkishoresingh@gmail.com

## Annexure I: Details of Participants

	Name	:	Dr. Sarat Kumar Das
	Area	:	State Project Officer, Disaster Management, Revenue Deptt, Tripura
24.	Contact No	:	+91 9436461940
	Email	:	sarat.kumar.das@gmail.com
	Name	:	Dr. Shomin Dhiman
	Area	:	Hospital Administrative Officer, IGMC, Shimla, Himachal Pradesh
25.	Contact No	:	+91 9418066694
	Email	:	shomindhiman@gmail.com
	Name	:	Dr. Vikrant Kanwar
	Area	:	Hospital Administrative Officer, RPGMC, Tanda, Dist- Kangra, Himachal Pradesh
26.	Contact No	:	+91 9418457251
	Email	:	drkanwarvikrant@gmail.com

### **MALDIVES**

	Name	:	Ms. Fathmath Saushan
	Area	:	Senior Administrative Officer, National Disaster Management Centre, Maldives
27.	Contact No	:	+960 7500092
	Email	:	fathmath.saushan@ndmc.gov.mv
	Name	:	Ms. Sarah Jamal
	Area	:	Senior Public Health Program Officer, Ministry of Health, Maldives
28.	Contact No	:	+960 9947191
	Email	:	sarah@health.gov.mv

## Annexure I: Details of Participants

29.	Name : Ms. Mariyam Nasma Area : Community Health Officer, Ministry of Health, Maldives Contact No : +960 9943937 Email : nasmayoosuf@gmail.com
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### **NEPAL**

30.	Name : Anunaya Banstola Area : Section officer, Ministry of Home Affairs Contact No : +977 9841537937 Email : abanstol@gmail.com
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### **PAKISTAN**

31.	Name : Mr. Abdul Latif Area : Assistant Director, Pakistan National Disaster Management Authority, Pakistan Contact No : +92 519087836 Email : latif@ndma.gov.pk
32.	Name : Mrs. Bushra Hassaan Area : Assistant Director, Pakistan National Disaster Management Authority, Pakistan Contact No : +92 51926284 Email : bushrahassaan2012@gmail.com

### **SRI LANKA**

Name : Mr. R.P.Samarakkody Area : Additional Director General, Disaster Management Centre, Sri Lanka Contact No : +94 773957909 Email : dgadd@dmc.gov.lk,saranga@dmc.gov.lk
Name : Dr. Usha Perera Area : Consultant, Community Physician, Ministry of Health, Sri Lanka Contact No : +94 777848687 Email : usha.perera@gmail.com

# SAARC

## Disaster Management Centre (IU)



13th to 16th November 2018

## “DISASTER LOSS DATABASES AND SENDAI FRAMEWORK MONITORING”

### Training Workshop Report

SAARC Disaster Management Centre (IU),  
GIDM- Campus, Gandhinagar, Gujarat (INDIA)

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## Background

Understanding risk is the first priority for action stated in the Sendai Framework for Disaster Risk Reduction 2015-2030. Understanding the spatial and temporal distribution of disaster losses produced by different hazards is a first and crucial step to develop actionable risk information and knowledge.

National disaster loss databases enable countries to set and monitor their own national targets in disaster risk reduction and will help generate information to design and implement national disaster risk reduction strategies and plans – as required to achieve target E of the Sendai Framework.

## Organizers



### United Nations Office for Disaster Risk Reduction (UNISDR)

UNISDR was established in 1999 as a dedicated secretariat to facilitate the implementation of the International Strategy for Disaster Reduction (ISDR). It is mandated by the United Nations General Assembly resolution (56/195), to serve as the focal point in the United Nations system for the coordination of disaster reduction and to ensure synergies among the disaster reduction activities of the United Nations system and regional organizations and activities in socio-economic and humanitarian fields. It is an organizational unit of the UN Secretariat and is led by the UN Special Representative of the Secretary-General for Disaster Risk Reduction (SRSG).



**SAARC**

Disaster Management Centre

**SAARC Disaster**

**Management Centre (SDMC-IU)**

The Interim Unit of SAARC Disaster Management Centre (SDMC-IU) has been set up at Gujarat Institute of Disaster Management (GIDM) Campus, Gandhinagar, Gujarat, India in November 2016 with a mission to support Member States in their Disaster Risk Reduction (DRR) initiatives through application of Science & Technology, knowledge from multiple disciplines, exchange of good practices, capacity development, collaborative research and networking in line with the global priorities and goals and other relevant frameworks adopted by Member States.. Eight member countries, i.e. Afghanistan, Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan and Sri Lanka are required to be served by the SDMC (IU).



### National Disaster Management Authority(NDMA)

The National Disaster Management Authority (NDMA), headed by the Prime Minister of India, is the apex body for Disaster Management in India. Setting up of NDMA and the creation of an enabling environment for institutional mechanisms at the State and District levels is mandated by the Disaster Management Act, 2005.



## Gujarat Institute of Disaster Management(GIDM)

The Gujarat Institute of Disaster Management (GIDM) is registered as an autonomous society under the Government of Gujarat. The Institute has been entrusted with the responsibility of human resource development, capacity building, training, research and documentation in the field of Disaster Management.

### Participants

35 participants remained present from all the Member States including Afghanistan, Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan and Sri Lanka in the training workshop. The list of the participants is given in Annexure 1. The program served as a platform for the professionals working in the related fields to interact and share their experiences on the Disaster Loss Databases and Sendai Framework Monitoring.

### Course contents

#### Sendai Framework and disaster data

The Sendai Framework for DRR calls for countries to enhance their risk knowledge by promoting the collection, analysis, management and use of relevant data and practical information and ensuring their dissemination in formats accessible and relevant to different categories of users.

#### Asia Pacific Region and disaster statistics

At the regional level, in regards to the Priority 1 of the Sendai Framework, the Action Plan 2018-2020 of the Asia Regional Plan for Implementation of the Sendai Framework highlighted the need to “build capacity of national and local governments and actors to collect and record disaster risk, displacement, damage and loss data, including from at-risk communities living in geographically remote areas, with consistent levels of disaggregation for sex, age and disability”.

#### Sendai Monitoring Framework

In adopting the Sendai Framework, Member States committed to the systematic and cyclical measurement, monitoring and reporting of progress in achieving the outcome and goals of the framework. Effective monitoring of progress in achieving the global targets of the Sendai Framework and disaster-related SDGs depends on the availability, accessibility, quality and applicability of multiple datasets.

UNISDR has developed technical guidance for Sendai indicators reporting (UNISDR, 2017) and launched in 2018 a global monitoring process and online tool called the Sendai Framework Monitor aimed at collecting figures for the agreed global indicators from official national sources.

The online Sendai Framework Monitoring (SFM) system will allow Member States to assess their progress in the implementation of the Sendai Framework against the “Global targets and Indicators”

endorsed by the General Assembly, as well as against “Custom Indicators” chosen to reflect nationally determined indicators.

### **DesInventar & DesInventar Sendai**

DesInventar is a computer-based information management system that helps with the “systematic collection, documentation and analysis of data about losses caused by disasters associated to natural hazards”. The DesInventar system supports historical data collection over longer periods by using a standardized disaster data registration template. The software also provides data analysis support facilitated by the integrated DesInventar software package (database query, statistics, reporting and mapping capabilities).

In order to support countries in complying with their reporting commitments under the Sendai Monitoring Framework, a new version of DesInventar Sendai was launched by UNISDR. This new version has embedded options to export data to the Sendai Framework monitoring system and allows for finer data disaggregation, customization and easier definition and use of metadata required for Sendai Framework monitoring.

### **Rationale**

The analysis of experiences in establishing disaster loss databases concluded that “capacity plays a key role in achieving up-to-date, continuous, credible, accessible and applied disaster loss databases”. Lessons learned by organizations supporting disaster information systems have highlighted that, to be sustainable, the process of establishing and maintaining disaster loss databases should be embedded in a larger process to strengthen disaster risk governance and develop DRR capacities.

Data and knowledge products derived from disaster loss databases have proven helpful to manage present and future risks. Some of the applications of disaster loss information include supporting the development of disaster risk assessments (calibrate models, validate assessments, conduct dynamic assessments); informing allocation of disaster risk mitigation and recovery funding; enabling the analysis of variability on disaster trends; calibrating investments in DRR by allowing undertaken cost-benefit analysis; and evaluating the effectiveness of DRR measures.

## Program Schedule

### Day 1: Tuesday, 13 November

13:00 – 13:30	Participants registration
13:30 – 14:00	<b>Opening Remarks</b> <ul style="list-style-type: none"><li>• Welcome remarks by UN RC India or UNDP/UNICEF Representatives (tbc)</li><li>• SAARC DRM Center</li><li>• NDMA India (Tbc)</li><li>• UNISDR</li></ul>
14:00 – 15:15	<b>Disaster Risk information for DRR Action</b> <ul style="list-style-type: none"><li>• DRR on Sendai Framework</li><li>• Risk knowledge for risk-informed development</li><li>• Sendai Framework Priority I (understanding risk) and risk-informed development</li><li>• Global DRR targets and indicators: monitoring and reporting mechanism</li><li>• Overview of OIEWG report and Technical Guidance for Indicators</li><li>• Linkages of disaster loss databases with Sendai Framework Monitoring</li></ul>
15:15 – 15.30	Tea/Coffee Break
15:30 – 16:30	<b>Disaster Loss Databases for enhanced risk understanding</b> <ul style="list-style-type: none"><li>• Sendai Framework Priority I (understanding risk) and risk-informed development</li><li>• Rationale: DLD contribution to risk understanding</li><li>• Disaster loss accounting as part of Disaster Risk Information Systems</li><li>• Applications of Disaster data:<ul style="list-style-type: none"><li>◦ Global examples on best practices and applications</li><li>◦ Prior initiatives and National applications in India</li></ul></li></ul>
16:30 – 17:30	<b>Experiences sharing on developing and institutionalizing disaster loss databases</b> <ul style="list-style-type: none"><li>• Institutional process</li><li>• Enabling environment and conducive factors</li><li>• Development approaches and software tools</li><li>• Lessons learned on disaster information systems developed at different administrative levels: PADLO case-study</li></ul>

## Day 2: Wednesday, 14 November

09:00 – 10:30	Developing DLD with DesInventar Sendai: hands-on training
	<ul style="list-style-type: none"> <li>• Introduction</li> <li>• Theory and methodologies</li> <li>• Initial set up, hosting approaches and interfaces</li> <li>• Desinventar database conceptual schema</li> </ul>
10:30 – 10:45	Tea/Coffee Break
10:45 – 12:30	Developing DLD with DesInventar Sendai: hands-on training
	<ul style="list-style-type: none"> <li>• Region summary profile</li> <li>• Geography management</li> <li>• Data collection and data entry</li> <li>• Extensions management</li> <li>• Dry-demo</li> <li>• Practical exercises</li> </ul>
12:30 – 13:30	Lunch
13:30 – 15:00	DesInventar hands-on training (Analytics – DesConsultar)
	<ul style="list-style-type: none"> <li>• Introduction</li> <li>• Charts and statistics</li> <li>• Dry-demo</li> <li>• Practical exercises</li> </ul>
15:00 – 15:15	Coffee-break
15:15 – 17:00	<ul style="list-style-type: none"> <li>• DesInventar hands-on training (Analytics) &lt;continued&gt;</li> <li>• Mapping</li> <li>• Charts and statistics</li> <li>• Reports</li> <li>• Dry-demo</li> <li>• Practical exercises</li> </ul>

## Day 3: Thursday, 15 November

09:00 – 10:30	DesInventar hands-on training (Analytics) <continued>
	<ul style="list-style-type: none"> <li>• Mapping</li> <li>• Charts and statistics</li> <li>• Reports</li> <li>• Dry-demo</li> <li>• Practical exercises</li> </ul>
10:30 – 10:45	Tea/Coffee Break

10:45 – 11:45	<b>Quality control and Practical Exercises</b> <ul style="list-style-type: none"> <li>• Hints for data quality control</li> <li>• Practical exercises: (in groups solving problems, replying to questions)</li> <li>◦ Query</li> <li>◦ Data import and export</li> <li>◦ Spatial analysis</li> <li>◦ Deriving profiles and understanding trends</li> </ul>
11:45 – 12:30	Next steps for implementation of DLD and new opportunities for advancing disaster statistics <ul style="list-style-type: none"> <li>• For India (sub-national level): Progress achieved from previous workshop on disaster information systems</li> <li>• Technical support available</li> <li>• Coordination of national initiatives</li> <li>• Institutionalization of databases</li> </ul> Center of global disaster statistics and new opportunities for data collection and analysis
12:30 – 13:30	Lunch & Registration of new participants
13:30-13:50	<b>Sendai Framework Targets and Indicators</b> <ul style="list-style-type: none"> <li>• What are the Sendai Targets and Indicators? Links to the Sustainable Development Goals (SDGs)</li> <li>• Overview of the Technical Guidance Notes (TGNs) and DRR Definitions</li> </ul>
13:50 – 14:30	<b>The Sendai Framework for Disaster Risk Reduction</b> <ul style="list-style-type: none"> <li>• What is the Sendai Framework for Disaster Risk Reduction?</li> <li>• What does it mean for the SAARC countries?</li> </ul>
14:30-15:00	<b>The Sendai Framework Monitor</b> <ul style="list-style-type: none"> <li>• Development of the Sendai Framework Indicators, monitor and linkages with other Frameworks</li> <li>• How can Sendai Framework Monitoring be used to influence policy and program decisions at the national and regional level?</li> <li>• Key reporting dates 2019-2020</li> </ul>
15:00 -15:00	Tea/Coffee Break
15:15- 15:45	<b>Experiences and Lessons from other countries in the region</b> <ul style="list-style-type: none"> <li>• Experiences of countries to date in the region in reporting and collecting data</li> <li>• Use of National Disaster Loss Databases</li> </ul>

- 15:45 – 16:30      Outcome of recent Regional IGO Advisory Meeting on Sendai
- Role of Regional and Sub-Regional Organizations in assisting countries in reporting on Sendai
  - Role of Asian and Pacific Centre for the Development of Disaster Information Management's (APDIM)

## Day 4: Friday, 16 November

- |               |   |
|---------------|---|
| 09:00 – 09:30 | <ul style="list-style-type: none"> <li>• What are the different roles in the online Sendai Framework Monitor?</li> <li>• Different roles within the Monitor</li> </ul>  |
| 09:30 – 09:45 | <p>The online Sendai Framework Monitor (SFM)</p> <ul style="list-style-type: none"> <li>• Administrative instructions for the computer log-in and online tools to be used in Training</li> <li>• Quick Navigation of the Sendai Framework Monitor Training version (languages, key features etc.)</li> </ul>  |
| 09:45 – 10:30 | <p>Reporting on Targets A to D</p> <ul style="list-style-type: none"> <li>• Minimum data requirement</li> <li>• Disaggregation of data</li> <li>• Validation of data</li> <li>• Options for entering data into the system (e.g. manual input or uploading)</li> <li>• How are calculations on the system made?</li> </ul>   |
| 10:30 – 10:45 | <p>Tea/Coffee Break</p>   |
| 10:45 – 12:30 | <p>Reporting on Targets E to G</p> <ul style="list-style-type: none"> <li>• Minimum data requirement</li> <li>• Disaggregation of data</li> <li>• Validation of data</li> <li>• Options for entering data into the system (e.g. manual input or uploading)</li> <li>• How are calculations on the system made?</li> </ul> <p>Introduction to Custom Indicators</p>  |
| 12:30 – 13:30 | <p>Lunch</p>  |
| 13:30 – 15:00 | <p>Group Work: Different Roles in reporting data (India)</p> <ul style="list-style-type: none"> <li>• Exercise 1: Matching agency to targets and Indicators – small groups look at who should be involved in reporting data against what Target/Indicator and their roles &amp; data gaps (Small groups)</li> <li>• A Country matrix developed on who is involved in what Target and Indicator (plenary)</li> </ul> |
| 15:00 – 15:15 | <p>Tea/Coffee Break</p>   |
| 15:15 – 16:15 | <p>Group Work: collecting data (India)</p>  |

- Exercise 2: What data do agencies and partners have? - Small groups look at what data agencies have and what gaps in data exist? They will also examine opportunities in collecting data needed to fill these gaps (Small groups)
  - Small groups report back to the plenary on their discussions (Plenary)
- 16:15 – 16:45      Closing Session
- Evaluation of the workshop
  - Closing remarks

## Proceeding of the Training Workshop

### Day 1: 13th November 2018

#### Session Brief

In the presence of Mr. P. K. Taneja, Director SDMC(IU), Mr. Timothy Wilcox (UNISDR), Ms. Iria Touzon Calle (UNISDR), Mr. Sumedh Patil welcomed all the participants on behalf of SDMC(IU), gave session brief. Further he called all the SAARC region representatives from their respective country to come on stage to light a lamp together along with Dignitaries on Dias for Inauguration ceremony for successful Outcome of the Training Program.



#### Inaugural Session:



The training workshop was inaugurated on 13th November 2018 at 11:30 Hrs. in the gracious presence of dignitaries Mr. P. K. Taneja, Director SDMC(IU), Mr. Timothy Wilcox (UNISDR), Ms. Iria Touzon Calle (UNISDR).

Mr. Timothy Wilcox from UNISDR explained the training agenda to participants and also updated them about other administrative formalities during and post training workshop.

Ms. Iria Touzon Calle from UNISDR requested participants to write their 3 expectations from this training workshop, which was



later discussed with them during session. She also briefed on “Disaster Risk Information for Disaster Risk Reduction (DRR) Action”, and also briefed about UNISDR, its aims, objective, workings and its geographical presence/coverage all over the globe. She informed that UNISDR organize key regional events such as AMCDRR and IAP for Asia Pacific. During presentation, she gave an exercise to all participants titled “Visualization of risk dimensions”. During this exercise some related images of hazard, exposure, vulnerability and capacity were provided to participants

for better understanding. Later, she presented on risk drivers and various international frameworks such as Hyogo and Sendai. Ms. Iria explained in detail about Sendai framework and its 7 global targets. During next session, she presented on “Disaster Loss Databases for enhanced risk understanding”. She explained about next exercise to participants on data/information on disaster in their member



country.

Mr. Rajesh Sharma from UNDP presented on “Experience sharing on developing and institutionalizing disaster loss database”. Mr. Sharma shared his experiences from Asia on various database mechanisms. He shared an example of Cambodia, where Cambodia Disaster Loss Database (CamDi) was developed by National Committee for Disaster Management (NCDM).

Ms. Sreeja Nair from UNISDR presented on “Current status of loss and damage data in India”.



## Day 2: 14th November 2018

Ms. Iria started day two with presentation on "Identify the key steps of developing Disaster Lost Databases (DLD) in your country/state". She asked participants from member countries to share their experiences on managing and maintaining DLD. Member from Maldives informed that they have difficulty in reporting the DLD due to geographical constraints and also many islands belong to private resorts owners. Member from Nepal informed that earlier they were using SAHANA software. Nepal is in process to establish NDMA and NEOC under Ministry of Home. Post 2015 Earthquake, Nepal realized need of data and management tools. Key challenges in data collection are at local level and reporting to district and national level agencies. Participant from Afghanistan informed that their country developed NDMIS with the help of Japan Government. Participant from Sri Lanka shared current mechanism of DLD collection and collation, which is in line with Sendai framework. Participant from Bhutan shared 3 models from their country regarding data base mechanism. Participant from India (ASDMA, Assam) shared his experience from State of Assam. He informed that flood is one of the major hazards in State of Assam and ASDMA have long time series spatial-temporal data base. He informed that validation of DLD is a major issue in state of Assam.

Ms. Sreeja presented about state wise DLD collection methods and procedure in India. She also informed about various types of data available with provincial agencies. Mr. Rajesh Sharma from UNDP presented on "Experiences and key lessons learnt from Asia". Mr. Sharma also shared challenges and gaps for data collection in Asia.



### Day 3: 15th November 2018

Mr. Ehtisham Khalid Khan from NDMA, Pakistan presented about “Multi Hazard Vulnerability and Risk Assessment (MHVRA)” process in Pakistan. He discussed about various data available with national and provincial level agencies in Pakistan. He also discussed about Multi-cluster / sector Initial Rapid Needs Assessment (MIRNA) tool, which NDMA, Pakistan used during various disaster events in Pakistan.



Mr. Ranjith Weerasekara from Ministry of Disaster Management, Sri Lanka presented on “How to create Geo Database for Disaster Management”. He shared his experiences on working with geo-spatial databases. He also presented various data in different format to participants.

Ms. Sreeja Nair from UNDP India, presented about “What are the Next/Future Steps in Damage and Loss Database (DLD) in Indian States”. She informed about current status of data availability with various provinces in India. She informed that state of Himachal Pradesh published 10 years’

date related to Damage and Loss in country.

Mr. Rajesh Sharma presented on role/activities of “Global Centre for Disaster Statistics (GCDS)”. The United Nations Development Programme (UNDP) and the International Research Institute of Disaster Science (IRIDeS) at Tohoku University launched the Global Centre for Disaster Statistics. He informed that Global Centre for Disaster Statistics (GCDS) was established in April 2015. The GCDS will create a unique collaboration among United Nations organizations and other disaster

risk reduction (DRR) related institutions, centering on collaboration with the United Nations Development Programme (UNDP). The purpose of the Centre is to support countries to manage disaster risks in their country and contribute to international process on DRR. He informed that, The GCDS has developed a database on statistical data concerning the Great East Japan Earthquake and Tsunami, hoping that the lessons from the catastrophic disaster will be spread across the world.

**Mr. Nokio** from UNESCAP presented about The Asian and Pacific Centre for the Development of Disaster Information Management (APDIM), which has aim to reduce the negative impact of natural hazards, strengthen capacities for disaster information management and enhance regional cooperation and coordination in disaster risk reduction.



## Day 4: 16th November 2018



**Mr. Timothy** presented about Sendai Framework Monitoring using manual and video. He informed that the Sendai Framework is a 15-year; voluntary, non-binding agreement which recognizes that the State has the primary role to reduce disaster risk but that responsibility should be shared with other stakeholders including local government, the private sector and other stakeholders. He also informed that the Sendai Framework is the successor instrument to the Hyogo Framework for Action (HFA) 2005-2015: Building the Resilience of Nations and Communities to

Disasters. It is the outcome of stakeholder consultations initiated in March 2012 and inter-governmental negotiations held from July 2014 to March 2015, which were supported by the UNISDR upon the request of the UN General Assembly. He presented about status of data especially on actual available data as per Sendai targets and requirement.

He shared his experiences on the Asia Pacific Regions 2018 on Sendai Reporting. He informed that only 19 countries in Asia Pacific reported data online (49%). He shared experienced from Myanmar, Philippines.

Mr. Timothy presented about Sendai Monitoring Framework and roles, responsibilities and institutional setup. He presented about flow of information within institutions. He also explained about roles of Coordinators, Contributors, Validators, and Observers in institutional set-up. He also presented about open source online training system which is free to use. He requested participants from member countries to share their experiences and current status of reporting mechanism. He used The Sendai Framework Online Monitoring tool which is an important sub-system the Disaster Loss Data Collection tool (called “DesInventar Sendai”) which permits the creation and maintenance of fully compliant Loss Databases that can be used to gather the data required for Global Targets A, B, C and D. Mr. Timothy assigned group work exercise to participants on “Sendai Framework Monitoring – Institutional Role Matrix for Target and Indicator based Reporting”. Participants from SAARC Member States presented about their group work and shared their experiences.

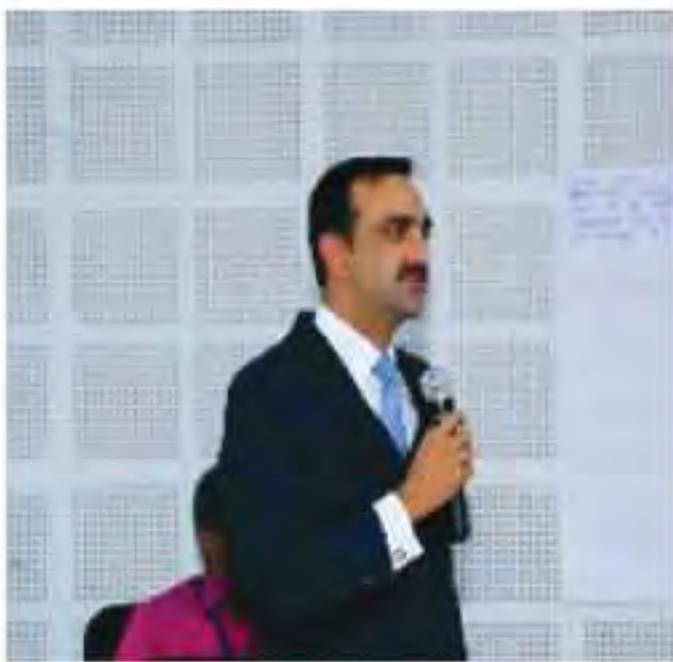


#### Closing Session:

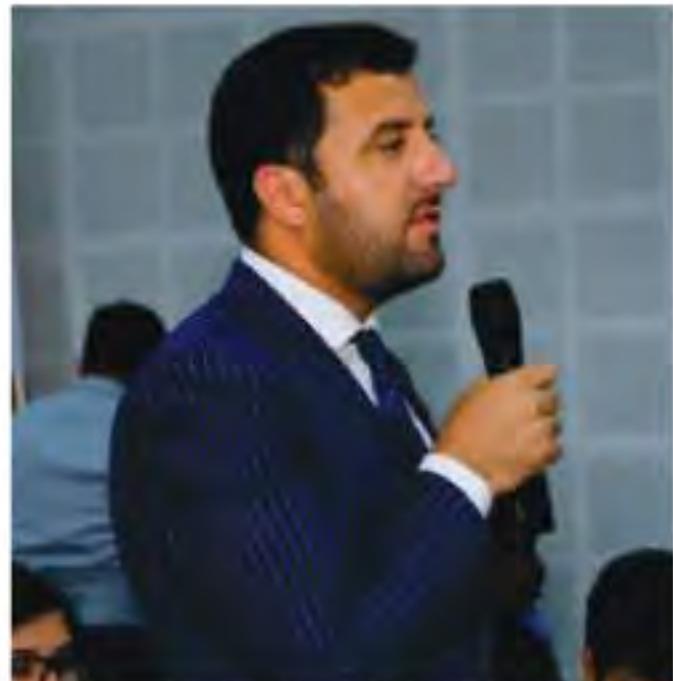
Mr. Sumedh Patil from SAARC DMC welcomed Mr. R. K. Jain, (Member NDMA-India), Mr. P. K. Taneja, (Director SDMC(IU)), Mr. Timothy Wilcox (UNISDR), for charring a closing ceremony of 4 days training workshop.

Mr. Timothy from UNISDR discussed about his observations during 4 days training workshop. He informed that all participants were very keen to work on next reporting cycle. He also informed that this training workshop was very productive from feedback point-of-view.





Participants from Pakistan shared their experience regarding knowledge material, stay arrangements and support from SDMC(IU).

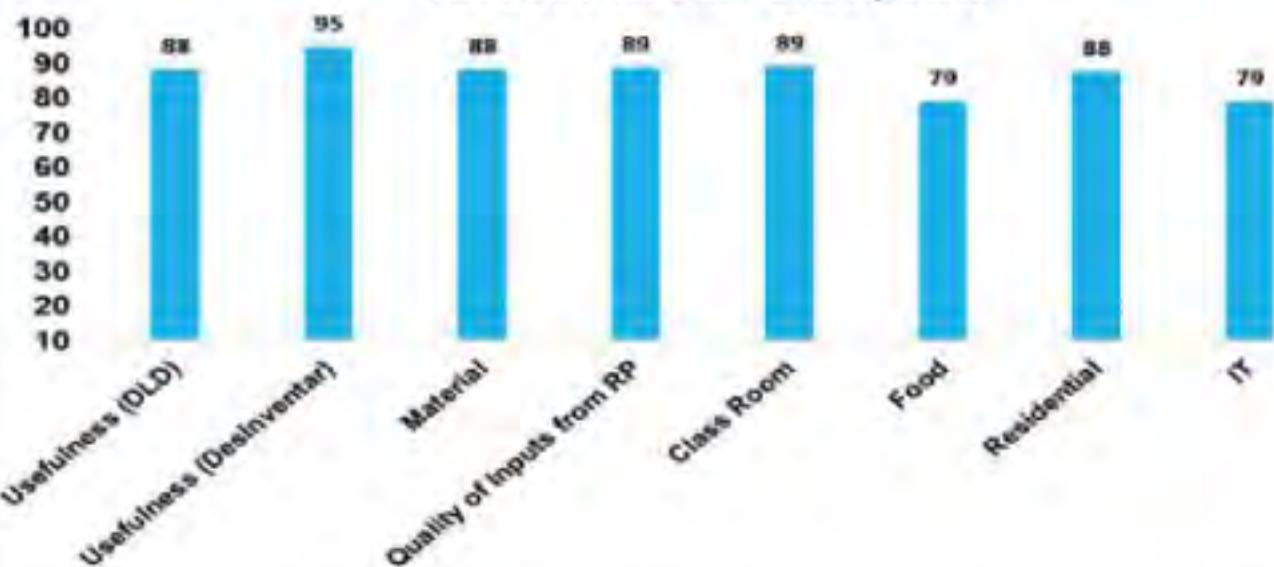


Participant from Sri Lanka, and Afghanistan thanked UNISDR and SDMC(IU) for the training workshop. they appreciated them for their efforts.

# Course Evaluation

Feedbacks from all participants are as under.

**Feedback from Participants**



"Mr. R. K. Jain, addressed the closing event and informed about activities of NDMA in India. He also discussed about National Disaster Response Fund and State Disaster Response Fund in India. Mr. Jain focused his discussion on development of disaster loss database and its usefulness in risk reduction. He also shared his experience of developing the disaster loss databases for India and the issues pertaining to the same. He appreciated the session/subject included in this training workshop and suggested to have similar events on regular interval."



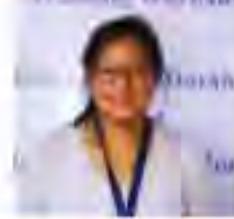
Mr. P. K. Taneja, in his closing remarks thanked all participants from all member states. He emphasized on use of ICT in data and knowledge sharing and management in member countries.



Group Photograph with the Participants.



## Annexure - I

	<b>Country</b>	<b>Particulars</b>	<b>Remarks and Sign</b>
1.	Afghanistan	<p>Name : Mr. Ahmad Reshad Aziz</p> <p>Organization : Afghanistan National Disaster Management Authority</p> <p>Email : Reshad13457@gmail.com</p> <p>Contact No : +93780786969</p>	
2.	Afghanistan	<p>Name : Mr. Farid Noori</p> <p>Organization : National Statistics and Information Authority</p> <p>Email : Faridnoori930@gmail.com</p> <p>Contact No : +93 795033140</p>	
3.	Bangladesh	<p>Name : Mr. Mohammad Salim Sarker</p> <p>Organization : Bangladesh Bureau of Statistics</p> <p>Email : msalimbbs@gmail.com</p> <p>Contact No : +8801716590015</p>	
4.	Bhutan	<p>Name : Mr. Dorji Wangchuk</p> <p>Organization : Ministry of Home and Cultural Affairs</p> <p>Email : dwangchuk1@mohca.gov.bt</p> <p>Contact No : 17799155</p>	
5.	Bhutan	<p>Name : Ms. Lotoey Pem</p> <p>Organization : Ministry of Home and Cultural Affairs</p> <p>Email : lpem@mohca.gov.bt</p> <p>Contact No : +975 17659684</p>	
6.	Bhutan	<p>Name : Mr. Sangay Dorji</p> <p>Organization : National Statistics Bureau</p> <p>Email : sdorji@nsb.gov.bt</p> <p>Contact No : +97517616224</p>	

	<b>Country</b>	<b>Particulars</b>	<b>Remarks and Sign</b>
7.	India	Name : Mr. Harsh Aditya Organization : PSDMA Email : harshaditya.apsdma@gmail.com Contact No : +91 9650033651	
8.	India	Name : Mr. Rajesh Dutta Organization : Earthquake Risk Mitigation, ASDMA Email : rajdut@gmail.com Contact No : 9435567470, 9859857549	
9.	India	Name : Mr. Abhijit Deka Organization : IT, ASDMA Email : deka.abhi@gmail.com Contact No : 9706789156	
10.	India	Name : Ms. Anupama Nedumbrath Organization : State Emergency Operations Centre (SEOC), Department of Revenue and Disaster Management Email : anugopalclt@gmail.com Contact No : +91 9562398307	
11.	India	Name : Dr. Piyoosh Rautela Organization : Disaster Mitigation and Management Centre (DMMC) Email : rautelapiyoosh@gmail.com Contact No : +91 9412054085	
12.	India	Name : Mr. Rahul Jugran Organization : Disaster Mitigation and Management Centre (DMMC) Email : rahuljugran03@gmail.com Contact No : 9192443853	
13.	India	Name : Mr. Surendra Thakur Organization : Ministry of Home Affairs Email : usdm3-mha@nic.in  Contact No : 09868137577	

	<b>Country</b>	<b>Particulars</b>	<b>Remarks and Sign</b>
14.	India	Name : Mr. Chandra Prakash Organization : Ministry of Power Email : cp_cea@nic.in Contact No : +91 9868807917	
15.	India	Name : Mr. Krishna Kumar Tiwari Organization : Central Statistics Office Email : krishna.edu@nic.in; tiwarikrishna86@yahoo.com Contact No : 9871062272	
16.	India	Name : Dr. Pavan Kumar Singh Organization : NDMA Email : ja.ops@ndma.gov.in Contact No : 011-26701788	
17.	India	Name : Mr. Shyam Dave Organization : UNICEF Email : shdave@unicef.org Contact No : 9007524901	
18.	India	Name : Mr. Sushant Sahoo Organization : UNICEF Email : sushant.sahoo@gmail.com Contact No : 9479037433	
19.	India	Name : Prof. Bindu Bhatt Organization : The Maharaja Sayajirao University Email : bindoobhatt@gmail.com Contact No :	
20.	India	Name : Mr. Sanjeev Kumar Organization : Directorate of Economics Statistics Planing & Development Department, Bihar) Email : sanjeevsantos@gmail.com Contact No : +91 9334598458	

	<b>Country</b>	<b>Particulars</b>	<b>Remarks and Sign</b>
21.	India	Name : Dr. Manik Chandra Pandit Organization : Ministry of Rural Development Govt. of India, Delhi Email : manikchan@gmail.com Contact No : +91 9870301751	
22.	India	Name : Dr. Rakesh R Pandya Organization : Gujarat Social Infrastructure Development Society Email : jdsapdes@gujarat.gov.in Contact No : +919377298620	
23.	India	Name : Ms. Ekta Thaman Organization : Gujarat State Disaster Management Authority Email : Ektathaman.gsdma@gmail.com Contact No : +91 9501809412	
24.	India	Name : Mr. Hari Hara Kumar Organization : Gujarat State Disaster Management Authority Email : hariharakumardevada@gmail.com Contact No : +91 9052521292	
25.	India	Name : Mr. M G Solanki Organization : SEOC, Gujarat Email : revcontrol@gujarat.gov.in Contact No : +91 7874217707	
26.	India	Name : Mr. Vishnu Sharma Organization : Central Water Commission, Gandhinagar Email : Eemdgnr-cwc@gov.in ee.mdgnr_cwc@gov.in Contact No : +91 9971478416	
27.	India	Name : Mr. Damodaran K. Organization : Directorate of Economics & Statistics, Kerala Email : damu2348@gmail.com Contact No : 9447081538	

	<b>Country</b>	<b>Particulars</b>	<b>Remarks and Sign</b>
28.	India	Name : Dr. Garima Aggarwal Organization : UNDP Email : garima.aggarwal@undp.org Contact No : 08800209977	
29.	Maldives	Name : Ms. Faroosha Ali Naseer Organization : National Disaster Management Centre Email : Faroosha.ali@ndmc.gov.mv Contact No : +960 7678658	
30.	Maldives	Name : Ms. Aminath Izdhifa Rushdy Organization : National Disaster Management Centre Email : Izdhifa.rushdy@ndmc.gov.mv Contact No : +9607920309	
31.	Nepal	Name : Mr. Rewanta Bhattarai Organization : National Emergency Operation Center, Ministry of Home Affairs Email : bhattarairewanta@gmail.com Contact No : +9779851212820	
32.	Pakistan	Name : Ms. Affaf Faiz Rasool Malik Organization : National Disaster Management Authority, Pakistan Email : alphamalik@gmail.com Contact No : +92 9087829	
33.	Pakistan	Name : Mr. Ehtisham Khalid Khan Organization : National Disaster Management Authority, Pakistan Email : Ehtisham_k@yahoo.com Contact No : +92 3335088893	
34.	Sri Lanka	Name : Mr. M.D. Nandana Cooray Organization : Ministry of Irrigation and Water Resources and Disaster Management Email : mdnandana@gmail.com Contact No : +94 718137968	



Country	Particulars	Remarks and Sign
35. Sri Lanka	<p>Name : Mr. Weerasekara Barnunu Mudiyanselage Ranjith Weerasekara</p> <p>Organization : Ministry of Disaster Management</p> <p>Email : weerasekaraw@bmrc.lk</p> <p>Contact No : +94 776736288</p>	

# Training Workshop

## On

**Regional Workshop and Capacity Building Programme for Utilization of Space based and Geospatial Information for Achieving the Targets of the Sendai Framework for Disaster Risk Reduction (SFDRR)**

**04th to 07th December 2018**



## In Collaboration



UNITED NATIONS  
Office for Outer Space Affairs



Disaster Management Center (IU)

## Training Report

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## 1. Background:

A regional workshop and capacity building programme for Utilization of Space based and Geospatial Information for achieving the targets of the Sendai Framework for Disaster Risk Reduction (SFDRR) in association with United National Office for Outer Space Application (UNOOSA) was organized by SAARC Disaster Management Centre (IU) at Gujarat Institute of Disaster Management (GIDM) Campus in Gandhinagar (Gujarat, India) from 04th to 07th December, 2018.

This event was specifically planned to assist the member countries in SAARC region, which are mostly affected by disasters as per the “Asia-Pacific Disaster Report 2017”. The Sendai Framework has recognized the vulnerabilities and advocated the role of the space based and geospatial information in understanding these risks and better preparedness.

The regional workshop and capacity building programme workshop, therefore, was an attempt to bring together disaster management officials and experts to chalk out a sustained plan for utilization of space technologies for achieving targets of the Sendai Framework.

## 2. Objectives:

- To demonstrate the best practices on use of space and geospatial technology in disaster management, ways to implement and chalk out future programmes in the region,
- To discuss a need of preparing procedural guidelines and standard operating procedure in utilization of space based and geospatial information in disaster management in the region,
- To offer hands-on training to disaster management officials on risk assessment and response in the region,

## 3. Organizers:

The event was jointly organized by The SAARC Disaster Management Centre (SDMC-IU), United Nations Office for Outer Space Affairs (UNOOSA) and International Water Management Institute (IWMI).



**SAARC**

Disaster Management Centre

**SAARC Disaster Management Centre (SDMC-IU)**

The Interim Unit of SAARC Disaster Management Centre (SDMC-IU) has been set up at Gujarat Institute of Disaster Management (GIDM) Campus, Gandhinagar, Gujarat, India in November 2016 with a mission to support Member States in their Disaster risk Reduction (DRR) initiatives through application of Science & Technology, knowledge from multiple disciplines, exchange of good practices, capacity development, collaborative research and networking in line with the global priorities and goals and other relevant frameworks adopted by Member States.. Eight-member countries, i.e. Afghanistan, Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan and Sri Lanka are required to be served by the SDMC (IU). Website: <http://saarc-sdmc.org/>



### United Nations Office for Outer Space Affairs (UNOOSA)

The United Nations Office for Outer Space Affairs (UNOOSA) works to promote international cooperation in the peaceful use and exploration of space, and in the utilisation of space science and technology for sustainable economic and social development. The Office assists any United Nations Member States to establish legal and regulatory frameworks to govern space activities and strengthens the capacity of developing countries to use space science technology and applications for development by helping to integrate space capabilities into national development programmes.

UNOOSA is the United Nations office responsible for promoting international cooperation in the peaceful uses of outer space. UNOOSA serves as the secretariat for the General Assembly's only committee dealing exclusively with international cooperation in the peaceful uses of outer space: The United Nations Committee on the Peaceful Uses of Outer Space (COPUOS). UNOOSA is also responsible for implementing the Secretary-General's responsibilities under international space law and maintaining the United Nations Register of Objects Launched into Outer Space.

Through the United Nations Programme on Space Applications, UNOOSA conducts international workshops, training courses and pilot projects on topics that include remote sensing, satellite navigation, satellite meteorology, tele-education and basic space sciences for the benefit of developing nations. It also maintains a 24-hour hotline as the United Nations focal point for satellite imagery requests during disasters and manages the United Nations Platform for Space-based Information for Disaster Management and Emergency Response (UN-SPIDER). UNOOSA is the current secretariat of the International Committee on Global Navigation Satellite Systems (ICG). UNOOSA also prepares and distributes reports, studies and publications on various fields of space science and technology applications and international space law. Documents and reports are available in all official languages of the United Nations through this website. UNOOSA is located at the United Nations Office at Vienna, Austria. Website: <http://www.unoosa.org/>



### International Water Management Institute

The International Water Management Institute (IWMI) is a non-profit, scientific research organization focusing on the sustainable use of water and land resources in developing countries. IWMI is the lead center for the CGIAR Research Program on Water, Land and Ecosystems (WLE). CGIAR is a global research partnership for a food-secure future. Website: <http://www.iwmi.cgiar.org/>



### Gujarat Institute of Disaster Management (GIDM)

The Gujarat Institute of Disaster Management (GIDM) is registered as an autonomous society under the Government of Gujarat. The Institute has been entrusted with the responsibility of human resource development, capacity building, training, research and documentation in the field of Disaster Management. Website: <https://gidm.gujarat.gov.in/>

## 5. Proceeding of the Regional Workshop and Capacity Building Programme:

### 5.1 Day 1: 04th December 2018:

In the gracious presence of Mr. P. K. Taneja, Director SDMC(IU), Dr. Shirish Ravan and Ms. Tang Tong from UNOOSA, Mr. Sumedh Patil, Programme Manager, SDMC(IU) welcomed all participants and introduced all dignitaries on dais. The inaugural session was chaired by Mr. P. K. Taneja, Director SDMC(IU).



Further he requested all the SAARC region representatives from their respective country to come on stage to light a lamp together along with Dignitaries on Dias for Inauguration ceremony for successful outcome of the regional workshop and capacity building programme. The training workshop was inaugurated on 04th November 2018 at 11:30 Hrs. in the gracious presence of dignitaries Mr. P. K. Taneja, Director SDMC(IU), Dr. Shirish Ravan and Ms. Tang Tong from UNOOSA.



**Dr. Shirish Ravan from UNOOSA** explained the need of this training programme and agenda to participants. Dr. Ravan acknowledged SDMC technical support and GIDM about facilities. He informed that this programme was designed in line of targets and priorities of The Sendai Framework on Disaster Risk Reduction (SFDRR).

Dr. Ravan informed that the space technology is highly useful technology during various stages of disaster management. He informed that UNOOSA and UNSPIDER conduct various workshop and training on regular interval, advisory mission in all eight-member states of SAARC to promote the space technology.

He informed that such training programme at regional will be highly useful due to geo-climatic conditions of South Asia. He also discussed on use of data for SFDRR progress monitoring. He informed that this regional workshop and capacity building programme will be mix training with theory and practical sessions.

**Mr. P. K. Taneja, Director, SDMC (IU)** welcomed all participants and explained that technology has huge role to play in all sectors. He told that space technology is useful in all phases of disaster management, and emphasised on sharing of best practices in the region amongst member states. He motivated all the participants to participate in practical sessions planned during this training programme.

He discussed about India's satellite for meteorology and disaster management purpose and spoke about provincial level institution, BISAG and its role in space application. He discussed about course design, course content and delivery with its usefulness in future. He asked participants to share their thoughts, views, regarding case studies from their respective member state. He again thanked all resource persons and participants for their participation. Later, all the participants were requested for Group Photographs.



**Dr. Shirish Ravan from UNOOSA presented on “Global Framework on Disaster Management”.** He started his presentation with learning from “The Hyogo Framework for Action (HFA)” and presented about progress of HFA till 2015.

In his presentation, he talked about Sendai Framework on Disaster Risk Reduction (SFDRR). He informed that The Sendai Framework for Disaster Risk Reduction 2015-2030 outlines seven clear

targets and four priorities for action to prevent new and reduce existing disaster risks: (i) Understanding disaster risk; (ii) Strengthening disaster risk governance to manage disaster risk; (iii) Investing in disaster reduction for resilience and; (iv) Enhancing disaster preparedness for effective response, and to "Build Back Better" in recovery, rehabilitation and reconstruction. It aims to achieve the substantial reduction of disaster risk and losses in lives, livelihoods and health and in the economic, physical, social, cultural and environmental assets of persons, businesses, communities and countries over the next 15 years.

He informed that the Framework was adopted at the Third UN World Conference on Disaster Risk Reduction in Sendai, Japan, on March 18, 2015. He told that total 193 countries signed SFDRR in 2015.



He also presented about terminology of disaster. He shared UNISDR Terminology (2009) to archive learning objectives of this training programme. He explained hazard, disaster, risk, vulnerability, capacity, prevention, mitigation preparedness, response, recovery, build back better, resilience. He also discussed about concepts of disaster risk. He told that none of these terminologies can be seen in isolation. He suggested that participants can download from UNISDR website.

In his second presentation, role of space technology in disaster management. He shared few satellite images from Nepal pre and post-earthquake in country, Sri Lanka Tsunami. He told that space technology is highly useful in managing near earth objects such as meteoroids.

There is a, international charter for space agencies from all over the globe and any affected country can request post disaster activities. He told that limited eye vision pushes us to invest in Space Technology. He told that all information captured by satellites are geo-referend and spatial.

He presented about Violet, Indigo, Blue, Green, Yellow, Orange, Red (VIBGYOR) terminology of colours, which is very basic of remote sensing. He gave an example of human bone x-ray to better explain remote sensing. He presented about Red-Green-Blue (RGB) colour combinations. He presented about electromagnetic spectral bands and spectral signature of landcover of features. He

presented about difference between normal aerial photographs and infra-red photographs. He told that satellite collects images in RGB. He presented about image interpretation technique and interpretation elements such as size, shape, shadow, tone/colour, texture, pattern, location.

He said that satellite images can be used by various subject experts for their purpose such as geologist, agriculture. He informed about Digital Number (DN) and sensor resolution in satellite images. He said that image continuous and map is discrete information. He also discussed about False Colour Composite (FCC) in satellite images.

**Dr. Nitant Dube (Group Head, MOSDAC) from SAC Ahmedabad presented on “Geo-spatial Data Collection Platforms”.**

Dr. Nitant Dube started his presentation with different sources of geo-spatial data apart from satellites. He presented about low and high resolutions with systematic coverage with swath. He also presented about high orbit and low orbit satellites and revisit time of satellite. He discussed about airborne data and its usefulness. He also discussed about disadvantages of airborne data. To improve quality of such as agencies need ground observation data. He said that locations which are not accessible by any mean of transportation, satellite technology is highly useful in such areas. He said that utilisation of geo-spatial is highly useful in all sectors including agriculture, power etc.

He presented about Numerical Weather Prediction (NWP) data, acquisition and its usefulness. He presented about now-casting methods of weather prediction. Satellite get. He also discussed about various forecast methods including; Short range (72 Hrs event) forecast including various parameter, Medium range forecast (240 Hrs before event), Long range (for months). Predicting monsoon is a long-range forecast. He presented about theme-based satellite: Land & Water (Resourcesat 1 & 2 Series), Cartography (DEM), Ocean & Atmosphere (INSET 3D and 3D R, S). He presented few images of Indian Sub-Continents with different parameters such as sea surface temperature, outgoing long wave radiometer. He discussed about cloud moving derived technique.



He shared an example of Now-cast of extreme weather events such as Heavy Rain, Heat & Cold Wave and Cloud Burst. He discussed about Orographic Effect. The orographic effect is a change in atmospheric conditions caused by a change in elevation, primarily due to mountains. This effect tends to leave a distinctive look to the mountains it touches. He also explained about Discomfort Index: Surface Wind and Humidity. Later, he presented about use of Geo-spatial Forecast for Ocean State Forecast. He presented about Hazard and Risk and Use of Geo-spatial data for Tropical Cyclone, Landslide, Forest Fire, Floods and Earthquake. He discussed about different type of data useful in Hazard and Risk Assessment. He explained in details about Tropical Cyclone including Cyclone Genesis. He presented about cyclone risk map.

He also explained about Landslide and Forest Fire in detail. He told that high resolution images can help in identifying affected areas also useful in landslide risk map. For fire monitoring, we need more re-visiting type of satellites. He presented about hazard risk and floods with data required for flood risk mapping. He discussed about data processing, data analytics and computational techniques.

Ms. Tang Tong from UNOOSA presented about "Exercise on Use Spatial Data using ENVI Software". All the participants were asked to use the sample data which was given to them and visualised it using ENVI. She informed that ENVI (an acronym for "Environment for Visualizing Images") is a software application used to process and analyse geospatial imagery. It is commonly used by remote sensing professionals and image analysts. ENVI is software for processing and analysing geospatial imagery. ENVI handles hyperspectral, LiDAR, and other remotely sensed data sets easily with both wizard-based approaches and allowing users to program operations. The main benefit of using ENVI is for the analysis and visualization of spectral and hyperspectral data. Currently, ENVI is developing comprehensive GIS tools to integrate within the ESRI software family. ENVI has internal workflows and allows users to customize procedures with their IDL programming language.



## 5.2 Day 2: 05th December 2018:

Mr. Nirang Alahacoon, RS/GIS Analyst at The International Water Management Institute (IWMI) presented about “**Development of flood inundation model for flood hazard assessment**”. He presented about basics of satellite data processing. He also presented about flood inundation mapping and hazard assessment and SAR based flood extent mapping.



**Mr. Niranga Alahacoon**, also presented about exercise with QGIS 3.4, which is an open source GIS Software. QGIS (previously known as Quantum GIS) is a free and open-source cross-platform desktop geographic information system (GIS) application that supports viewing, editing, and analysis of geospatial data.



Mr. Niranga and Mr. Dhyey presented about Use of Open Data Kit (ODK) Technology. They informed that the Open Data Kit (ODK) community produces free and open-source software for collecting, managing, and using data in resource-constrained environments. ODK allows the collection of data offline and submit the data, when internet connectivity is available. ODK also allows communities to aggregate data with full control over the collected data and the servers,

where the aggregated data is stored. IWMI Team explained how ODK technology is useful in all phases of disaster management.



After explaining the fundamentals of ODK, he assigned a field exercise and task to collect data to participant on how use of ODK using their cell phone. Post field exercise, **Mr. Dhyeya Bhatpuria**, Consultant at IWMI presented results to participants. He also discussed about errors in collected data.



**Dr. Praveen Kumar Gupta, Scientist, Space Application Centre (SAC), Ahmedabad** presented about “**Use of Satellite Images and SAR Images for Flood Management in India**”. Participant from MoES shared his experiences on data availability with IMD and sharing with other agencies in India.



**Dr. K. M. Sreejit, Scientist at Space Application Centre (SAC) Ahmedabad** presented about “**Use of Interferometric Synthetic Aperture Radar (InSAR) in Earthquake**”. He explained fundamentals of SAR Technology and its uses in disaster management activities. He informed that SAR is a form of radar that is used to create two-dimensional images or three-dimensional reconstructions of objects, such as landscapes. SAR uses the motion of the radar antenna over a target region to provide finer spatial resolution than conventional beam-scanning radars. SAR is an imaging radar mounted on a moving platform. Electromagnetic waves are transmitted sequentially, the echoes are collected and the system electronics digitizes and stores the data for subsequent processing. As transmission and reception occur at different times, they map to different positions. The well-ordered combination of the received signals builds a virtual aperture that is much longer than the physical antenna width. That is the source of the term “synthetic aperture,” giving it the property of an imaging radar. The range direction is parallel to the flight track and perpendicular to the azimuth direction, which is also known as the along-track direction because it is in line with the position of the object within the antenna's field of view.



Day 3: 06th December 2018:

Dr. Shirish Ravan presented about “Role of UN-SPIDER in Enhancing Disaster Preparedness for Effective Emergency Response”. His presentation was focused make human settlement inclusive, safe and resilient.

He presented about “International Charter Space and Major Disasters”. The International Charter on “Space and Major Disasters” is a worldwide collaboration among space agencies, through which satellite-derived information and products are made available to support disaster response efforts. The Charter has been operational since November 2000, and currently, the following global space agencies participate in the mechanism: ESA, CNES, CSA, NOAA, CONAE, ISRO, JAXA, USGS, UKSA & DMCii, CNSA, DLR, KARI, INPE, EUMETSAT, and ROSCOSMOS. The Charter also benefits from satellite data provided by Planet and Digital Globe. Only agencies that possess and are able to provide satellite-based Earth Observation data can be members of the International Charter. The members cooperate on a voluntary basis. Each member agency has committed resources to support the Charter by providing space-derived data and products. The members take on the roles of

the secretariat by rotation and act as project managers for activations. UNOOSA/UN-SPIDER and UNITAR/UNOSAT are not formal members of the mechanism, but are authorized to request the activation of the mechanism on behalf of UN agencies, in countries affected by disasters.

He informed that The Charter can be activated at the request of Authorized Users (AUs). Until recently, AUs were typically disaster management authorities belonging to the countries whose space agencies were members of the Charter. AUs are now able to request the activation of the Charter to support emergencies in their own country, as well as in a country with which they cooperate. UNOOSA and UNITAR/UNOSAT can also request the activation of the mechanism on behalf of UN organizations in countries experiencing large-scale disasters.

He explained about how member state can request activation of charter. He informed on 19 September 2012, the Members of the International Charter announced the adoption of the principle of Universal Access; any duly registered national disaster management authority was thus able to submit requests to the Charter for emergency response support from that point onwards. National disaster management authorities that now wish to become Authorized Users have to complete the registration process with the Charter's Executive Secretariat.

He explained in detail about conditions for activation. There are several conditions that need to be met for the activation of this mechanism. The Charter can only be activated in instances of fast-onset disasters of natural or technological origin. The request for activation can only be made and accepted within the emergency response phase (up to 10 days after the disaster has occurred). The Charter however, cannot be activated for slow-onset disasters like droughts.

He explained the request for activation of this international charter. To request the activation of the mechanism, disaster management organizations and other Authorized Users call a confidential telephone number, which is available 24 hours a day, 365 days a year, and fill out a user request form that is sent out by email or fax. The On-Duty Operator then checks the identity of the requestor and the request form and proceeds to pass on the necessary information to the Emergency On-Call Officer. The Charter members have the authority to decide to reject the activation request, if they judge other efforts to be better suited in responding to a particular disaster situation.

He explained the process of activation of this international charter. The Emergency On-Call Officer analyses the request and the scope of the disaster with the Authorized User, and prepares an acquisition plan using available satellite resources. Image acquisition takes place on an emergency basis and a Project Manager processes the imagery to generate products or information regarding the affected area. A value-adder may further interpret and process the images attained. Charter members may also collaborate on the analysis and interpretation of the images to contribute to damage assessment.

He informed about various product/information provided to users depending on the scope of the request, the user receives one or several maps from the Project Manager free of charge. These maps delineate the affected area and may include other features. Usually, the maps are also made available to the public on the International Charter's website.

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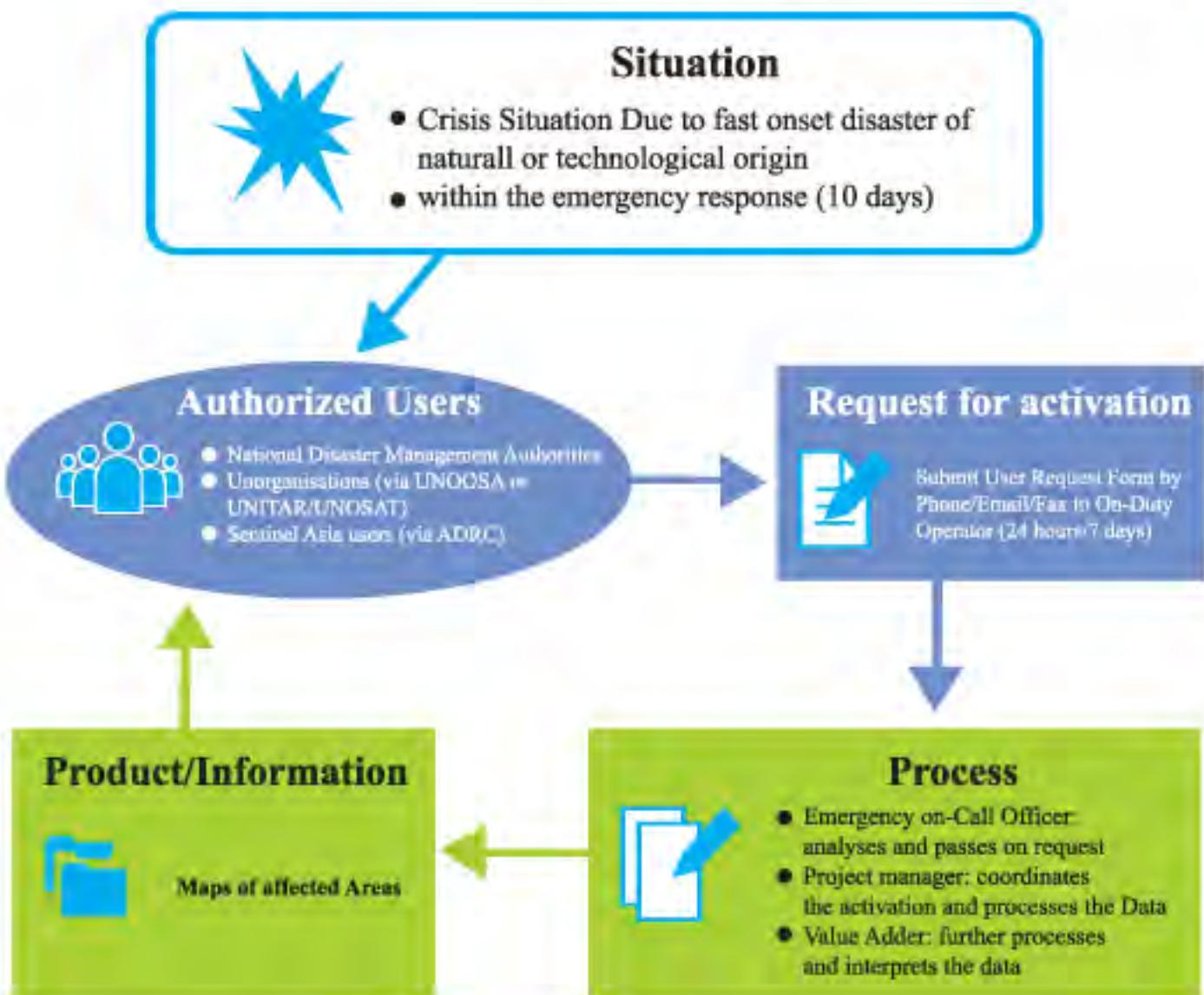
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## International Charter "Space and Major Disasters"

Mechanism for activation of international Charter

While explaining charter, he also informed about activities and role of UNSPIDER/UNOOSA. He discussed about international initiatives such as Copernicus Emergency Mapping Services, where EU pay to information generators and provide it to users with no cost.

Dr. Shirish Ravan also presented about International Working Group on Satellite based Emergency Mapping (IWG-SEM), its guidelines and participation in group activities. Dr. Shirish Ravan displayed a video on International Charter at UNOOSA. This video has information on how charter activates for any disaster in a given country.



**Dr. C. M. Bhatt from The Centre for Space Science and Technology Education in Asia and the Pacific (CSSTEAP) based at IIRS, Dehradun presented on “Earth Observation (EO) Data for Rapid Response in India”.** During his presentation he explained the Geo-spatial information and technology in the world including GIS and remote sensing.

He discussed about cloud mechanism for data, information and software sharing during all phases of disasters. He presented about application of space technology in disaster management, urban sprawl mapping. He discussed about remote sensing image interpretation.

He also presented about various web-portals, open source data and their tools and their uses during any disaster event. His presentation on GDACS, Bhuvan, NASA Flood Portal.



Mr. Niranga Alahcoon from IWMI presented on “**Rapid Emergency Response Mechanism (RERM)**”. In his presentation, he discussed about South Asia Drought Monitor System (SADMS) Framework. The South Asia Drought Monitoring System (SADMS), established in 2014, is a weekly map of drought conditions that is produced and maintained at the International Water Management Institute (IWMI). Numerous drought indices - including the Integrated Drought Severity Index, Standardized Precipitation Index, and Soil Moisture Index - have been developed to provide advanced drought monitoring and assessment information for various purposes. In tandem, these indices not only paint an accurate picture of any particular drought episode, but provide invaluable decision-making tools.



He informed that through the SADMS website, the International Water Management Institute (IWMI) provides a wide array of precipitation and related information garnered primarily from the freely available satellite imagery to improve current capabilities in drought monitoring and prediction and provide regional to district scale information about drought's effect on agriculture.

He informed that the drought severity maps that are produced to deliver continuous geographic coverage over large area for the first time, and have inherently finer spatial detail (500m resolution) than other commonly available global drought products such as NESDIS NOAA, MODIS Global Terrestrial Drought Severity Index using different data and approaches. He explained in detail about various indexes including VCI, TCI and PCI (vegetation, Temperature and Precipitation). An exercise was assigned to participants on Soil Water Index (SWI) and SWADI Calculation.

#### **5.4 Day 4: 07th December 2018:**

Dr. Shirish Ravan summarised day 3 activities. He explained a real time activation of charter for Vanuatu, an island nation in Pacific. He informed that Tsunami warnings were issued after a powerful earthquake struck off the coast of New Caledonia on Wednesday afternoon, local time on

06th December 2018. The 7.5 magnitude earthquake struck 104 miles (168 km) east-southeast of Tadine, New Caledonia, at a shallow depth of 6 miles (10 km), according to the United States Geological Service. He also discussed about technical advisory mission in 2011.



Mr. Karimi participant from Afghanistan suggested that UNSPIDER/UNOOSA can put SAARC DM Center in information and communication loop regarding upcoming technical advisory missions in future in member states.

Mr. C. M. Bhatt presented about open source tools such as NASA EOSDIS Worldview. The Earth Observing System Data and Information System (EOSDIS) is a key core capability in NASA's Earth Science Data Systems (ESDS) Program. It provides end-to-end capabilities for managing NASA's Earth science data from various sources – satellites, aircraft, field measurements, and various other programs. For the EOS satellite missions, EOSDIS provides capabilities for command and control, scheduling, data capture and initial (Level 0) processing. These capabilities, constituting the EOSDIS Mission Operations, are managed by NASA's Earth Science Mission Operations (ESMO) Project. NASA network capabilities transport the data to the science operations facilities.

He used online application to show the images and explained how to use. This application from NASA's EOSDIS provides the capability to interactively browse over 800 global, full-resolution satellite imagery layers and then download the underlying data. Many of the available imagery layers are updated within three hours of observation, essentially showing the entire Earth as it looks "right now". This supports time-critical application areas such as wildfire management, air quality measurements, and flood monitoring. Arctic and Antarctic views of many products are also available for a "full globe" perspective. Browsing on tablet and smartphone devices is generally

supported for mobile access to the imagery. Worldview uses the Global Imagery Browse Services to rapidly retrieve its imagery for an interactive browsing experience. While Worldview uses Open Layers as its mapping library, GIBS imagery can also be accessed from Google Earth, NASA World Wind, and several other clients. He informed that they encourage interested developers to build their own clients or integrate NASA imagery into their existing ones using these services.

Later, he presented about SRTM Digital Elevation Model (DEM) 30 M. Data. The Shuttle Radar Topography Mission (SRTM) was flown aboard the space shuttle Endeavour February 11-22, 2000. The National Aeronautics and Space Administration (NASA) and the National Geospatial-Intelligence Agency (NGA) participated in an international project to acquire radar data which were used to create the first near-global set of land elevations. He also explained about how to download Sentinel data from Alaska Satellite Facility (ACF).

He also presented about CSSTEAP. The Centre for Space Science and Technology Education in Asia Pacific (CSSTEAP) has been contributing significantly in capacity building in Asia Pacific countries in the frontier areas of Space Science and Technology and their Applications since its inception in 1995. In addition to its core regular PG Programs which are well recognized by UNOOSA as subjects having potential for societal benefits, Centre also conducts many short courses on different themes of Remote Sensing and GIS, Small Satellite Missions and Navigation and Satellite Positioning System relevant for the benefit of common man and based on request of user departments. The Centre also Provides Support to UN Activities, organizes Alumni Meets and participates in Meetings at various international platforms.



**Mr. Nilesh Desai, Deputy Director at Space Application Center (SAC), Ahmadabad** presented about Space Technology and Disaster Management. He presented about various applications of space technology and role of SAC Ahmedabad.



#### **6. Feedback Session:**

A feedback session was held on future activities and engagements between UNOOSA and SDMC with focus on Regional Response Mechanism (RRM). The discussion was focused on following:

- Long term engagement between SDMC and UNOOSA,
- Development of training courses and capacity building programme,
- Procedural guidelines for space-based information during disaster,
- Standard Operating Procedures (SOP)



### Afghanistan:

Participant from Afghanistan suggested on coordination through SDMC on upcoming missions of UNOSSA and training programmes (Short/Medium/Long) at IIRS Dehradun. He suggested that SDMC can support to inform relevant agencies in Afghanistan, that will be useful for their country.

### Bangladesh:

Participant from Bangladesh explained about usefulness of this training for their country and newly recruited engineers.

### Bhutan:

Participant from Bhutan suggested that participation from relevant agencies should needs to be ensured from his country. An early invitation to country will help them to identify technical and non-technical officials.

### India:

Participant from India informed that this was very informative course, and requested to invite NDRF in upcoming training course of SDMC(IU).

### Maldives:

Participant from Maldives informed about usefulness of this training for their country, and thanked SDMC(IU) for organising such course.

### Nepal:

Participant from Nepal suggested that this was highly technical course for non-technical and junior officers. It was suggested to design the courses for senior officers and decision makers.

### Pakistan:

Participant from Pakistan presented about MHVRA of Khushab District in Punjab Province. He suggested that if participants are interested in joining the courses at IIRS and SDMC may look into facilitation of the same.

### Sri Lanka:

Participant from Sri Lanka informed that this is very relevant course, and thanked SDMC(IU) for organising such course.



Participants from Afghanistan



Participants from Bhutan



Participants from Maldives



Participants from Nepal



Participants from India



Participants from Pakistan

## 7. Valedictory Session:

Valedictory session was chaired by Mr. P. K. Taneja, Director, SDMC (IU) in gracious presence of Mr. Sangye Chewang, Director (Environment, Natural Disaster and Biotechnology), SAARC Secretariat, Thimpu, Bhutan and Dr. Shirish Ravan from UNOOSA.

Mr. Taneja discussed about relevance and usefulness of this course. He informed that the entire event was very participative in approach and participants showed their full interest during course. He discussed about need for more inputs from participants to improve the quality of upcoming courses. He suggested to convert this into regular capacity building programme with e-module.

Mr. Sangye Chewang, Director (Environment, Natural Disaster and Biotechnology), SAARC Secretariat, Thimpu, Bhutan explained the process of getting the participants. He informed that SAARC Secretariat sends invitations to the National Focal Point agency (NFP) and later national agencies forward to suitable organisation in member state.

Mr. C. M. Bhatt informed about online courses run by IIRS and run using EDUSAT Platform. Dr. Shirish Ravan informed that IIRS conducts full/short/online courses. He also suggested that SDMC can be informed about upcoming courses at IIRS. He suggested for joint development of courses.

At the end of the valedictory session, certificates of participation were distributed to participants.



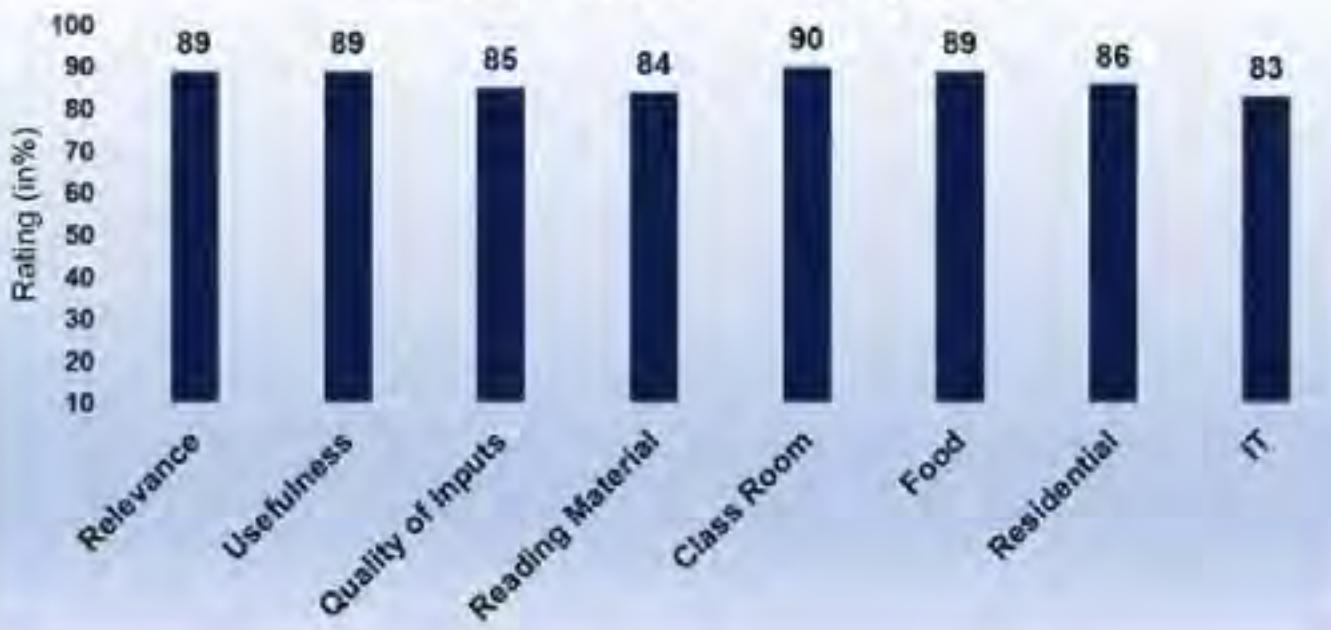
## 8. Course Evaluation:

On last day of training, feed back from the participants was taken. Overall Programme was rated highly satisfactory by all participants. The percentage of satisfaction for the workshop for various parameters is given below.

### Regional workshop and capacity building programme for utilization of space based and geospatial information for achieving the targets of the Sendai Framework for Disaster Risk Reduction

4 - 7 December 2018

### Feedback from Participants



## Annexure - I

### Regional Workshop and Capacity Building Programme for Utilization of Space based and Geospatial Information for Assisting/ Achieving the targets of the Sendai Framework

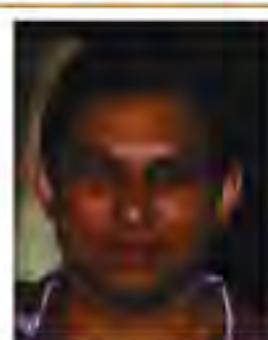
**Duration : 4th December to 8th December 2018**

#### List of Participants

	Country	Particulars	Remarks and Sign
1.	Afghanistan	Name : Mr. Mohammad Ajmal Karimi Organization : General Manager for the International trips and Programs, International Relation Directorate, SMDM/ANDMA Email : karimi27@gmail.com Contact No : Whatsapp No. :	
2.	Afghanistan	Name : Mr. Abdul Bari Khan Organization : Manager of Admin and Finance, ANDMA Helmand Province Email : Contact No : Whatsapp No. :	
3.	Afghanistan	Name : Mr. Abdul Salaam Barakzai Organization : Manager of Admin and Finance, ANDMA, Farah Province Email : abdulsalambarakzai@gmail.com Contact No : 0703474741 Whatsapp No. : 0795 680 605	
4.	Bangladesh	Name : Mr. Mohd. Aminul Islam Organization : Deputy Secretary, Ministry of DM and Relief Email : aminulislam67@yahoo.com Contact No : +88017447276 Whatsapp No. : +88017447276	

	<b>Country</b>	<b>Particulars</b>	<b>Remarks and Sign</b>
5.	Bangladesh	<p>Name : Mr. Mohammad Abdus Samad</p> <p>Organization : Secretary (Deputy Secretary), Ministry of Water and Resources, Dhaka</p> <p>Email : samad2008@yahoo.com</p> <p>Contact No :</p> <p>Whatsapp No. :</p>	
6.	Bangladesh	<p>Name : Mr. Md. Raisuddin Mukul</p> <p>Organization : District Relief and Rehabilitation Officer, Cox's Bazar</p> <p>Email : drrocox@gmail.com</p> <p>Contact No : 01715560688</p> <p>Whatsapp No. :</p>	
7.	Bhutan	<p>Name : Mr. Binay Tamang</p> <p>Organization : Chief Survey Engineer, National Land Commission Secretariat</p> <p>Email : btamang@nlcs.gov.bt</p> <p>Contact No : +975 17660056</p> <p>Whatsapp No. :</p>	
8.	Bhutan	<p>Name : Mr. Phuntsho Namgyel</p> <p>Organization : Senior Survey Engineer, National Land Commission Secretariat</p> <p>Email : namgyel82013@gmail.com</p> <p>Contact No : +97517125800</p> <p>Whatsapp No. : +88017447276</p>	
9.	India	<p>Name : Mr. Khalid Mehmood</p> <p>Organization : Project Manager, BISAG</p> <p>Email : bisagsp10@gujarat.gov.in</p> <p>Contact No : 9909945010</p> <p>Whatsapp No. : 9909945010</p>	
10.	India	<p>Name : Mr. Sumit Prajapati</p> <p>Organization : Project Manager, BISAG</p> <p>Email : bisagsp5@gujarat.gov.in</p> <p>Contact No : 9909945050</p> <p>Whatsapp No. : 9909945050</p>	

	<b>Country</b>	<b>Particulars</b>	<b>Remarks and Sign</b>
11.	India	Name : Mr. Gambhir Singh Negi Organization : Deputy Comdt. NDRF Email : Negigs123@gmail.com Contact No : 9426827661 Whatsapp No. : 9426827661	
12.	India	Name : Mr. Jagvir Singh Organization : Scientist F, Ministry of Earth Sciences(MoES) Email : Jvsingh.moes@nic.in Contact No : 9868105010, 8700393891 Whatsapp No. : 9868105010, 8700393891	
13.	Maldives	Name : Mr. Ilyas Mohamed Organization : Senior Computer Technician, National Disaster Management Centre Email : ilyas.mohamed@ndmc.gov.mv Contact No : +9607918031 Whatsapp No. :	
14.	Maldives	Name : Mr. Ahmed Aslam Waheed Organization : Project Manager, National Disaster Management Centre Email : ahmed.aslam@ndmc.gov.mv , aslam-11@hotmail.com Contact No : Whatsapp No. :	
15.	Nepal	Name : Mr. Paramananda Ghimire Organization : Under Secretary, Ministry of Home Affairs, Nepal Email : pramanandaghimire@gmail.com Contact No : Whatsapp No. : +9779851193205	
16.	Nepal	Name : Ms. Sahanshila Pudasaini Organization : Section Officer, Ministry of Home Affairs, Nepal Email : pudasaini.sahanshila@yahoo.com Contact No : 9909945050 Whatsapp No. : 9909945050	

	<b>Country</b>	<b>Particulars</b>	<b>Remarks and Sign</b>
17.	Nepal	<p>Name : Mr. Krishna Sapkota</p> <p>Organization : Section Officer, Ministry of Home Affairs, Nepal</p> <p>Email : ursapkotakrishna@gmail.com</p> <p>Contact No :</p> <p>Whatsapp No. : +9779857624000</p>	
18.	Pakistan	<p>Name : Mr. Abid Shahzad</p> <p>Organization : Assistant Director, National Disaster Management Authority</p> <p>Email : pschairman@ndma.gov.pk</p> <p>Contact No :</p> <p>Whatsapp No. : 00923335255742</p>	
19.	Pakistan	<p>Name : Ms. Zahra Hassan</p> <p>Organization : Data Analyst Officer, National Disaster Management Authority</p> <p>Email : zahrahassan194@gmail.com</p> <p>Contact No : 00923415176235</p> <p>Whatsapp No. : 00923415176235</p>	
20.	Pakistan	<p>Name : Ms. Nimrah Khalid</p> <p>Organization : Geo-Spatial Analyst Officer, National Disaster Management Authority</p> <p>Email : nimrah@ndma.gov.pk</p> <p>Contact No : 00923337472709</p> <p>Whatsapp No. : 00923337472709</p>	
21.	Sri Lanka	<p>Name : Mr. T. W. K. Indika Pushpakumara</p> <p>Assistant Director (Emergency Operations), Disaster Management Centre, Colombo</p> <p>Email : twkindika@yahoo.com</p> <p>Contact No :</p> <p>Whatsapp No. : +94772130754</p>	

	<b>Country</b>	<b>Particulars</b>	<b>Remarks and Sign</b>
22.	Sri Lanka	<p>Name : Mrs. I. A. Ishara Dilrukshi</p> <p>Organization : Database Analyst, Disaster Management Centre, Colombo</p> <p>Email : isharad@dmc.gov.lk</p> <p>Contact No : +94779108769</p> <p>Whatsapp No. : +94779108769</p>	
23.	Sri Lanka	<p>Name : Dr. K.P.G.W Senadeera</p> <p>Organization : Senior Scientist, National Building Research Organization</p> <p>Email : wasantha.senadeera@gmail.com</p> <p>Contact No : +94718167457</p> <p>Whatsapp No. : +94718167457</p>	

# Training Report

## Rapid Assessment for Resilient Recovery

**29th January  
to  
01st February 2018**



**Disaster Management Centre**

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## **1. Background:**

South Asia, by virtue of its unique geology, climate and socioeconomic vulnerabilities, is amongst the world's multi-hazard hotspots. The sub-region bears the brunt of large-scale catastrophic disasters. Major population centres such as Kathmandu, Karachi, Kabul, New Delhi, Dhaka lie on key seismic fault lines or along coastal areas constantly buffeted by cyclones, floods, and storm surges. The latter extreme weather events will only increase in number and intensity due to the effects of climate change. Unplanned human settlements, unsafe building practices, and high population densities have further compounded the exposure and vulnerability of people and economies. As a result, earthquakes, cyclones, floods, tsunamis, droughts, and other disasters of every type and magnitude continue to consume lives, property, and livelihoods across the region.

Post-disaster recovery and reconstruction, following the building back better modality, assumes priority for SAARC Member States in pursuing resilience to disasters. A quick and reliable post-disaster impact assessment is important for timely recovery and reconstruction.

The assessment feeds directly into recovery planning, which aims to re-establish basic public services to normalize socio-economic conditions after disasters, as well as source capital investments for long-term reconstruction with Build Back Better approach as per the priority 4 of the Sendai Framework for Disaster Risk Reduction (SFDRR).

While countries in Asia-Pacific incur tremendous costs in the aftermath of a natural disaster, damage and loss assessments continue to be a challenging task due to limited access to real-time data and analytical tools and methods for quick assessments. A quick and reliable post-disaster impact assessment is important for timely recovery and reconstruction.

Innovations in space applications and geo-spatial modelling have dramatically improved the accuracy and availability of disaster data for damage and loss assessment. The application such technologies in assessment process improves the speed and accuracy of damage and loss assessments, thus helping governments in taking evidence-based quick decisions in the aftermath of a disaster.

## **2. Objectives:**

- Understand the Post Disaster Needs Assessment Methodologies and discuss the issues and challenges in the context of SAARC Region,
- Raise awareness on the relevance and benefits of Rapid Assessment for Resilient Recovery using space technologies,
- Discuss a need for preparing procedural guidelines and standard operating procedure in utilization of space based and geospatial information in rapid need assessment after a disaster,
- Share experiences and lessons learned on rapid need assessment.

## **3. Organizers:**

The event was jointly organized by The SAARC Disaster Management Centre (SDMC-IU) and United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP).



**SAARC**

Disaster Management Centre

### **SAARC Disaster Management Centre (SDMC-IU)**

The Interim Unit of SAARC Disaster Management Centre (SDMC-IU) has been set up at Gujarat Institute of Disaster Management (GIDM) Campus, Gandhinagar, Gujarat, India in November 2016 with a mission to support Member States in their Disaster risk Reduction (DRR) initiatives through application of Science & Technology, knowledge from multiple disciplines, exchange of best practices, capacity development, collaborative research and networking in line with the global priorities and goals and other relevant frameworks adopted by Member States. Eight-member countries, i.e. Afghanistan, Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan and Sri Lanka are being served by the SDMC (IU). Website: <http://saarc-sdmc.org/>



### **United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP)**

The United Nations Economic and Social Commission for Asia and the Pacific (ESCAP) is the regional development arm of the United Nations for the Asia-Pacific region. Made up of 53 Member States and 9 Associate Members, with a geographical scope that stretches from Turkey in the west to the Pacific island nation of Kiribati in the east, and from the Russian Federation in the north to New Zealand in the south, the region is home to 4.1 billion people, or two thirds of the world's population. This makes ESCAP the most comprehensive of the United Nations five regional commissions, and the largest United Nations body serving the Asia-Pacific region with over 600 staff. Established in 1947 with its headquarters in Bangkok, Thailand, ESCAP works to overcome some of the region's greatest challenges by providing results oriented projects, technical assistance and capacity building to member States in the following areas: Macroeconomic Policy, Poverty Reduction and Financing for Development; Trade, Investment and Innovation; Transport; Environment and Development; Information and Communications Technology and Disaster Risk Reduction; Social Development; Statistics; Sub-regional activities for development; Energy.

The ESCAP secretariat comprises the Office of the Executive Secretary, nine substantive Divisions, the Division of Administration, and the Strategy and Programme Management Division. The delivery of ESCAP's programmes is supported by the sub-regional offices and the regional institutions.



BUILDING RESILIENCE

### **Gujarat Institute of Disaster Management (GIDM)**

The Gujarat Institute of Disaster Management (GIDM) is registered as an autonomous society under the Government of Gujarat. The Institute has been entrusted with the responsibility of human resource development, capacity building, training, research and documentation in the field of Disaster Management. Website: <https://gidm.gujarat.gov.in/>

## 5. Agenda

**Day 1: 29 January 2018**

Time	Program	Facilitator
10.00 – 10.30	Registration	
10.30 – 11.15	Inauguration & Group Photo	SDMC
11.15 – 11.40	Tea/ Coffee	
11.40 – 13.00	Need for Rapid Assessment to Resilient Recovery (RARR) and use of RARR Tool	Mr. Nokeo Ratanavong APDIM, UNESCAP, Thailand
13.00 - 14:00	Lunch Break	
14.00 – 15.10	Understanding features and guiding principles for Rapid Damage Assessment for Resilient Recovery	Lt Col Rahul Devrani Joint Advisor (R & R) NDMA, New Delhi
15.10 – 15.30	Tea/ Coffee	
15.30 – 16.45	Rapid Damage Assessment after Disaster in Pakistan and discussion on Guidelines for Multi-Sector Initial Rapid Assessment 2017 - Pakistan	Mr Md. Zafar Iqbal Director (R & R) NDMA, Pakistan
16:45 – 17:00	Briefing on Day-I activities	SDMC (IU)

**Day 2: 30 January 2018**

Time	Program	Facilitator
19.30 – 10.45	Tools for Rapid Damage Assessments of Major Natural Hazards in SAARC Region using Space Technology	Dr S V Shiva Prasad Sharma Scientist /Engineer NRSC, Hyderabad
10.45 – 11.00	Tea/ Coffee	
11.00 – 12.15	Issues and Challenges in Rapid Damage Assessment: Case Study of Uttarakhand Floods 2013	Dr Piyoosh Rautela Executive Director, DMMC, Uttarakhand
12:15 - 13:15	Lunch Break	
13.15 - 16:00	Live demonstration of Rapid Damage Assessment using Geo-Spatial Techniques Visit to Bhaskaracharya Institute for Space Applications and Geo – Informatics (BISAG)	(BISAG)
16:00 - 16:05	Briefing on Day-II activities	SDMC (IU)

**Day 3: 31 January 2018**

Time	Program	Facilitator
9.30 – 10.45	Innovative Technologies in Rapid Damage Assessment and Situation Mapping; Learnings from the Cyclone Titli 2018	Mr. Nokeo Ratanavong APDIM, UNESCAP Thailand
10.45 – 11.00	Tea/ Coffee	
11.00 -12.15	Post-Earthquake Rapid Damage Assessment: Needs & Challenges	Mr Shashank Mishra UNHSP,Myanmar
12:15 - 13:15	Lunch Break	
13.15 – 14.30	Session Cont. – Group Exercise	Mr Shashank Mishra UNHSP,Myanmar
14.30 – 14.45	Tea/ Coffee	
14.45 – 16.00	Session Cont. – Group Presentation	SDMC (JU)
16.00 – 16.05	Briefing on Day-II activities	SDMC (IU)

**Day 4: 1 February 2018**

Time	Program	Facilitator
9.30 – 10.45	Existing institutional arrangements in Member States for Rapid Damage Assessment (15 min. each) 1. Afghanistan 2. Bangladesh 3. Bhutan 4. India Discussion/Questions and Answers (15 min.)	Participants
10.45 – 11.00	Tea/ Coffee Session Cont. .. 5. Maldives 6. Nepal 7. Pakistan 8. Sri Lanka Discussion/Questions and Answers (15 min.)	Participants
12:15 - 13:15	Lunch Break	
13.15 – 14.15	Rapid Damage Assessment – Ground reality and Way Ahead	Dr Anshu Sharma Director, SEEDs India
14.15 – 15.00	Valedictory & Wrap-up	

## 6. Proceeding of Training Programme:

### 5.1 Inaugural Session:

In the gracious presence of Mr. P. K. Taneja, Director SDMC(IU), Mr. Nokeo Ratanavong, UNESCAP and Mr. Mohammad Zafar Iqbal, Director-Recovery and Rehabilitation NDMA Pakistan, the inauguration ceremony was conducted. Mr. Sumedh Patil, Programme Manager, SDMC(IU) welcomed all participants and introduced all dignitaries on dais. The inaugural session was chaired by Mr. P. K. Taneja, Director SDMC(IU).



Further Mr. Sumedh Patil requested all the SAARC region representatives from their respective country to light the lamp along with Dignitaries on Dias for inaugural ceremony.



Mr. P. K. Taneja, Director, SDMC (IU) welcomed all participants and informed that rapid assessment has huge role to play post disaster scenario. He told that technology plays a very important role in all phases of disaster management especially during rapid assessment. During his speech, he emphasised on sharing of best practices in the region amongst member states. He discussed about SDMC's efforts for developing Rapid Response Mechanism (RRM). He also spoke about role of national and provincial level institution, NRSC and BISAG

and its role in rapid assessment.

He further discussed about course design, course content and delivery with its usefulness in future. He requested participants to share their thoughts, case studies, best practices from respective member state. He again thanked all resource persons and participants for their participation. Later, all the participants were requested for Group Photographs.



## 5.2 Day 1: 29th January 2019:

### **Mr. Nokeo Ratanavong., UNESCAP: Rapid Assessment for Resilient Recovery Framework.**

In his presentation, he talked about various Rapid Assessment for Resilient Recovery Frameworks including UNDP/BCPR Post-disaster Recovery Guidelines; Integrated Livelihood Assessment Guidelines by FAO and ILO; Recovery Assessment Mechanisms and Methods by IFRC; Needs Analysis Framework by OCHA. He also discussed about Multi-sectoral Rapid Assessment methodology developed by UNICEF; Community Damage Assessment and Demand Analysis Methodology; Damage Assessment and Needs Analysis Methodology by ADPC; Methodology for Estimating the Socio-economic and Environmental Impact of Disasters by ECLAC; Rapid Assessment for Resilient Recovery using innovative tools, techniques and space applications by ESCAP and SDMC.

**Presentation by Mr. Nokeo Ratanavong, UNESCAP**



**Lt. Col. Rahul Devrani, Adviser NDMA: Rapid Disaster Need Assessment.**

Mr. Devrani talked about, the importance of planning for resilience and recovery, to prepare for major adverse events that are relevant to maintain continuity. He informed that resilience is the design of structures, facilities, infrastructure, equipment, processes and systems that need to be unaffected by disasters, whereas, recovery is a plan and collection of resources that can be used to restore functions of each sector if they are interrupted. He defined Rapid Assessment as "A quick evaluation of a disaster impacted area".

He explained that RDNA is very important as it provides the local government with accurate information for an adequate response to life-threatening situations. It is a quick analysis of the potential hazard to critical infrastructure to determine the need for additional resources. It also helps determine local resource allocations for declaration of disaster process. It is also important for protection of life and property. He also discussed about purpose of RDNA which provides information that can guide emergency services in activities such as search & rescue missions, assessing pin point location and nature of secondary threats, information regarding status of facilities needed to treat or support the survivors, providing information about the access to stricken communities.

#### **Mr. Zafar Iqbal, NDMA Pakistan: Multi Sector Initial Rapid Assessment (MIRA) Tool.**



In his presentation, he talked about Multi Sector Initial Rapid Assessment (MIRA) Tool adopted by Pakistan. He informed that MIRA is an inter-agency needs assessment and analysis process, from which a joint strategic plan for emergency response is developed by the humanitarian country teams. MIRA can be modified for various emergency contexts. It can respond to non-refugee emergencies, the MIRA analytical framework and approach is the most effective in a sudden onset natural disaster, and is conducted in

the first few weeks of a disaster. The MIRA process focuses on producing a situational analysis during the first three days of the onset of a disaster, followed by a MIRA report to be released within 2 weeks after the onset of the disaster. MIRA assessment also forms a part of the "IASC Guidance for Inter-agency Contingency Planning and Emergency Response Preparedness". MIRA is managed by OCHA under the overall guidance of the Humanitarian Coordinator (HC) in the first two weeks of any disaster.

He told that MIRAs may be undertaken in coordination with host Governments, supported by the humanitarian community through clusters. At the global level, UNHCR is responsible for leading the emergency protection, shelter, camp coordination and management clusters, although leadership may vary at the country level in natural disaster situations. He explained that MIRA can be conducted when new and sudden onset disaster followed by a period of relative stability enabling humanitarian access. He also discussed about various phases of MIRA in Pakistan. He told that NDMA Pakistan & HCT agreed to develop Assessment & Monitoring Framework in 2012. MIRA proved an extremely effective tool after floods 2012 & 2014 in Pakistan.

### 5.3 Day 2: 30th January 2019:

**Dr. Shiva Prasad Sharma, NRSC: Real-time data and analytical tools and methods for quick damage assessments of major Hazards in SAARC Region.**



Dr. Shiva Prasad Sharma informed about real-time data and analytical tools and methods for quick damage assessments of major Hazards in SAARC Region. He presented Decision Support Centre (DSC) established at NRSC under Disaster Management Support Programme (DMSP), which is a single window delivery point for aerial and space enabled inputs. It uses other important data layers for management of pre-disaster, during-disaster and post-disaster rapid assessment. He explained DSC addressing five natural disasters viz., Flood, Cyclone, Forest Fire, Earthquake and Landslide. DSC team keeps a close watch on the disaster situation in the country & neighbourhood and acquires satellite/aerial data of the affected regions. The data is analysed and rapid mapping and assessment is carried out and value-added products are disseminated to Ministry of Home Affairs (MHA) and nodal ministries via FTP, Web page, E-mail etc. For online transfer of space-enabled inputs to the State and Central government user departments, a VSAT based satellite communication network has been established. The products are also hosted on web portals viz., Bhuvan, NRSC and NDEM for wide public viewing/usage. DSC is working on space inputs for long-term disaster mitigation and rehabilitation like hazard zonation, vulnerability and risk assessment. He also informed DSC provides satellite data support to International disasters through forums like the International Charter on Space and Major Disasters, Sentinel Asia and UNESCAP/UNSPIDER. DSC is also working on improving the models for forecasting and early warning. Such as technologies can be useful as analytical tool for quick damage assessment in South Asia.

## **Dr. Piyush Rautela, Disaster Mitigation and Management Centre, Government of Uttarakhand: Uttarakhand Disaster of June 2013: Facts and Administrative Issues.**

He informed that the State of Uttarakhand, being part of the Himalayan region, is extremely vulnerable to natural hazards. Natural hazards, like earthquakes, landslides, avalanches, cloudbursts, hailstorms, Glacial Lake Outburst Floods (GLOFs), flash floods, lightning, and forest fires, etc. He told that on 16th June 2013, the State suffered a mega disaster, one of the worst disasters in the living memory in State, causing widespread damage and destruction along-with heavy casualties.

The entire State was hit by very heavy rainfall and flash floods and five districts, namely Bageshwar, Chamoli, Pithoragarh, Rudraprayag and Uttarkashi were the worst affected. The disaster coincided with the peak tourist and pilgrim season, significantly enhancing the number of casualties and adversely affecting the rescue and relief operations. He informed that impact of disaster was most pronounced in the Mandakini valley of the Rudraprayag district.

He explained the scenario in details that torrential rains, coupled with the probable collapse of the Chorabari Lake, led to flooding at the Kedarnath Shrine and the adjacent areas of Rambara, Agastyamuni, Tilwara, and Guptkashi. Other pilgrimage centres in the region, including Gangotri, Yamunotri and Badrinath, which are visited by thousands of devotees during the summer season, were also affected. People in important locations, such as the Harsil, Roopkund and Hemkund Sahib, were stranded for days together. Many people were stuck in various regions of the State due to damaged roads, landslides and flash flood-induced debris. He explained the issues and administrative challenges faced by the Government for assessment of scale of damage and needs.

### **Presentation by Dr. Piyush Rautela**



### Visit to Bhaskaracharya Institute for Space Applications and Geo-Informatics (BISAG)

The participants visited BISAG where a presentation regarding geographical database conceptualisation and creation was given by Mr. Khalid Mahmood (Senior Scientist). Participants also visited Satellite Communication Studio

#### Visit to Bhaskaracharya Institute for Space Applications and Geo-Informatics (BISAG)



#### 5.4 Day 3: 31st January 2019:

##### Mr. Nokeo Ratanavong, UNESCAP: Rapid Assessment for Resilient Recovery Framework.

In his presentation, he explained case study of Samoa Post Disaster Need Assessment (PDNA - 2009). He informed that on September 29th, 2009, a powerful earthquake hit south of Samoa followed by a tsunami that impacted entire region.

He informed that this Post-Disaster Needs Assessment (PDNA) was a joint initiative of a cross-agency group comprising the World Bank (WB), the Asian Development Bank (ADB), the United Nations Office for Disaster Reduction (UN-ISDR), the United Nations Economic and Social Commission for Asia and the Pacific (UN ESCAP) working with the Government of Samoa, and with technical support from the Global Facility for Disaster Reduction and Recovery (GFDRR) and financial support from the Government of Australia. A number of multilateral and bilateral agencies and NGOs also made unique and outstanding contributions.

He informed that the response from the Government of Samoa (GOS) and the international humanitarian community was immediate, swift and efficient. A fully functional National Emergency Operations Centre (NEOC) was activated near the capital Apia. Access roads to affected areas were quickly cleared allowing for rapid response efforts by communities, Non-Governmental

Organizations (NGO) and the national Disaster Management Office (DMO). With support from the Australian and New Zealand military and disaster relief teams, the Government provided medical facilities, tents and clean water. Strong social networks responded effectively, despite the devastation, and many homeless were accommodated by family and friends.

**Mr. Shashank Mishra, Programme Manager (Disaster Risk Reduction), Chief Technical Advisor (Myanmar Climate Change Alliance) UN-Habitat, Myanmar: Post Earthquake Rapid Damage Assessment Needs and Challenges**

Mr. Mishra in his presentation talked about Post Earthquake Rapid Damage Assessment Needs and Challenges. He informed that Post Earthquake Rapid Damage Assessment is a procedure to conduct the safety check or damage assessment of the buildings such as hospitals, schools and government offices that is initiated within few hours of the earthquake as delay in the assessment may increase the risk of safety of people. Rapid evaluation typically includes only an exterior evaluation of structures and can be carried out by building inspectors, engineers, architects with proper training. Success of rapid evaluation lies with well-defined objectives and clear understanding among all the people involved in the assessment.

He added that many countries have their own frameworks and individual methodologies for performing rapid disaster assessment. That are mostly single and direct methods designed for post-earthquake building inspections. The followings are common methods for damages assessment are Rapid Impact Assessment; Rapid Building Assessment; Interim Use Evaluation (IUE); Detailed Damage Evaluation etc.

He also presented about ATC-20 Building Safety Evaluation Forms and Placards. He informed that in 1989, the Applied Technology Council (ATC) published the ATC-20 Procedures for Post-earthquake Safety Evaluation of Buildings. Written specifically for volunteer structural engineers and building inspectors, these reports include rapid and detailed evaluation procedures for evaluating earthquake-damaged buildings and categorising them as INSPECTED (apparently safe, green placard), LIMITED ENTRY (yellow placard), or UNSAFE (red placard). He further deliberated on contextualisation and use of such as methods for RARR.

**Presentation by Mr. Shashank Mishra**



## 5.5 Day 4: 01st February 2019:

On day 4, a dedicated session for understanding country wise best practices was held, in which participants from all members states presented.

### Country Presentations:

#### Afghanistan- Presentation by Mr. Ahmad Shadab Tayeb:-

**Mr. Ahmad Shadab Tayeb**, Advisor to H. E. Minister of State for Disaster Management and Humanitarian Affairs, Afghanistan presented on Institutional Arrangements for Rapid Damage Assessment in Afghanistan.



#### Bangladesh-Presentation by Mr. Md. Sharafath Hossain Khan

**Mr. Md. Sharafath Hossain Khan**, Deputy Director, Cyclone Preparedness Program (CPP), Ministry of DM and Relief, Bangladesh presentation on Major Natural Hazards in Bangladesh and Their Community based Response and CPP Programmes

#### Bangladesh-Presentation by Mr. Enamul Haque

**Mr. Enamul Haque**, Project Implementation Officer, Ministry of DM and Relief, Bangladesh presented on Web based Damage and Need Assessment System in Bangladesh.



#### Bangladesh-Presentation by Ms. Farhana Tazneen

**/Ms. Farhana Tazneen**, Scientific Officer, Bangladesh Space Research and Remote Sensing Organization, Bangladesh presented on Development of National Flood Monitoring System (NFMSRG) based on Remote Sensing Techniques and explained it's features.



### India - Presentation by Lt. Col. Rahul Devrani

**Lt. Col. Rahul Devrani**, Joint Advisor, NDMA, New Delhi presented on PDNA – Kerala (A case study) and briefed about various need assessment system available in India. He briefed about various lessons learnt for recent disasters in India.

### Maldives - Presentation by Mr. Asim Rasheed

**Mr. Asim Rasheed**, Warrant Officer, Maldives National Defence Force, Maldives presented on Existing institutional arrangements for rapid damage Assessment in Maldives.



### Nepal - Presentation by Mr. Sunil Karki

**Mr. Sunil Karki**, Police Inspector, Nepal Police: Existing Institutional Arrangements for Rapid Damage Assessment – Nepal.



### Presentation by Mr. Ahmed Naveed Malik

**Mr. Ahmed Naveed Malik**, Assistant Director, National Disaster Management Authority, Pakistan: Evolution of Disaster Management System



### Sri Lanka- Presentation by Mr. P.H.A. Wimalaweera

**Mr. P.H.A. Wimalaweera**, Director (Management), Ministry of Public Administration & Disaster Management, Sri Lanka: Best Practices and Existing Institutional Arrangements for Rapid Damage Assessment Sri Lanka.

## 7. Valedictory Session:

Valedictory session was chaired by Mr. P. K. Taneja, Director, SDMC (IU) and Mr. Mohammad Zafar Iqbal, Director, Recovery and Rehabilitation, NDMA Pakistan.

Mr. P. K. Taneja discussed about relevance and usefulness of this training course. He informed that the entire event was very participative in approach and participants showed their full interest during training. He discussed about need for more inputs from participants to improve the quality of upcoming courses at SDMC. He informed that SDMC is in process to create a resource persons database and requested participants contribute. The course evaluation was also discussed in the view of further improvement.



At the end of the valedictory session, certificates of participation were distributed to participants.

### Certificate Distribution to Participants

Afghanistan



Bangladesh



India



Maldives



Nepal



Pakistan



Sri Lanka

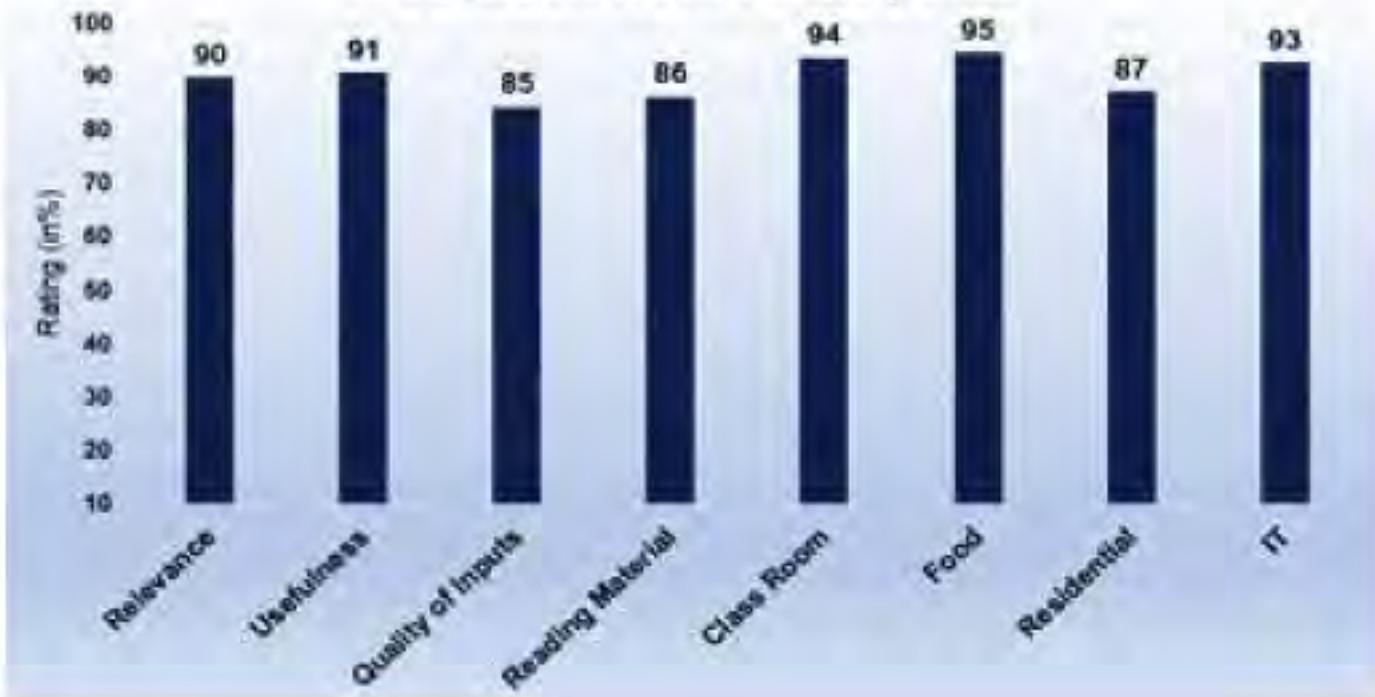


## 8. Course Evaluation:

On last day of training, all the participants were given feedback forms. Feedbacks were received from all participants presented in following figure. Overall this Regional Workshop and Capacity Building Programme was rated satisfactory by all participants.

### Training Programme on Rapid Assessment for Resilient Recovery (RARR)

#### Feedback from Participants



## 9. Annexure I : List of Participants

**Training Programme for**  
**Rapid Assessment for Resilient Recovery (RARR)**  
**Duration : 29th January to 1st February 2019**  
**List of Participants**

	Country	Particulars	Remarks and Sign
1.	Afghanistan	Name : Mr. Ahmad Shadab Tayeb Organization : Advisor to H.E Minister of State for Disaster Management and Humanitarian Affairs, Afghanistan Email : ahmadshadabtayeb@gmail.com Contact No : +93 775317273 Whatsapp No. : +93 775317273	 00 Mr. Ahmad Shadab Tayeb
2.	Afghanistan	Name : Mr. Saifi Sayed Sarwoddin Organization : Afghanistan National Disaster Management Authority, Afghanistan Email : eng.saifi786@gmail.com Contact No : +93 777224522 Whatsapp No. : +93 777224522	 Program 01 Mr. Saifi Sayed Sarwoddin
3.	Afghanistan	Name : Mr. Abdullah Akef Organization : Afghanistan National Disaster Management Authority, Afghanistan Email : abdullah.akef@gmail.com Contact No : +93 777080508 Whatsapp No. : +93 777080508	 01 Mr. Abdullah Akef
4.	Bangladesh	Name : Mr. Md. Sharafath Hossain Khan Organization : Deputy Director, Cyclone Preparedness Program, Ministry of DM and Relief, Bangladesh Email : sharafatcpp@gmail.com Contact No : +88017447276 Whatsapp No. : +88017447276	 01 Mr. Md. Sharafath Hossain Khan
5.	Bangladesh	Name : Ms. Farhana Tazneen Organization : Scientific Officer, Bangladesh Space Research and Remote Sensing Organization, Bangladesh Email : farhana@sparrso.gov.bd Contact No. : +88 01911054737 Whatsapp No. : +88 01911054737	 01 Ms. Farhana Tazneen

	<b>Country</b>	<b>Particulars</b>	<b>Remarks and Sign</b>
6.	Bangladesh	<p>Name : Mr. Enamul Haque</p> <p>Organization : Project Implementation Officer, Ministry of DM and Relief, Bangladesh</p> <p>Email : enamul.naogaon@gmail.com</p> <p>Contact No : +88 01713 807044</p> <p>Whatsapp No. : +88 01713 807044</p>	
7.	India	<p>Name : Mr. Aravind R.S.</p> <p>Organization : Scientist/ Engr SC, NRSC, Hyderabad</p> <p>Email : aravindrs77@gmail.com aravind_rs@nrsc.gov.in</p> <p>Contact No. : 9106149751,08542225419</p> <p>Whatsapp No. : 9106149751</p>	
8.	India	<p>Name : Dr. Deepshikha Rawat</p> <p>Organization : Disaster Management Officer, DDMA Dehradun, Uttarakhand</p> <p>Email : Deepshikharawat15@gmail.com</p> <p>Contact No. : 9412964935 , 7500302066</p> <p>Whatsapp No. : 7500302066</p>	
9.	India	<p>Name : Lt. Col. Rahul Devrani</p> <p>Organization : Joint Advisor, NDMA, New Delhi</p> <p>Email : rahuldevrani.1201@gov.in , devrani8@rediffmail.com</p> <p>Contact No. : 8889458880</p> <p>Whatsapp No. : 8889458880</p>	
10.	India	<p>Name : Ms. Farhana Tazneen</p> <p>Organization : Scientific Officer, Bangladesh Space Research and Remote Sensing Organization, Bangladesh</p> <p>Email : farhana@sparrso.gov.bd</p> <p>Contact No. : +88 01911054737</p> <p>Whatsapp No. : +88 01911054737</p>	
11.	India	<p>Name : Mr. Krishna Kumar Tiwari</p> <p>Organization : Deputy Director, Social Statistics Division, CSO, MoS&amp;PI, New Delhi</p> <p>Email : krishna.edu@nic.in</p> <p>Contact No. : 9871062272</p> <p>Whatsapp No. : 9871062272</p>	

	<b>Country</b>	<b>Particulars</b>	<b>Remarks and Sign</b>
12.	India	Name : Dr.Sandeep Pandey Organization : Associate Prof.cum Sr. Program Manager, GIDM Email : Aspm-gidm@gujarat.gov.in Contact No : 7574802288 Whatsapp No.: 7574802288	
13.	India	Name : Mr.R.K. Raval Organization : Mamlatdar, SEOC, Gandhinagar, Gujarat, India Email : revcontrol@gov.in Contact No : 9824741391 Whatsapp No. : 9824741391	
14.	Maldives	Name : Mr. Asim Rasheed Organization : Warrant Officer, Maldives National Defence Force, Maldives Email : asimrasheed2010@hotmail.com Contact No : +960 9970313 Whatsapp No. : +960 9970313	
15.	Maldives	Name : Ms. Hawwa Lubna Organization : Programme Officer, Maldives Red Crescent, Maldives Email : hawwa.lubna@redcrescent.org.mv Contact No : +960 9997322 Whatsapp No. : +960 9997322	
16.	Maldives	Name : Ms. Shafna Ahmed Didi Organization : Manager, Addu Atoll Branch, Maldives Red Crescent, Maldives Email : shafna.ahmed@redcrescent.org.mv Contact No : +960 7781324 Whatsapp No. : +9607781324	
17.	Nepal	Name : Mr. Sunil Karki Organization : Police Inspector, Nepal Email : sunilkarki2015@gmail.com Contact No : +9779851094020 Whatsapp No. : +9779851094020	
18.	Nepal	Name : Mr. Datta Raj Hamal Organization : Section Officer, Ministry of Home Affairs, Nepal Email : dattarajhamal@gmail.com hamaldattaraj@gmail.com Contact No : 9858040948 Whatsapp No. : 9857010598	

	<b>Country</b>	<b>Particulars</b>	<b>Remarks and Sign</b>
19.	Nepal	<p>Name : Mr. Akbar Bacha</p> <p>Organization : Assistant Director, National Disaster Management Authority, Pakistan</p> <p>Email : callmebacha@gmail.com</p> <p>Contact No : +92 3366666164</p> <p>Whatsapp No. : +92 3366666164</p>	
20.	Pakistan	<p>Name : Mr. Ahmed Naveed Malik</p> <p>Organization : Assistant Director, National Disaster Management Authority, Pakistan</p> <p>Email : adict@ndma.gov.pk</p> <p>Contact No : +92 3215140748</p> <p>Whatsapp No. : +92 3215140748</p>	
21.	Sri Lanka	<p>Name : Mr. P.H.A. Wimalaweera</p> <p>Organization : Director (Management), Ministry of Public Administration &amp; Disaster Management, Sri Lanka</p> <p>Email : wimalap@gmail.com</p> <p>Contact No : +94 773644255</p> <p>Whatsapp No. : +94 773644255</p>	
22.	Sri Lanka	<p>Name : Mr. Sachinthwa Wakwella</p> <p>Organization : Scientist (Geologist), Landslide Research &amp; Risk Management Devision, National Building Research Organization, Sri Lanka</p> <p>Email : sachinthwakwella1@gmail.com</p> <p>Contact No : +94 775761558</p> <p>Whatsapp No. : +94 775761558</p>	
23.	Sri Lanka	<p>Name : Mr. Kanagaratnam Thileepan</p> <p>Organization : Assistant Director, DM centre, Colombo, Sri Lanka</p> <p>Email : sachinthwakwella1@gmail.com</p> <p>Contact No : 0776054135</p> <p>Whatsapp No. : 0776054135</p>	



# **34th SAARC Charter Day**

## **08th December 2018**

**Regional Workshop on  
Use of Space Technologies  
in  
Disaster Risk Reduction(DRR)**

**Celebrated by**

**SAARC Disaster Management Centre (IU)  
Gujarat Institute of Disaster Management Campus  
Gandhinagar, Gujarat, India.**

## 1. Background:

34th SAARC Charter Day was celebrated on 8th December 2018 at SAARC DM Centre(IU) (SDMC(IU)). The theme of 34th SAARC Charter Day was “Use of Space Technology in Disaster Risk Reduction”.

In this context an expert panel discussion and presentation were conducted, Following presentations were held on the charter day celebration event.

## 2. Presentations:



Dr. Shashikant A. Sharma from Space Applications Centre (SAC), Ahmedabad presented on Visualization of Earth observation Data and Archival System (VEDAS) using online tool. He informed that VEDAS provides a platform (data, infrastructure and guidance) for utilisation of information derived over land using mainly Indian space-borne sensors to develop custom crafted geo-spatial applications which can feed into or support the decision-making system. He informed that such efforts will establish links between data generators and potential users, newer and innovative ways will emerge which will facilitate identifying hot-spots and discovering hidden patterns in the spatial-temporal data.

He also presented about Meteorological & Oceanographic Satellite Data Archival Centre (MOSDAC) portal, which was

developed by SAC. He informed that MOSDAC is a data repository for the missions of the Indian Space Research Organisation (ISRO) and Government of India, dealing with meteorology, oceanography and tropical water cycles. Data acquired from missions are disseminated in near real time from SAC through the MOSDAC web portal.

He told that the web portal also hosts weather services including cloud burst and heavy rain alerts, genesis of tropical cyclones in the Indian Ocean along with track and intensity prediction and a three hourly weather forecast for the seventy-two hours. The weather alerts are supported with a decision support system, where collateral information in terms of land-use, land-cover, DEM, population, administrative boundaries, roads, rivers etc. can be interactively overlaid. The forecast and weather alerts are also accessible over Android devices through a free downloadable Weather App.

Dr. S. V. Shiva Prasad Sharma from National Remote Sensing Centre (NRSC), Hyderabad presented on “Space Inputs for Disaster Risk Reduction”. He presented about various tools developed by NRSC on Drought Monitoring, Digital Elevation Model (DEM), Coastal Zone Management (CZM), Solar Energy,



Solar Calculator, Hydrology, Soil Moisture and Crop Monitoring and their use.

The Interim Unit of SAARC Disaster Management Centre (SDMC-IU) has been set up at Gujarat Institute of Disaster Management (GIDM) Campus, Gandhinagar, Gujarat, India in November 2016 with a mission to support Member States in their Disaster risk Reduction (DRR) initiatives through application of Science & Technology, knowledge from multiple disciplines, exchange of good practices, capacity development, collaborative research and networking in line with the global priorities and goals and other relevant frameworks adopted by Member States.. Eight member countries, i.e. Afghanistan, Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan and Sri Lanka are required to be served by the SDMC (IU).

The National Disaster Management Authority (NDMA), headed by the Prime Minister of India, is the apex body for Disaster Management in India. Setting up of NDMA and the creation of an enabling environment for institutional mechanisms at the State and District levels is mandated by the Disaster Management Act, 2005.

### 3. Panel Discussion:



The expert panel discussion was chaired and moderated by Mr. P. K. Taneja, Director, SDMC(IU). Mr. Taneja welcomed all dignitaries and participants in 34th SAARC Charter Day Event Celebration on 08th December 2018. The expert panel consisted of representatives from the SAARC secretariat and international and national intuitions including UN Agencies, Space Agencies, Remote Sensing Centres as well as Space Research and Training Institutions. Following experts joined panel discussion.

- Mr. Sangye Chewang, Director (Environment, Natural Disaster and Biotechnology), SAARC Secretariat, Thimpu, Bhutan,
- Dr. Nilesh Desai, Deputy Director, Space Application Centre, Ahmedabad, India,
- Mr. S. V. Shiva Prasad Sharma Scientist/Engineer from National Remote Sensing Center (NRSC), Hyderabad, India,
- Dr. Shirish Ravan, UNOOSA/UNSPIDER, Beijing, China,
- Mr. Niranga Alahacoon, RS/GIS Analyst at International Water Management Institute (IWMI), Colombo, Sri Lanka,
- Mr. C. M. Bhatt Scientist and Course Director (GIS/Remote Sensing) at The Centre for Space Science and Technology Education in Asia Pacific (CSSTEAP), Dehradun, India.

The event started with a welcome speech by Mr. P. K. Taneja. Mr. Taneja greeted all dignitaries and participants and extended his warmest greetings and felicitations to the people of South Asia on the auspicious occasion of the 34th SAARC Charter Day. He also conveyed message of Hon. Prime Minister of India and discussed about initiatives taken by Government of India such as South Asia Satellite, South Asian University, India's National Knowledge Network, and SDMC. In his welcome speech Mr. Taneja talked about SAARC and its formation which was established with the signing of the SAARC Charter in Dhaka on 8 December 1985. He also spoke about the objectives of the SAARC as outlined in the SAARC Charter.

Mr. Taneja also talked about SDMC-IU set-up, constraints and limitation, with various infrastructure facilities available at Gujarat Institute Disaster Management (GIDM).

All the expert panellists were introduced and were requested to present their views on the requirements of space technology for the present needs of disaster management in South Asia. All the panellists briefly replied and commented on various questions asked to them and also explained about their institution's role and responsibilities and initiatives in regional context.

Expert panellists also informed about various opportunities available for South Asian countries, where space-based information can be accessed and used during various phases of disaster.

#### 4. Summary of Panel Discussion:



**Dr. Sangye Chewang** conveyed best wishes to participants on behalf of SAARC Secretary General. He discussed about various initiatives taken by SAARC Secretariat such as Thimpu Statement on Climate Change. He informed that SAARC Secretariat organised a regional event in association with various international organisation. He also emphasized on importance of Developing regional response mechanism and gave an example of AHA Centre from ASEAN.



**Dr. Shrish Ravan** emphasized that earth observation-based technology can support in evidence-based information generation during all phases of various disaster. He discussed about role of space Technology in DRR. He also informed that UN-SPIDER had become an important component of global network for disaster mitigation and ready response, and had clearly shown its worth during recent events. He informed about various best practices such as "Sharing Space-based Information: Procedural Guidelines for Disaster Emergency Response in ASEAN Countries". He suggested to have dedicated products for SAARC

DM Centre and suggested to have regional forum on Space based Technology.

**Dr. Nilesh Desai** talked about role of communication and space technology during various phases of disasters. He discussed about various communication satellites that India have launched and its uses. He informed about SATCOM technology used in Indian education system, which can be used in various regional courses on disaster management.



#### **Mr. Niranga Alahacoone**

talked about various products developed by IWMI for South Asia. He discussed about drought early warning systems developed by IWMI. He informed that IWMI plays a role of Regional Support Office for UNOOSA. He also stressed on joint research with SDMC were IWMI can play key role and provide technical support.



**Mr. C. M. Bhatt** emphasized on the importance of educating disaster management practitioners on the beneficial use of space technology. He discussed about ongoing and completed courses at CESSTEP. He suggested that Govt. officials from SAARC member states must take such courses. He also suggested that SDMC and CESSTEP can join hands for future activities. He agreed to share annual course plan to SDMC(IU).



**Mr. S. V. Shiva Prasad Sharma** informed about various applications developed by ISRO and NRSC to support disaster management activities. He suggested that to avoid duplication, agencies need to work together.



## 5. Recommendations and Suggestions:

The expert panellist proposed the following recommendations on how best space-based technology can be utilised during all phases of disasters and its role in regional response mechanism;

- Identify and systematize ongoing efforts on use of space technology to recognize gaps and avoid duplication of efforts by various agencies in the SAARC region,
- Evaluate member states current capacities and future needs,
- Use capacity building efforts to bring end-users in different countries to the same level, and promote the use of similar tools and methods, to bridge the gap between information providers and end-users,
- Elaborate needs and implement strategies to share data and information,
- Take into consideration the sustainability of activities that are being conducted in the region.
- Recognize the need to conduct capacity building activities at different levels targeting different types of participants like end-users, decision makers, and trainers,
- Develop capacity of officials involved in disaster management through institutions like CSSTEAP and other similar organisation.
- Increase Collaboration with ISRO/NRSC/SAC on International Charter activities on Disaster Risk Management.

# SAARC Charter day -8th December 2018

## Regional Workshop on Use of Space Technologies in Disaster Risk Reduction(DRR)

### List of Participants

	Country	Particulars	Remarks and Sign
1.	Afghanistan	Name : Mr. Mohammad Ajmal Karimi Organization : General Manager for the International trips and Programs, International Relation Directorate, SMDM/ANDMA Email : karimi27@gmail.com Contact No : Whatsapp No. :	
2.	Afghanistan	Name : Mr. Abdul Bari Khan Organization : Manager of Admin and Finance, ANDMA Helmand Province Email : Contact No : Whatsapp No. :	
3.	Afghanistan	Name : Mr. Abdul Salaam Barakzai Organization : Manager of Admin and Finance, ANDMA, Farah Province Email : abdulsalambarakzai@gmail.com Contact No : 0703474741 Whatsapp No. : 0795 680 605	
4.	Bangladesh	Name : Mr. Mohd. Aminul Islam Organization : Deputy Secretary, Ministry of DM and Relief Email : aminulislam67@yahoo.com Contact No : +88017447276 Whatsapp No. : +88017447276	
5.	Bangladesh	Name : Ms. Mr. Mohammad Abdus Samad Organization : Secretary (Deputy Secretary), Ministry of Water and Resources, Dhaka Email : samad2008@yahoo.com Contact No. : Whatsapp No. :	

	<b>Country</b>	<b>Particulars</b>	<b>Remarks and Sign</b>
6.	Bangladesh	Name : Mr. Md. Raisuddin Mukul Organization : District Relief and Rehabilitation Officer, Cox's Bazar Email : drrocox@gmail.com Contact No : 01715560688 Whatsapp No. :	
7.	Bhutan	Name : Mr. Binay Tamang Organization : Chief Survey Engineer, National Land Commission Secretariat Email : btamang@nlcs.gov.bt Contact No. : +975 17660056 Whatsapp No. :	
8.	Bhutan	Name : Mr. Phuntsho Namgyel Organization : Senior Survey Engineer, National Land Commission Secretariat Email : namgyel82013@gmail.com Contact No : +97517125800 Whatsapp No. : +97517125800	
9.	India	Name : Mr. Khalid Mehmood Organization : Project Manager, BISAG Email : bisagsp10@gujarat.gov.in Contact No : 9909945010 Whatsapp No. : 9909945010	
10.	India	Name : Mr. Sumit Prajapati Organization : Project Manager, BISAG Email : bisagsp5@gujarat.gov.in Contact No. : 9909945050 Whatsapp No. : 9909945050	
11.	India	Name : Mr. Gambhir Singh Negi Organization : Deputy Comdt. NDRF Email : Negigs123@gmail.com Contact No : 9426827661 Whatsapp No. : 9426827661	
12.	India	Name : Mr. Jagvir Singh Organization : Scientist F, Ministry of Earth Sciences(MoES) Email : Jvsingh.moes@nic.in Contact No : 9868105010, 8700393891 Whatsapp No. : 9868105010, 8700393891	

	<b>Country</b>	<b>Particulars</b>	<b>Remarks and Sign</b>
13.	Maldives	<p>Name : Mr. Ilyas Mohamed</p> <p>Organization : Senior Computer Technician, National Disaster Management Centre</p> <p>Email : ilyas.mohamed@ndmc.gov.mv</p> <p>Contact No : +9607918031</p> <p>Whatsapp No. :</p>	
14.	Maldives	<p>Name : Mr. Ahmed Aslam Waheed</p> <p>Organization : Project Manager, National Disaster Management Centre</p> <p>Email : ahmed.aslam@ndmc.gov.mv , aslam-11@hotmail.com</p> <p>Contact No. :</p> <p>Whatsapp No. :</p>	
15.	Nepal	<p>Name : Mr. Paramananda Ghimire</p> <p>Organization : Under Secretary, Ministry of Home Affairs, Nepal</p> <p>Email : pramanandaghimire@gmail.com</p> <p>Contact No. :</p> <p>Whatsapp No. : +9779851193205</p>	
16.	Nepal	<p>Name : Ms. Sahanshila Pudasaini</p> <p>Organization : Section Officer, Ministry of Home Affairs, Nepal</p> <p>Email : pudashaili.sahanshila@yahoo.com</p> <p>Contact No. :</p> <p>Whatsapp No. : +9779849744218</p>	
17.	Nepal	<p>Name : Mr. Krishna Sapkota</p> <p>Organization : Section Officer, Ministry of Home Affairs, Nepal</p> <p>Email : ursapkotakrishna@gmail.com</p> <p>Contact No. :</p> <p>Whatsapp No. : +9779857624000</p>	
18.	Pakistan	<p>Name : Mr. Abid Shahzad</p> <p>Organization : Assistant Director, National Disaster Management Authority</p> <p>Email : pschairman@ndma.gov.pk</p> <p>Contact No. :</p> <p>Whatsapp No. : 00923335255742</p>	

	<b>Country</b>	<b>Particulars</b>	<b>Remarks and Sign</b>
19.	Pakistan	Name : Ms. Zahra Hassan Organization : Data Analyst Officer, National Disaster Management Authority Email : zahrahassan194@gmail.com Contact No : 00923415176235 Whatsapp No. : 00923415176235	
20.	Pakistan	Name : Ms. Nirmrah Khalid Organization : Geo-Spatial Analyst Officer, National Disaster Management Authority Email : nirmrah@ndma.gov.pk Contact No : 00923337472709 Whatsapp No. : 00923337472709	
21.	Sri Lanka	Name : Mr. T. W. K. Indika Pushpakumara Assistant Director (Emergency Operations), Disaster Management Centre, Colombo Email : twkindika@yahoo.com Contact No : Whatsapp No. : +94772130754	
22.	Sri Lanka	Name : Mrs. I. A. Ishara Dilrukshi Organization : Database Analyst, Disaster Management Centre, Colombo Email : isharad@dmc.gov.lk Contact No : +94779108769 Whatsapp No. : +94779108769	
23.	Sri Lanka	Name : Dr. K.P.G.W Senadeera Organization : Senior Scientist, National Building Research Organization Email : wasantha.senadeera@gmail.com Contact No : +94718167457 Whatsapp No. : +94718167457	
24.	SAARC Sec.	Name : Mr. Sangye Chewang Organization : Director (ENB), SAARC Secretariat, Nepal Email : Contact No : Whatsapp No. :	

Country	Particulars	Remarks and Sign
25.	Name : Mr. Jigme Tshewang Organization : Desk Officer, SAARC Secretariat, Nepal Email : Contact No : Whatsapp No. :	
26.	Name : Dr. Nitant Dube Organization : SAC, ISRO, India Email : Contact No : Whatsapp No. :	
27.	Name : Mr.Niranga Alahacoon Organization : Remote Sensing and GIS expert, IWMI Email : Contact No : Whatsapp No. :	
28.	Name : Mr.Dhyey Bhatpuria Organization : Consultant, IWMI Email : Contact No : Whatsapp No. :	
29.	Name : Dr.Sreejith K. M. Organization : Scientist SE, Space Applications Centre, Ahmedabad Email : Contact No : Whatsapp No. :	
30.	Name : Mr.Shirish Ravan Organization : Senior Programme Officer UN-SPIDER /UNOOSA Email : Contact No : Whatsapp No. :	
31.	Name : Dr.Tang Tong Organization : Expert, UN-SPIDER Beijing Office, China Email : Contact No : Whatsapp No. :	

<b>Country</b>	<b>Particulars</b>	<b>Remarks and Sign</b>
32.	Name : Mr. C. M. Bhatt Organization : Scientist/Engineer "SF", India Email : Contact No : Whatsapp No. :	
33.	Name : Dr.Praveen Gupta Organization : Scientist, SAC, ISRO, India Email : Contact No : Whatsapp No. :	
34.	Name : Mr. Nilesh Desai Organization : Deputy Director, SAC, ISRO, India Email : Contact No : Whatsapp No. :	
35.	Name : Mr. Shashikant Sharma Organization : SAC, ISRO, India Email : Contact No : Whatsapp No. :	
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# News Letter

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### Contribute

Interested in getting involved and sharing your stories to SDMC(IU).

Contact SDMC Team at  
[pm-re1@saarc-sdmc.org](mailto:pm-re1@saarc-sdmc.org)



### Director's Message

Dear Readers,

Overall, nearly 50% of the world's disasters each year are concentrated in Asia, and Asia experiences 80% of the world's disaster-related deaths. It is absolutely necessary for the region to reinforce national and local systems through systematic approaches and integrate modern disaster risk management practices into the development strategies and investments policies of the countries to reduce the impact of disasters.

In 2015, three interlinked landmark international agreements viz. (1) Sendai Framework for Disaster Risk Reduction (SFDRR); (2) Sustainable Development Goals (SDGs); (3) Paris Agreement on Climate Change (COP 21) were formalised to bring countries together and guide them towards comprehensive and inclusive sustainable development. Since, SAARC Member States are signatory to these international agreements, SDMC (IU) aims to facilitate its implementation by strengthening existing regional mechanisms to reduce the disaster risk and enhance early warning and preparedness for trans-boundary disasters.

I believe, that it is our duty to share with the member states' community about the lessons learned through the disasters and through our efforts to rebuild a resilient society. The loss of life and property and the challenges that we are facing in the aftermath of disasters exhibited the need for reinforcing and strengthening regional cooperation to substantially reduce losses from for the SAARC region as a whole.

Since, its inauguration from May 24, 2017, SDMC (IU) organized eight capacity building programs wherein 195 delegates from SAARC Member States along with 84 experts have shared their knowledge and experiences, and for which I express sincere gratitude to the Member states for their overall support.

It is my great pleasure to extend heartfelt greetings to the readers of the first issue of the Newsletter. We certainly value staying connected and I hope this is just one more way to keep ourselves updated with the latest news and developments. We welcome your feedback on [info.sdmciu@gmail.com](mailto:info.sdmciu@gmail.com)

With best Wishes,

P K Tazeja  
Director, SDMC (IU)

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## Setting up of SAARC Disaster Management Centre (SDMC – IU)



SAARC covering eight nations (Afghanistan, Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan and Sri Lanka) is one of the most disaster-prone regions of the world. Most of the natural disasters in South Asia are rooted in the geophysical and hydro-climatic conditions of the sub-continent that connect several countries of the region. Countries in the region share similar risks and challenges as well as the same threats inherent to climate change.

Realizing the importance and need for the timely provision of relief support in humanitarian emergencies, South Asia Association of Regional Cooperation (SAARC) Disaster Management Centre (SDMC-IU) has been set up at Gujarat Institute of Disaster Management (GIDM) Campus, Gandhinagar, Gujarat, India in November 2016, with a vision to be a Centre of Excellence for regional cooperation and specialised service delivery to Member States for Disaster Risk Reduction (DRR), Response and Recovery for Sustainable Development. Eight Member States, i.e. Afghanistan, Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan and Sri Lanka are expected to be served by the SDMC (IU).



In addition, the SDMC (IU) has been re-established for the expanded role by merging four erstwhile SAARC Centres namely (1) SAARC Disaster Management Centre (SDMC – New Delhi, India); (2) SAARC Meteorological Research Centre (SMRC - Dhaka, Bangladesh); (3) SAARC Forestry Centre (SFC - Thimphu, Bhutan); (4) SAARC Coastal Zone Management Centre (SCZMC - Male, Maldives). Disaster Risk Reduction relevant functions of these centres are also a part of the scope of work.

The SDMC (IU) was formally inaugurated by the Hon. Chief Minister of Gujarat, on 24th May 2017 in presence of delegates from SAARC Secretariat and SAARC Member.

## Capacity Building Activities at SDMC (IU) during Financial Year 2017-18

With the aim to provide a platform for sharing of knowledge from the various SAARC Member States and facilitate the exchange of experiences amongst the professionals from the SAARC Member States on Disaster Risk Reduction (DRR), following eight (8) training programs were organised at SDMC (IU), Gujarat, India:

- i. Application of Space Technology in Monitoring and Managing Risks - 24 – 26 May 2017
- ii. Short Range Regional Early Warning System - 21 – 23 June 2017
- iii. Advance Search & Rescue Techniques - 8 – 11 August 2017
- iv. Disaster Resilient Construction Technology - 20 – 22 September 2017
- v. Community-based Approaches to Flood Management - 25 – 27 October 2017
- vi. Seasonal Climate Forecast Mechanism for South Asia - 6 – 8 December 2017
- vii. Mainstreaming Disaster Management in Infrastructure Sector - 8-12 January 2018
- viii. Heatwave Preparedness and Response in SAARC Region - 8 – 10 March 2018



## Participation in the Training Programs

*195 participants from the SAARC Member States participated in training programs*

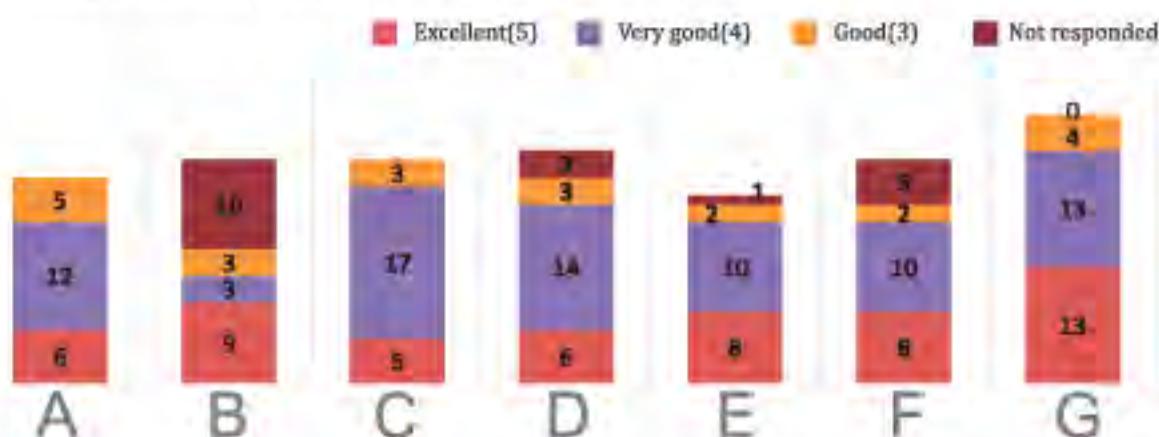
195 participants from the SAARC Member States took part in various training programs. The program-wise details of the participants are given in the graph below.

### Quality of Input of Training Programme



(A) Application of Space Technology in Monitoring and Managing Risks (B) Short Range Regional Early Warning (C) Advanced Search and Rescue Techniques (D) Disaster Resistant Construction Technologies (E) Community Based Approaches to Flood Management (F) Seasonal Climate Forecasts Mechanism in the Region (G) Mainstreaming Disaster Management in Infrastructure Sector (H) Heat Wave Preparedness and Response in SAARC Region

### QUALITY OF INPUT OF TRAINING PROGRAMME



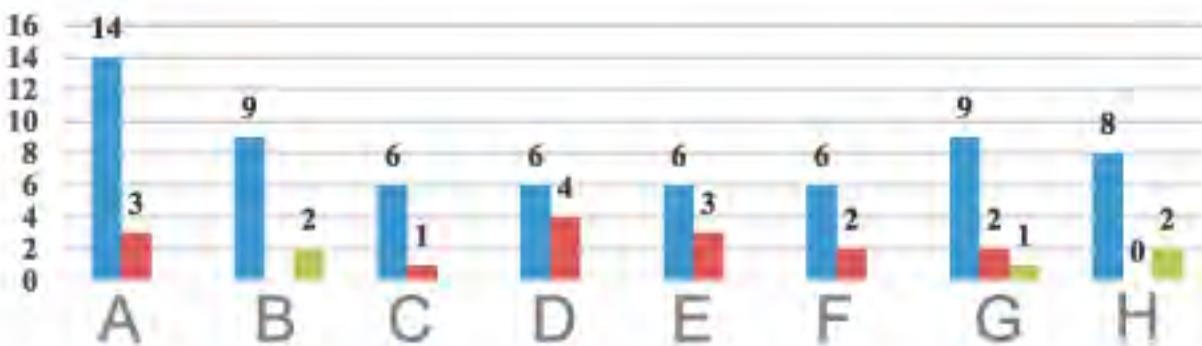
(A) Short Range Regional Early Warning (B) Advanced Search and Rescue Techniques (C) Disaster Resistant Construction Technologies (D) Community Based Approaches to Flood Management (E) Seasonal Climate Forecasts Mechanism in the Region (F) Mainstreaming Disaster Management in Infrastructure Sector (G) Heat Wave Preparedness and Response in SAARC Region

## Resource Person / Experts Details

A number of subject experts have been consulted/invited to share the knowledge/experiences with the delegates from the SAARC Member States. 84 Experts from India, SAARC Member States and from other countries have taken part in the programs. The brief details of the same are as under.

*84 Experts from all over the world were invited to share their experiences*

### Name of Training programme



- (A) Application of Space Technology in Monitoring and Managing Risks    (B) Short Range Regional Early Warning  
 (C) Advanced Search and Rescue Techniques    (D) Disaster Resistant Construction Technologies    (E) Community Based Approaches to Flood Management    (F) Seasonal Climate Forecasts Mechanism in the Region    (G) Mainstreaming Disaster Management in Infrastructure Sector    (H) Heat Wave Preparedness and Response in SAARC Region

### No of Resource persons/experts

■ India ■ Member states ■ Others



## Celebration of 33<sup>rd</sup> SAARC Charter Day



On 8th of December in 1985, South Asian Association for Regional Cooperation (SAARC) was set up. Hence, 8th December is celebrated as the SAARC Charter Day. SDMC (IU) celebrated the 33rd SAARC Charter Day on 8th December 2017 with a Panel discussion on Strengthening Short, Medium and Long Range Early Warning Mechanisms for Weather-Related Events in the SAARC Region: Issues and Challenges and Recent Development. 25 delegates from the SAARC Member States participated in the Panel Discussion.

## Moving from Words to Action

### The roadmap for Disaster Risk Reduction, Bihar, India

#### Abstract:

The Sendai Framework for Disaster Risk Reduction 2015–2030 stresses the importance of addressing disaster risk by working with governments and partners at all levels, especially children and their communities. This case study showcases the initiative of the government of the State of Bihar to develop a Roadmap for Disaster Risk Reduction to implement the Sendai Framework at the state level. The DRR Roadmap developed in a collaborative process involving many stakeholders, shows how a concrete plan of action can support building the resilience of children and communities in the face of shocks and stresses.

The DRR Roadmap represents one of the first comprehensive strategies and action plans developed globally for the

implementation of the Sendai Framework at the state level. Hence, Bihar's DRR Roadmap should be shared and replicated. With the support of central, state and local governments, other states or areas prone to disaster can develop their own DRR roadmaps, adapted to local conditions.

#### Introduction:

"India is among the most disaster-prone areas of the world. Since 2000, disasters (mostly flash floods and earthquakes) accounted for over 50,000 deaths, affected 850 million people and caused over \$43 billion in economic losses in India."<sup>1</sup>

Among Indian states, Bihar is particularly exposed to a wide range of natural hazards, including floods, droughts, earthquakes, fires, cyclones, and heat and cold waves. Data suggest that in the most hazard-prone areas, low levels of development are both a cause and a result of disasters. The data indicate that, in the areas where disasters recur, development progress has been more challenging. Recognizing these challenges in its state, and following its participation in the Third United Nations World Conference on DRR (WCDRR), Sendai, Japan, the Government of Bihar developed the 15-year Roadmap for DRR, with technical support from UNICEF. It pursues a comprehensive, integrated and multi-sectoral approach to risk reduction, taking into consideration the range of risks. DRR Roadmap has been developed on the framework of 'resilience in development'. The DRR Roadmap encompasses actions on risk recognition, analysis and risk-informed programme planning for every sector and departments delivering services for survival, growth, development and protection of children and larger community. A broad group of different stakeholders developed the DRR Roadmap between April 2015 and March 2016 in an intensive consultative and inclusive process involving government officials, UN agencies, non-governmental organizations and technical experts, including the private sector. It outlines principles, guidelines and strategies, relevant policy changes required, the need for the development of institutions for implementation, as well as the concrete responsibilities of policy makers, partner organizations and communities to prevent, reduce and manage disaster risk. The overarching goal is to fulfil the vision of a 'Disaster-Resilient Bihar'.

<sup>1</sup>. CRED EM-DAT International Disaster Database ([www.emdat.be](http://www.emdat.be)), accessed in 2016. Université catholique de Louvain Brussels, Belgium.

## How is Sendai Framework relevant to children and to UNICEF?

Sendai Framework makes specific reference to enhanced basic services including health-care services, food security and nutrition, housing and education, protection, WASH and climate change adaptation. It highlights the needs for a more comprehensive approach to risk reduction by addressing the exposure and underlying vulnerabilities of communities, such as poverty and inequality. Children and youth are given particular attention, being recognized as vulnerable groups as well as important stakeholders in building resilience.

*"Children and Youth are agents of change and should be given the space and modalities to contribute to disaster risk reduction, in accordance with legislation, national practice and educational curricula".*

*— Sendai Framework for Disaster Risk Reduction*

### From Sendai to Patna – The Bihar Roadmap Development Process:

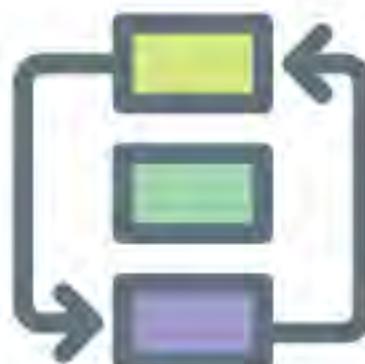
The process for the development of the roadmap was initiated immediately after the Sendai Conference in March, 2015. The First Bihar Conference on Disaster Risk Reduction was organized in May 2015, in Patna, the capital of Bihar. The Conference was organized around 18 themes, in line with the priorities and targets of the Sendai Framework and in accordance with Bihar's specific needs and vulnerabilities. Outcomes of the conference included:

- A 'Status Paper' on Bihar's actions and achievements in disaster management (2005–2015)
- The 'Ten Point Patna Declaration for making Bihar Disaster Resilient'

This was achieved through:

- Holding 17 thematic sessions, comprising 84 panelists and 550 participants
- Submitting 18 papers on conference themes and compiling them in a compendium

Following the conference, a Roadmap Drafting Committee was established, comprising members from the Disaster Management Department, Bihar State Disaster Management Authority (BSDMA), United Nations agencies and civil society representatives to discuss the nature, structure and components of the DRR Roadmap. Furthermore, civil society organisations (CSOs) in Bihar from 21 districts, including members of the Disaster Risk Reduction Networks, were invited to contribute. UNICEF played a crucial role in the drafting of the DRR Roadmap as convener of the Drafting Committee. The Disaster Management Department presented the DRR Roadmap to the State Cabinet for approval in April 2016 and Cabinet approved the Roadmap.





## Salient features of DRR Roadmap:

DRR Roadmap has identified four targets (in line with Sendai targets, keeping in mind state context):

1. 75 per cent reduction of lives lost due to natural hazards by 2030

2. Substantial reduction of lives lost due to transportation-related disasters
3. 50 per cent reduction in the number of people affected by natural hazards by 2030
4. 50 per cent reduction of economic loss due to natural hazards by 2030

## The DRR Roadmap Structure:

- 1) Introduction
- 2) Evolution of Disaster Management Landscape in Bihar
- 3) Disaster Risk Profile of Bihar: A Snapshot
- 4) Foundational Elements of the Roadmap
- 5) Targets and Milestones
- 6) Specific Actions
  - Resilient Villages • Resilient Livelihoods • Resilient Basic Services
  - Resilient Critical Infrastructure • Resilient Cities
- 7) Enabling Policy Architecture
- 8) Roadmap Implementation Arrangements
- 9) Monitoring and Evaluation Aspects
- 10) Budgetary Implications of the Roadmap
- 11) Annexes

The roadmap framework outlines specific actions to be achieved: (a) Resilient Villages, (b) Resilient Livelihoods, (c) Resilient Basic Services, (d) Resilient Critical Infrastructure, and (e) Resilient Cities. It highlights strategies, approaches and core elements that are relevant to UNICEF and UNICEF programming.

**RISK ANALYSIS:** In the DRR Roadmap, risk analysis is recognized to be the basis for all developmental planning. A risk analysis can be conducted at various levels (village, district, state) and for all sectors. For example, at the village level, disaster and climate change risk analyses will be conducted with the participation of frontline government functionaries, CSOs, and at-risk community members to inform development of the Village Disaster Management Plans. The roadmap also commits all government departments, such as the Health, Education, Social Welfare, Public Health Engineering, Agriculture, Urban Development, Water Resource, Building Construction, Transport, etc., to undertake

risk analysis to inform development plans.

**PARTICIPATION AND INCLUSION:** The Roadmap focuses on building the capacity of communities through awareness-raising, behavioural change and education on preparedness and adaptation measures. It takes into consideration the most vulnerable groups and aims to give them a voice in supporting decision-making processes. For example, villages are encouraged to establish DRR committees to conduct risk analysis and include DRR measures in village development planning, as well as contributing to the development plans of Panchayats.

**CULTURE OF PREPAREDNESS:** The roadmap provides guidelines for communities to incorporate preparedness into their daily lives and be better aware of the risks posed by the environment they live in. For instance, communities perform these activities:

- Develop a 'resilient village' checklist to guide



#### preparedness initiatives

- Enhance capacity of village frontline workers and volunteers on DRR and risk-informed development planning
- Become part of Community Disaster Response Teams who are trained for preparedness and response actions
- Regularly perform mock drills
- Learn from awareness campaigns that are in place to reach families and schools

**RESILIENCE IN DEVELOPMENT:** The Government of Bihar has committed to provide basic social services that are disaster-resilient and contribute to the development and well-being of communities. Functional continuity and timely restoration of basic services in the aftermath of a disaster event form the cornerstone of a resilient society. The roadmap outlines responsibilities and actions to be taken by each sector and government departments. Common to all sectors is the development of strategies and measures that are informed by a robust risk assessment of services and facilities.

**In Health,** the roadmap highlights the need to assess the status of health facility infrastructure and services delivery to identify possible disruption of service in the case of natural hazards. Conducting an annual disaster risk analysis exercise is suggested as part of the planning cycle for targeting, allocating resources for and taking additional measures to address specific vulnerabilities. Service Delivery Continuity Plan (SDCP) should be developed to ensure effective preparedness, back-up procedures and the prompt regaining of functionality of health services in case of disaster.

**In WASH,** the focus is on provision of resilient drinking water and toilet facilities, promotion of hygiene practices and management of solid and liquid waste. By conducting risk assessment, areas with high risk of disruption of services or of epidemics are identified and then targeted in preparedness planning. DRR features such as raised hand pumps and toilet facilities situated above the highest-recorded flood level also help to avoid submersion of facilities during floods.

**In Food and Nutrition,** attention is given to strengthen the functioning of Public Distribution System (PDS), a delivery system to provide basic food items to the most marginalized groups, and Integrated Child Development Services centres (managed by frontline workers). The Roadmap commits to ensuring continuation of nutrition supplementation to children who are malnourished, as well as continuation of existing Nutrition Rehabilitation Centres in case of disaster. Improving food security, will help them cope with crisis. Preparedness measures also include stocking of food items, pre-positioning of supplies, enhancing capacity for food distribution and

continuing provision of nutrients for malnourished children.

**In Safety and Protection,** the Roadmap provides focusses to strengthen child protection mechanisms during emergencies, and preventing child abuse, exploitation and gender-based violence. This includes development of standard operating procedures for Child Protection in Emergencies. Strengthening of facilities such as child care institutions/ shelter homes to support families in case of displacement. Training of caregivers and managers will be undertaken to enhance preparedness and response.

**In Education,** safe buildings, safe school environments, and student's knowledge on preparedness are prioritized. Risk analysis will be undertaken to assess the structural safety and functionality of education facilities to withstand different kind of shocks and stresses, and to ensure that schools are accessible for all, and equipped with adequate services and escape routes. Furthermore, all schools are committed to develop disaster management plans and improve the capacity of teachers in disaster response.

The Roadmap recognizes that investing in the education of children and youth will contribute to building a culture of safety, security and preparedness from an early age. Government of Bihar has launched the Chief Minister School Safety Programme, which covers all schools of Bihar. Through this programme, students learn about different kind of hazards and risks and undertake training to be better prepared in case of disaster.

#### What does the Roadmap mean for CHILDREN?

The roadmap supports DRR programming for all sectors relevant for the development of children. The roadmap strongly suggests to address the vulnerability of the most marginalized communities by building their capacity to withstand multiple hazards. The roadmap commits all line departments to develop risk-informed and disaster-resilient development plans, and to strengthen social services and service delivery.

It strengthens programming for children in several ways:

- Improve knowledge and risk analysis.** The roadmap commits government departments and sectors to conduct risk analyses, and thereby supports risk-informed programming. This may prompt government departments to adjust programme/and plans to reduce the risk and potential impacts of shocks and stresses on children's well-being, on their communities and on systems.
- Mobilize and informs communities.** Since the roadmap supports engaging in public awareness campaigns on disaster risk, this provides more opportunity to governmental and civil society organizations to engage with various media initiatives to reduce morbidity and mortality and other impacts of disasters. Among other issues, the campaigns may focus on:



- o Do's and don'ts in preventing/ responding to various hazards
  - o Assisting vulnerable groups in varied contexts (e.g., urban and rural areas)
  - o Disseminating information more widely, especially with support from print, television, radio and social media, concentrating on early warning, among other urgent issues
- c. Improve results for children and related programming.** It will lead to improved results for children through resilient development programming.
- o A strengthened child protection mechanism: SOPs for child protection in emergencies, database on child and human trafficking at the state level, with clear guidelines on enhancing actions during disasters, SOPs on the health system's response to gender-based violence during disasters etc.
  - o Safer schools: The launch of the Chief Minister's School Safety Programme presents an opportunity to increase safety in all schools of Bihar, including through training of teachers and students, and through children and youth participation and empowerment.
  - o Delivery of social services: The Roadmap commits all departments to enhance preparedness to enable better response and ensure continuation of service delivery. Norms for provision of drinking water and sanitation services during disaster events, corrective measures for enhancing the resilience of the infrastructure facilities (retrofitting, relocation) and service delivery systems, contingency plan for setting up maternity huts and providing immunization, supplementary nutrition as part of all temporary shelters/mega camps during/after disasters etc.

**Scope for replication of the roadmap in other contexts:**

The Bihar Roadmap is the first example of 'moving from words to action' on the implementation of the Sendai Framework at the state level. With the commitment of central, state and local partners, this process can be adapted for replication in south Asian region.

Please download DRR Roadmap from  
[http://www.disastermgmt.bih.nic.in/Circulars/DRR\\_2015-2030.pdf](http://www.disastermgmt.bih.nic.in/Circulars/DRR_2015-2030.pdf)

## SAARC countries need Health Action Plan

By Dilip Mavalankar Director, Sathish L M Research Associate, Indian Institute of Public Health, Gandhinagar, India

SAARC countries – Afghanistan, Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan and Sri Lanka are all mostly in tropical or near tropical countries. The weather is comparatively warm, and summers are hot or very hot – except mountainous regions of some countries. With climate change the temperatures have started to increase in the whole world including south Asia. Recent heat waves of 2010, 2015 and 2016 have clearly indicated that south Asian region is going to face more and more severe summers and stronger heat waves in future. Heat waves are not seen as a natural disaster, and hence the Disaster management system of the countries do not plan for heat wave related rescue and relief work. One of the key reasons for this is heat waves do not cause much property damage unlike cyclone, earthquakes or floods. But it time to reconsider this situation.

In many parts of South Asia are hot and people are hardly used to tough living conditions hence general perception is very few people seem to be affected by extreme heat. There are sporadic reports of heat stroke death in news media. For example, the National reporting of heat deaths in India by National Disaster Management Authority shows about 200 to 2000 deaths per year in various years in recent times. During 2015, Karachi in Pakistan and other southern provinces affected badly due to heat wave. Record high temperature 49°C was recorded in some parts. The city of Karachi which is a coastal city witnessed 44.8°C on 20th June 2015, which is highest since 1979 with a departure of 11.1°C from normal. The heat wave lasted during June 17-24 and killed around 1200 people and affected lot of animals. During heat wave period across the Sindh region and Balochistan, there were sever power outages lasted for 1-2 days. Unfortunately, the heat wave coincide with the holy month of Ramadan were people kept fast till sun sets. Due to this, there were increased risk of dehydration and heat stroke. It is estimated that around 40,000 have suffered due to heat stroke. After 2015 heat wave, The Government of Pakistan took many initiatives to prevent heat wave deaths that include preparing the heat health warning system in Karachi. Similarly in 2017 again, Pakistan witnessed another bad heat wave in parts of Sindh region. This time it broke all-time records and registered as high as 51°C. The Heat wave hit in the early summer around 17 – 23 April. As the official death toll is not available, from the severity of the heat waves we can expect the deaths toll might be higher than the previous Heat waves.

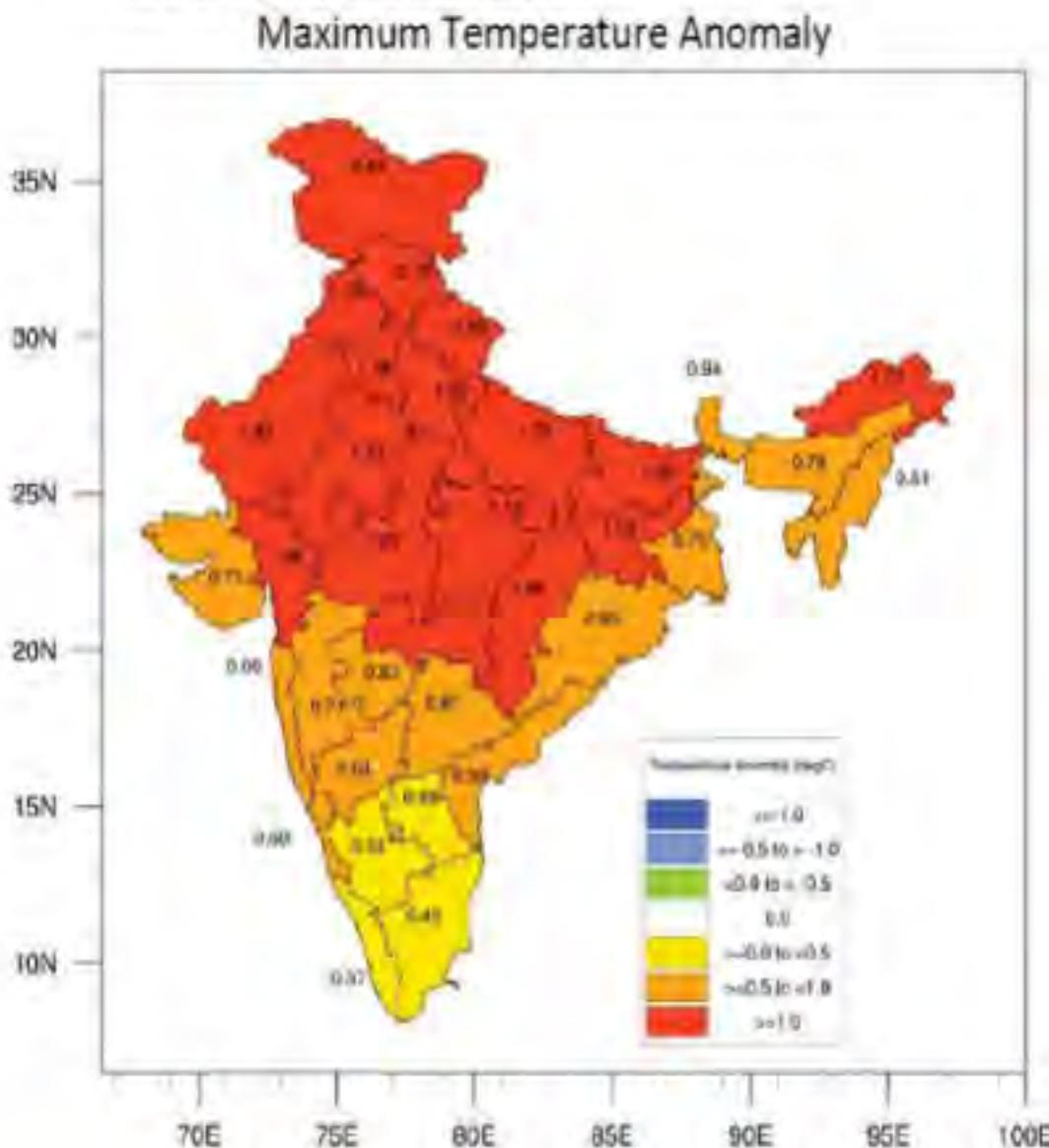
Other colder countries like Nepal, Bhutan or costal and island countries like Bangladesh, Sri Lanka and Maldives have not been reporting heat wave related deaths. But the reality could be very different. The reported death due to heat waves in India or Pakistan may be just a tip of iceberg. This is because the death reporting system are very weak. Secondly majority

of death are not assigned a cause. Heat wave related deaths are more difficult to track as they are in old people and many have co-morbidities. Our guesstimate is that heat related deaths in India could be about 50 to 100 times more than reported heat stroke deaths. A quantitative assessment of the effects of climate change on heat related deaths by 2030s and 2050s shows South Asia region to be at the greatest risk. The climate change-attributable heat-related excess number of deaths in south Asia region, without adaptation are: by the year 2030 – 21,648 deaths (range 15,974 to 25,653) and by 2050 there would be 62,821 deaths (range 48,133 to 83,447).

Due to climate change, already, we are seeing hotter summers

world over. Out of the 17 hottest summer on record over last 100 years, some 16 have happened in this century (after year 2000). Each successive year is predicted to be hotter than the previous year lately. This is unprecedented. Indian Meteorological Department (IMD) has predicted that 2018 will be hotter than before. Different states of India will have increase in Maximum temperature between  $0.3^{\circ}\text{ C}$  to  $2.7^{\circ}\text{ C}$  and increase in minimum temperature rise from  $0.3^{\circ}\text{C}$  to  $1.7^{\circ}\text{C}$  this year. The states that are relatively colder like Jammu and Kashmir, or Himachal Pradesh will see relatively higher temperatures. (see figure 1 below). Globally also the maximum temperature rise has happened on the Polar Regions and not in the very hot regions of the tropics.

**Figure 1: Increase in Maximum temperature (deg C<sup>o</sup>) predicted in summer of 2018 by India Met Department**



Study in western cold countries have shown great rise in all cause mortality during the heat waves. For example, in 1995 in Chicago which is very cold place, heat wave led to more than 800 additional deaths in one week. In 2003 European heat wave of 2-3 weeks led to more than 70,000 additional deaths. Our analysis done in Ahmedabad city in western India with population of 5 million, showed that in 2010 heat wave 800 additional deaths occurred in 1 week as compared to average number of death during non-heat wave period. On the peak heat wave day on 21st May 2010 Ahmedabad recorded 310 deaths as compared to average of about 100 deaths due to all causes. So mortality went up by more than 3 times during the heat wave. Ahmedabad is no different than any other city in India. So similar increase in mortality will be happening in other cities of the country too during the heat waves. We have done similar analysis of data from Nagpur and shown similar increase in mortality during heat waves. Coastal cities like Surat on west coast also show increase in mortality but much smaller rise as the temperatures do not rise so much.

Following this finding of gross increase of mortality in the city of Ahmedabad, the municipal corporation developed a Heat Action plan (HAP) in 2013 with help from Indian Institute of Public Health Gandhinagar (IIPHG), NRDC, IMD and other partners. The plan is simple – it has following components:

1. Maximum temperature prediction by Indian Meteorological Department (IMD) 5 days in advance;
2. Issue of threshold based alert by Municipal Corporation using various media;
3. Community outreach and health education about how to protect from ill effects of heat;
4. Training and equipping of hospitals and health staff to deal with heat emergency cases;
5. Reducing heat exposure and simple adaptation measures like opening cooling centers and water distribution as well as change in work times when possible;
6. Finally, each year the plan is evaluated for its impact based on data from health department regarding mortality and morbidity;

This plan has shown substantial impact in reducing mortality during peak heat waves when the temperature goes above  $44^{\circ}\text{C}$ . After the implementation of the heat action plan (2013-2017) on peak heat wave days when temperature is  $44^{\circ}\text{C}$  or  $45^{\circ}\text{C}$  or more, the all cause daily mortality has declined by 30 to 40% as compared to years before the heat action plan years

(2009 to 2012).

Seeing the success of heat action plan in Ahmedabad, the neighboring state of Maharashtra public health department has started similar plan with help of IIPHG in 5 cities near Nagpur in Vidarbha region which is very hot. Other state like Odisha which has history of severe heat waves has already developed a state wide heat action plan. Now many states of India are developing such plans under leadership and guidance from National Disaster Management Authority (NDMA), New Delhi and state Disaster Management Authorities.

This year – 2018 is going to be hotter than last year as predicted by Indian Meteorology Department. Hence learning from experience of Ahmedabad, Nagpur and other cities and some states including, Odisha, Telangana in India other states/provinces and cities of the SAARC countries should quickly develop their own heat action plans to protect the citizens. Developing heat action plan is simple. The district and provincial administration should also develop such plans for rural areas. And the states and nation must develop heat action plans and implement at the earliest. Unless this is done many lives will be lost due to heat waves during this and following summers. Remember that this is just beginning of the climate change – after 30 to 60 years it is predicated that average temperature of the earth will rise by 3-5 degree C and then many more people may be affected if the countries have not prepared such plans.



# *Beat the Heat*



Carry a bottle of cold water with you while going out



Alcohol, tea, coffee, hot, spicy and salty foods increase dehydration.  
Limit their intake during summer

Use fans, coolers and air-conditioners smartly

Get enough rest and sleep every day

Prefer loose-fitting and light coloured cotton and linen clothes

Have more salads and summer fruits

Take a cool shower

Always carry an umbrella or a hat to keep the sun at bay



Monitor your health regularly.  
If you feel unwell, meet your doctor



## School Safety Activities-2018 (Gujarat, India)

Mrs. Anuradha Mall, Chief Executive Officer, GSDMA.

Gujarat School Safety Programme- is one of the flagship programmes of Gujarat State Disaster Management Authority (GSDMA) aimed at inculcating a culture of safety in school children. Schools are critical infrastructure entrusted with the responsibility of creating citizens of tomorrow. A safe and secure environment is a prerequisite for effective teaching and learning. School Safety is not a one-time effort but a continuous process. The Sendai framework of action recognizes that while the State has the primary responsibility of reducing disaster risk, that responsibility should be shared with other stakeholders including local government, the private sector and other stakeholders. The 1st Priority 'Understanding Disaster Risk' & 3rd Priority 'Investing in disaster risk reduction for resilience' of Sendai Framework of Action paves the way for Disaster Risk Reduction at the lowest level i.e. Schools, where efforts yield a significant impact on society in understanding and managing disasters.



The Prime Minister's 10-point Agenda which was declared in Asian Ministerial Conference in Disaster Risk Reduction (AMCDRR) held at New Delhi in 2016, also emphasizes on building local capacities which is a critical agenda as the community is the first responder to any disaster and there is a need to build capacities of the community. It is essential that the school community which consist of Principals, teachers and staff needs to be trained in Disaster management activities. Education is a developmental indicator of the economy. Investing in education and safety of children will reap benefits of growth and sustainable development and Government of Gujarat is committed to do so.

Children are our future generation. Whatever they learn in schools, they share it with their family & relatives. Schools are also the center of community activities. Hence, the community will also learn from the children and information gets passed on to the society.

GSDMA organizes School Safety Week to prepare, educate and build a culture of Risk mitigation among school children in Gujarat. School Safety week is aimed at increasing awareness regarding practices for management of disasters. During this week awareness generation for school disaster management plan, do's and don'ts for hazards (earthquake, cyclones, floods,



fire), identification of non-structural hazards, techniques of search & rescue and first-aid & fire-fighting will be conducted in the schools through group activities like games, lectures, competitions and mock drills.

The core objectives of the Gujarat School Safety program are:

- Generating Disaster Awareness in school communities;
- Hazard, Vulnerability and Risk analysis;
- Facility and resource mapping;
- Constitution and training of school disaster management committee and task forces;





- Establishing alert mechanisms;
- Preparing School Disaster Management Plan (SDMP) including evacuation and response plan and calendar for preparedness activities;
- Organising Mock drills;
- Consideration of disability and gender based needs;
- Periodic review and regular updation of SDMP;
- School safety audit.

In 2017, GSDMA has taken up 33,129 Government schools for conducting various activities under School Safety Week. The details of the same are mentioned below:

- Training of Master Trainers: 257 Trainers were trained at state level (1 Master Trainer per block)
- Training of Teachers: 53,206 (Principal & Teacher) are trained for School Safety at district level, ultimately developing capacity at each school for disaster preparedness.
- Training of Engineers: 313 Engineers from Sarva Shiksha Abhiyaan were sensitized for school safety and issues pertaining to structural safety in schools during a one day Training of Engineers program



- Training of Teachers through SATCOM: Training of Teachers (ToT) (approximately 1.3-1.4 Lakh teachers were present) were also conducted through satellite communications wherein more than 130,000 teachers were sensitized

The program of the School Safety Week has the following components:

**Day 1 : Orientation program**

- Introduction to Disasters, Hazards and Vulnerability
  - Discussion of School Disaster Management Plan,
  - Orientation of Committee and Teams
- Day 2 : Building awareness about Flood, Cyclone & Tsunami (School Specific hazards)**
- Techniques on response to these disasters with the help of IEC materials, Audio/Video, posters and games
  - Disaster Awareness Film Screening

**Day 3: Building awareness Fire, Earthquake and Road Accident (District Specific hazards)**

- Orientation on Structural & Non-Structural risks in the school.

**Day 4 : Orientation on Search and Rescue and First Aid**

- Slogan competition and Drawing competition
- Project Competition from school children

**Day 5: Rally, Evacuation Drills and Mock Exercises (Mock Drills)**

- Lectures, demonstrations and conducting mock drills.

For the year 2018, it is planned to organize 'School Safety Programme' in 45,000 government, grant-in aid and private schools of the State.

# TOP TIPS TO BEAT THE HEAT

## H<sub>2</sub>O to go

Take a bottle of cold water with you when you're out and about.



## Avoid

Alcohol, tea, coffee and hot, spicy and salty foods can make dehydration worse, so think about avoiding them during hot weather.



## Be cool

Make use of fans or air-conditioners set to cool.

## Dress down

Wear lightweight, light coloured, loose-fitting clothes made from natural fibres, like cotton or linen.



## Soak

Take a cool shower or bath to help you cool down when you feel hot.



## Rest

Make sure you get enough sleep and rest if you feel tired.

## Enjoy

Try eating more cold foods, like salads and fruits. They contain water and are more refreshing in hot weather than hot foods.



## Shade

Wear a hat or take an umbrella with you for shade if you're outside on a hot day.



## WATCH OUT

Be on the lookout for any symptoms of heat related illness.  
See your GP if you are unwell.  
In a medical emergency, call 000.



# News Letter

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### Contribute

Interested in getting involved  
and sharing your stories  
to SDMC(IU).

Contact SDMC Team at  
[pm-ro1@saarc-sdmc.org](mailto:pm-ro1@saarc-sdmc.org)



### Director's Message

Dear Readers,

Our region is experiencing consistent increase in occurrence of number of hazards every year. Further, SAARC countries and communities are striving hard to reduce the impacts of the respective disaster risk by adopting local disaster risk reduction strategies.

With the advent of new technologies, the region is also strengthening its Multi Hazard Early Warning Mechanisms and is determined to develop end-to-end disaster risk management systems.

The SDMC (IU) is serving Member States by providing a platform for policy advice, technical support for holistic management of disaster risk in the SAARC region. This edition of SDMC newsletter aims to share information about various DRR activities of Member States so as to facilitate learnings across the members and region.

P K Taneja

Director, SDMC (IU)

SDMC (IU) Newsletter is published by South Asia Association of Regional Cooperation (SAARC) Disaster Management Centre (SDMC-IU) functioning at Gujarat Institute of Disaster Management (GIDM) Campus, Gandhinagar, Gujarat, India.

Website: [www.saarc-sdmc.org](http://www.saarc-sdmc.org)

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Disclaimer: The opinions expressed in this newsletter are the personal opinions of the authors. SDMC(IU) is not responsible for the accuracy, completeness, suitability, or validity of any information in this newsletter. All information is provided on an as-is basis.

## SDMC(IU) conducts Consultation Workshop on Disaster Risk Reduction for SAARC Member States



Since the adoption of the Sendai Framework for Disaster Risk Reduction in 2015, countries and regions around the world are undertaking preparatory steps for its implementation. The Asian Ministerial Conference on Disaster Risk Reduction (AMCDRR) held in New Delhi, India in November 2016, brought together more than 50 countries and adopted the Asia Regional Plan which sets biennial milestones at the regional level for the implementation of the Sendai Framework.

With a view to share and understand the activities & best practices being undertaken in the Member States in Disaster Risk Reduction (DRR) and to assess the needs of the member states to draw a strategy for monitoring and implementation of SFDRR, SDMC (IU) organized a workshop during 26 – 27 April 2018 in Gandhidham, Kutch, Gujarat – India.

The event brought together 24 officials from SAARC Member States representing key institutions and experts from eminent agencies like United Nations office for Disaster Risk Reduction (UNISDR); Asian Disaster Preparedness Centre (ADPC); SAARC Secretariat, BIMSTEC Secretariat, National Remote Sensing Centre (NRSC), India Meteorological Department (IMD) contributed in the workshop.

## Annual Event Calendar of SDMC(IU) 2018-19

### Workshop on Disaster Risk Reduction in SAARC Region

26 – 27 April, 2018

### Training Program on Care, Protection and Participation of Children in Disasters

04 – 07 Sept, 2018

### Training Course on Hospital Emergency Preparedness and Response

23 - 26 Oct, 2018

### Regional Workshop and Capacity Building Program for Utilization of Space Based and Geo Spatial Information for Assessing and Achieving the targets of the Sendai Framework

04 – 08 Dec, 2018

### Celebration of SAARC Charter Day

08 Dec, 2018

### Training Program on Rapid Assessment for Resilient Recovery (RARR)

29 – 01 Feb, 2018

### Training Program on Industrial (Chemical) Disaster Management

18 – 22 March, 2018



## SDMC(IU) conduct Workshop enhances capacities of Member States towards addressing vulnerabilities of Children



**Delegate from Pakistan presenting during Workshop**

Children are one of the most vulnerable groups during an extreme event and need special assistance during a disaster. Children are directly affected by death and injuries as well as from diseases related to malnutrition, poor water and sanitation – conditions that are exacerbated by diseases. In addition, disasters disrupt education and can cause psychological trauma. Disasters also separate children from their families and increase vulnerability to trafficking, exploitation and abuse. The children of South Asia are among the most vulnerable in the world. One of every three child deaths globally occurs in South Asia. Nearly half of the world's undernourished children live in South Asia. More than a third of the world's children without basic education are from South Asia (SAARC Framework).

With the aim to mainstream the issues of survival, care and protection of children in every regional, country and local level policy, strategy, plan and programme of disaster risk reduction. SDMC (IU) with technical support of UNICEF organized a four-day training program during 4 – 7 September 2018 to provide a platform for sharing of knowledge from all SAARC Member States and facilitate exchange of experiences amongst the professionals from the Member States and other Experts for addressing the needs of children in disaster.

The event brought together 26 officials from across the member states and experts from various agencies like UNICEF, NDMA- India, Save The Children, RED-R, DFY, etc.

## Workshop on Hospital Emergency Preparedness and Response

During disasters, hospitals and health facilities need to withstand the event, whilst maintain and escalate their treatment capacity, to respond to sudden and significant increases in health demand. Resilience is an emerging concept that has recently been added to the disaster management context, which describes this ability. In most emergency scenarios, health facilities need to manage the sudden influx of patients during emergencies and the accompanying challenges to the health facility like decontamination, infection control, security, information management, crowd control, etc.

Therefore, to address the need to strengthen the capacity of health facilities, prepare and respond to the impact of disasters, SDMC(IU) organized a training program on during 23 – 26 October, 2018.



**Director SDMC(IU) Inaugurating Workshop**

Technical support for conducting this program was provided by Asia Disaster Preparedness Centre (APDC), Thailand. The event facilitated interaction amongst 34 participants across the region. Experts from member states also contributed towards the overall learning of the program.



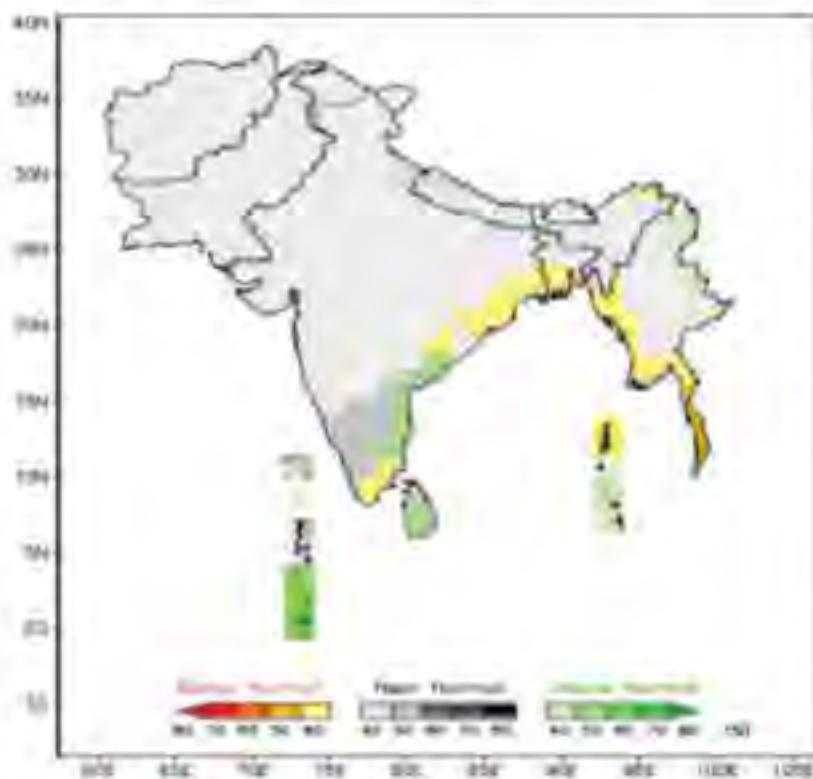
**Group Activity during the Workshop**

## SASCOF releases consensus outlook for October – December, 2018

Consensus Statement on the Forecast for the 2018 October to December (OND) Season Rainfall and Temperatures over South Asia was issued in 13th Session of the South Asian Climate Outlook Forum (SASCOF-13) during 26-28 September 2018, at Colombo, Sri Lanka.

Summary of Consensus forecast is as follows:

- Some parts of southeast Peninsular India, most parts of Sri Lanka, Southern parts of Maldives and some areas of northeastern part of the South Asia region are likely to receive above normal rainfall during the 2018 OND season.
- Below normal is most likely over southeastern part of the region, along the coastal areas adjacent to the north Bay of Bengal and southeastern most areas of Peninsular India.
- Normal rainfall is most likely over remaining areas of the region including northwest and central areas that generally receive very little rain during the season.
- Normal to slightly above normal temperatures are likely during the 2018 OND season over most parts of the region.



## NDMA, India focuses on Training Community Volunteers through 'Aapda Mitra'

The NDMA, India has approved a centrally sponsored scheme in June, 2016 that is focused on training 6000 community volunteers in disaster response in 30 most flood prone districts (200 volunteers per district) of 25 States of India. The duration of implementation of the scheme is 24

months. The said scheme aims to provide the community volunteers with the skills that they would need to respond to their community's immediate needs in the aftermath of a disaster thereby enabling them to undertake basic relief and rescue tasks during emergency situations such as floods, flash floods and urban flooding.

Under the scheme, MoU has been signed with all the 25 project States (Assam, Andhra Pradesh, Arunachal Pradesh, Bihar, Delhi, Gujarat, Haryana, Himachal Pradesh, Jammu and Kashmir, Karnataka, Kerala, Madhya Pradesh, Mizoram, Maharashtra, Manipur, Meghalaya, Nagaland, Odisha, Punjab, Tamil Nadu, Tripura, Uttar Pradesh, West Bengal, Uttarakhand, Sikkim). The first instalment of funds has been released between February May, 2017 to all Project States.

NDMA has sent all the related programme documents like standard criteria for selection of community volunteers and empanelment of training institutions and training modules etc. for initiation of implementation of the scheme at the district level. Most of the States/UT have initiated the implementation of the scheme as per Scheme Guidelines. List of selected

community volunteers from 25 project States have been received and a total number of 2815 community volunteers have been trained by 20 Project NDMA is also in process to upscale this scheme to more flood prone districts of States.

## Disaster Risk Reduction Initiatives in India

### Establishment of GID Server and Creation of Geo- Database in NDMA

With the objective of developing the integrated Geodatabase system specific to disaster management to help decision makers, the GIS project named Establishment of GIS Server and creation of Geo-Database in NDMA has been initiated in NDMA in the year 2016. The project aimed at developing a standardized spatial database, data layers, maps and a Web based GIS solutions to help decisions makers to make informed decisions regarding mitigation measures to protect the people at large. The Project envisaged establishment of a GIS lab within NDMA equipped with necessary hardware and software to start working with several layers and maintain database for disaster management.

### Basic Training on CBRN for Airport Emergency Handlers

NDMA has initiated a Basic Training Programme on CBRN Emergency Management for the Airport Emergency Handlers (AEHs) in 12 selected airports in collaboration with INMAS and AAI after incidents of radiological scare in IGI Airport Cargo Section, Delhi.

The AEHs will include members from the airport personnel i.e. CISF / CRPF Police airliners, cargo handlers, DDMA etc.

### Earthquake Disaster Risk index (EDRI)

NDMA has taken an initiative to develop Earthquake Disaster Risk Index (EDRI). As first attempt it is proposed to evaluate EDRI by developing an appropriate model suitable for India and implement the same in 50 cities and one district lying in earthquake zone V, IV.

### Mobile Radiation Detection Scheme (MRDS)

A pilot project empowering police personnel on management of radiological emergencies in public domain has been initiated by NDMA.

Incidents arising due to orphan sources transport incidents involving radioisotopes malicious acts involving RDD etc. can be effectively managed by utilizing the system.

This will also be served as deterrent against any trafficking of radioactive materials. The project involves equipping the police patrol vehicles with Go-No-Go radiation measuring instruments and safety kits and training of the police personnel.

### National Workshop on Disaster Database

National Disaster Management Authority (NDMA) in collaboration with United Nations International Children's Emergency Fund (UNICEF), United Nations Development Programme (UNDP) and United Nations International Strategy for Disaster Risk Reduction (UNISDR) conducted a two-day national workshop on disaster database on 02 – 03 May, 2018. The purpose of the workshop was to develop consensus on disasters, threshold and develop standardised template for data collection, updation, validation to ensure accuracy and quality.

Officials from NDMA and representatives of concerned Central Ministries and Departments, State Governments, UN agencies, Administrative Training Institutes (ATIs), Disaster Management Institutes and Universities participated in the workshop. During the Workshop five technical sessions, Group Presentations and Discussions, Panel discussion on setting up baseline data for damage and loss estimation using 2005-2015 dataset, Discussion on Formation of a "Steering Group for DMIS" and Way forward were held. Issues such as interoperability and security of the data was also discussed.

It was decided to form a Steering Group to oversee the setting up of the database, and guiding trainings and capacity building for operating, maintaining, updating and using the database. The Group will also identify pilot States and draw a road map for implementation of the project.

### Creation / Revision of Building Codes

NDMA regularly pursued the matter regarding early and regular revision of existing seismic engineering standards & codes and early preparation of standards & codes on new areas of seismic engineering with Bureau of Indian Standards (BIS).

## Development of Simplified Guidelines/Manual for Earthquake Resistant Built Environment

NDMA in partnership with BIS is developing simplified guidelines based upon BIS codes and NBC-2016 explaining the basic requirement of earthquake resistant constructions in the interest of common man and public as a whole with a timeline of March, 2019.

## Sustainable Reduction in Disaster Risk in 10 Multi-Hazard prone districts

The project aims to strengthen community and local self-Government's preparedness and response in 10 most multi-hazard vulnerable districts, 2 each in 5 identified States (Assam, Himachal Pradesh, Jammu & Kashmir, Uttrakhand). The first instalment of fund is to the tune of Rs. 39,63,200/- (40% of the total project cost) has been released to the five project States during the period from September December, 2016. The second installment of Rs 29.72.400/- (30% of the sanction amount) has been released to State of Uttrakhand, Himachal and Jammu & Kashmir. Third instalment has also been released to State of Uttrakhand during the month of September, 2018. The project has now been extended upto March, 2019.

## National School Safety Programme (NSSP)

The National School Safety Programme (NSSP) a Centrally Sponsored Demonstrative Project of the GoI, with a total budget outlay of Rs.48.47 crores, is being implemented by NDMA in partnership with the State/UT Governments. 2019.

The project is covering 200 schools in each of the selected 43 districts (a total of 8600 schools) spread over 22 States/UTs of the country falling in seismic zones IV & V with the aim to sensitize children and the school community on disaster preparedness and safety measures. The project has now been extended by Ministry of Home Affairs up to 31st March.

## Development of Resource Materials on Earthquake Engineering

NDMA in consultation with various stakeholders found that earthquake resistant design and construction practices are not generally part of course curriculum of undergraduate courses in Civil engineering and Architecture. To avoid inadequate formal education in earthquake engineering during the undergraduate studies, NDMA has taken an initiative to prepare course curriculum for undergraduate courses in the disciplines of Civil engineering and Architecture with the objectives of: Developing Resource Material for Civil Engineering students NDMA has initiated to develop resource material to inculcate earthquake engineering principle among Civil Engineering Students and professionals on following subjects:

- Introduction to Earthquakes, Earthquake Structural Dynamics,
- Earthquake Resistant Design,
- Earthquake Geotechnical Engineering,
- Earthquake Design of RC Structures,
- Earthquake Design of Steel Structures,
- Earthquake Design of Masonry Structures,
- Earthquake Design of Non-Structural Elements,
- Earthquake Structural Configuration, Design Studio-Earthquake Structural Configuration.
- Earthquake Design of RC and Steel Structures and Design Studio-Earthquake Design of RC and Steel Structures.

The main aim of developing the resource material is to improve availability, accessibility and affordability of the books of basic concepts in earthquake engineering, so as to ensure seismic safety of built environment. The development of these books will fill the gap of non-availability of essential resource material for earthquake engineering.

**Information shared by  
National Disaster Management  
Authority, India.**

For more details, log in to  
[www.ndma.gov.in](http://www.ndma.gov.in)

## Very Severe Cyclonic Storm 'TITLI' Hits Eastern India

The Very Severe Cyclonic Storm "TITLI" made landfall at 0430AM on 11th October 2018 between north Andhra Pradesh and south Odisha coast near Palasa of Srikakulam District (AP) with a maximum sustained surface wind speed of 140-150 kmph gusting to 165 kmph during landfall. Gopalpur, Odisha reported 102 kmph surface wind speed at 05.30 AM on 11th October. After passing through coast the storm entered into the Gajapati district which is about 18km from the coastline. It continued in its path for 5 hours in Gajapati district maintaining about 130-140 kmph and gradually weakened in to Severe Cyclonic storm.

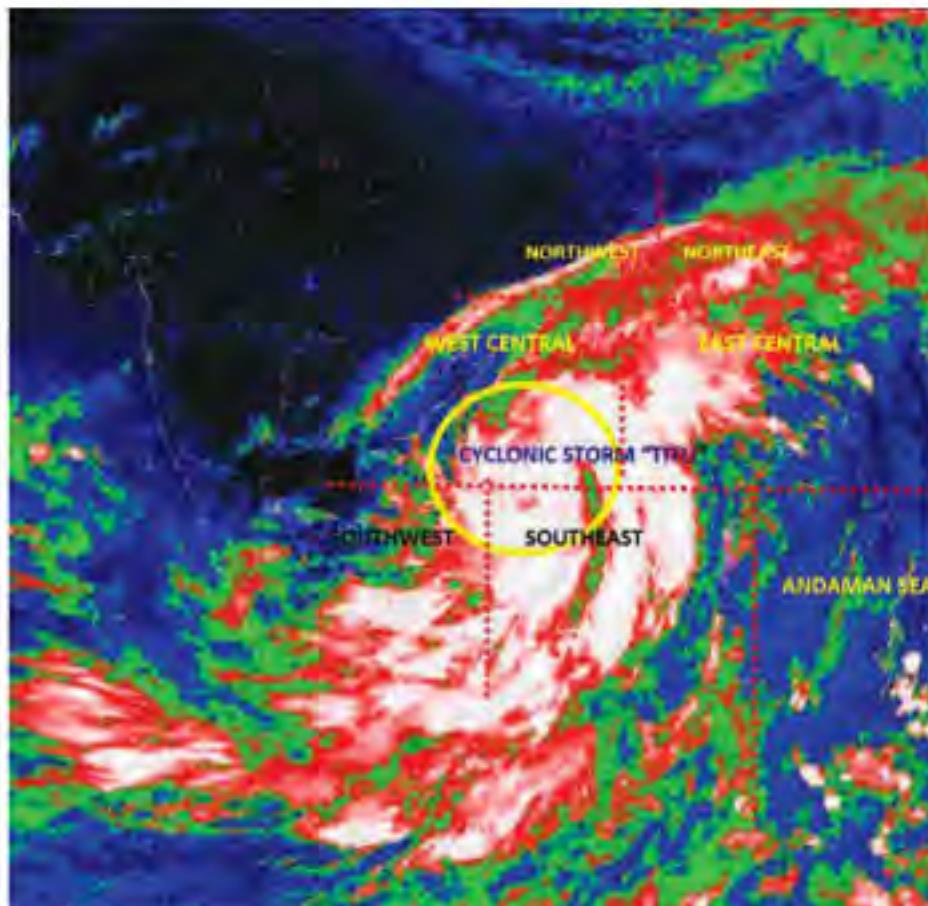
The cyclone recurved its path between Rayagada & Kandhamal district and passed through Nayagarh, Cuttack, Dhenkanal, Jajpur, Bhadrak, Balasore and Mayurbhanj districts of Odisha and entered into the Gangetic West Bengal on 13.10.2018.

The coastal and adjoining districts of the state experienced high wind and very to very heavy rainfall during period 10th to 13th October, 2018 under the influence of the cyclone.

Due to heavy rainfall from 10th to 13th October 2018, Rusikulya, Vansadhara, Baitarani, Budhabalanga and Jalaka rivers witnessed flood situations.

The torrential downpour in the upper catchment of Rushikulya River caused heavy flood situations in the many blocks of Ganjam district. Landslides also occurred in Gajapati, Ganjam and Kandhamal districts.

Massive and unprecedented damage has been caused to public properties like canal/ river embankments, roads, bridges, culverts, drains, water supply, tube wells, electrical installations, telecommunications infrastructure, Government buildings etc. The disaster also affected a large area of agricultural crop area.



## Disaster Risk Reduction Initiatives in Pakistan

### Building Disaster Resilience in Pakistan (BDRP) Steering Committee

The United Kingdom Department for International Development (DFID) in collaboration with NDMA is providing support to strengthen resilience to disasters at community and institutional levels in line with the Government of Pakistan's National Disaster Management Plan (NDMP, 2012-2022). The Building Disaster Resilience in Pakistan (BDRP) Programme will run for six years from 2016 to 2021 and will be directly supporting the implementation of Pakistan's National Disaster Risk Reduction Policy (2012) and NDMP. The BDRP Programme would contribute towards the achievement of the overall goal and outcome of the Sendai Framework for Disaster Risk Reduction (SFDRR) and NDMP.

The goal of BDRP is to increase Pakistan's capability to reduce disaster risk, through better planning, preparedness, response, and resource allocation at the governmental and community levels. BDRP will work through two main delivery areas:-

- (a) Community Based Disaster Risk Management (CBDRM).
- (b) Capacity building of disaster management bodies at the federal, provincial and district levels.

### Preparing Women for Leadership Roles in Humanitarian Response

NDMA supported the first response training conducted by Oxfam, Pakistan targeted to build capacity of women humanitarian responders to take leadership roles and improve the disaster response preparedness of mid management level women professionals working in National/ Local NGOs and Local Government departments across Pakistan.

24 x participants from across Pakistan were identified and nominated through NHN and NDMA. The training / simulation was held in Kanpur, in the outskirts of Islamabad from 5 - 9 March 2018.

### Implementation of Pakistan School Safety Framework (PSSF) in ICT

- (1) Pakistan School Safety Framework was developed after a series of National level consultative meetings with Government and private sector stakeholders. The findings & reports of PSSF was finally presented on 28 March 2017 in a conference held at Islamabad which was attended by all stakeholders. PSSF pilot project report developed, designed and sent to key ministries, secretaries, advisor to the PM, DGs, PDMA, SDMAs, heads of schools, stakeholders and other relevant departments for information.
- (2) Development of PSSF Document and Training Toolkit in English & Urdu version (Teacher's Guide, Trainer's Guide, Evaluator's Guide, Evaluator's Handbook) for implementation of PSSF in 500x Schools of Islamabad in two phases were finalized and printed.
- (3) Training of School Master Trainers (ToT Core Group) 1st Batch was conducted for ICT Scale up in ICT, in which 30 x participants from across Pakistan were trained on the Pakistan School Safety Framework (PSSF) and Training Modules. Training for 2nd batch of teachers for ICT Scale up is in planning phase (training material has been shared with Federal Directorate of Education (FDE)).
- (4) Provincial Teachers' Consultative Workshop was conducted in Quetta, Balochistan on Gender Based Violence (GBV) and Mental Health under PSSF. 31x participants were trained from Balochistan.
- (5) To implement PSSF in the Khyber Pakhtunkhwa, a meeting was conducted with PDMA KP for way forward of implementation of PSSF.

## 5th Meeting of National Disaster Management Commission (NDMC)

The 5th meeting of the NDMC was held under the Chairmanship of the Prime Minister of Pakistan on 28 March 2018 at Prime Minister's Office. Chairman NDMA (Secretary NDMC) presented the Agenda Points in a presentation to give detailed account of each items for consideration and decisions by the commission.

Major decision taken during the meeting were:

- Ratification of Relief / Aid Provided to the Friendly Countries.
- Ratification of Policy Guidelines.
- Approval of Pakistan School Safety Framework (PSSF).
- Proposed Revision in NDM Act 2010.
- Capacity Enhancement of NDMA.
- Raising of National Disaster Response Force (NDRF).
- Approval of Dedicated Aviation Assets for NDMA.
- Construction of NDM Complex.

## NDMA plans Consolidation of Disaster Management Legislation

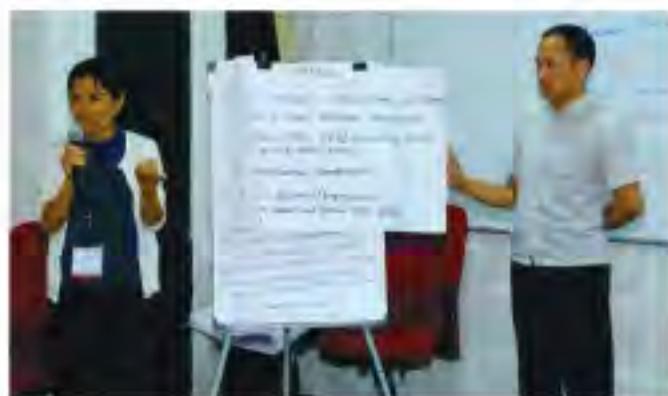
With the approval of the Prime Minister during the 5th NDMC Meeting, NDMA is working on consolidation of disaster management legislations. Legislations to be consolidated includes; Civil Defence Act (1952), Calamity Act (1958), NDMA Act (2010) and ERRA Act (2011).

A Constitutional Law Firm has been hired for development/consolidation of all disaster management legislation into a comprehensive National Disaster Management Act. The first draft after due approval of authority has been sent to Ministry of Law for legislative review.

Information Shared by  
**National Disaster Management Authority, Pakistan.**

For more details, log in to  
[www.ndma.gov.pk](http://www.ndma.gov.pk)

## Glimpses of SDMC Activities





# News Letter

Volume 1 | 2018



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### Contribute

Interested in getting involved and sharing your stories to SDMC(IU).

Contact SDMC Team at  
[pm-ro1@saarc-sdmc.org](mailto:pm-ro1@saarc-sdmc.org)



### Director's Message

Dear Readers,

Welcome to 03rd Volume of SAARC Disaster Management Centers (IU) Newsletter of 2018. With the 34th Anniversary of SAARC Charter Day, we remind ourselves the special messages given by the Heads of State / Government of SAARC Member States vouching their unwavering support and commitment to the SAARC process.

Upholding the aims to promote the welfare of the people of South Asia and to improve their quality of life through regional cooperation in mutually agreed areas, SDMC(IU) is committed to provide a platform for knowledge sharing for Disaster Risk Reduction amongst Member States.

During AMCDRR – 2018 the Governments and stakeholder partners from across Asia have renewed their commitment to a substantial increase in the number of countries with national and local disaster risk reduction strategies by 2020.

This issue will showcase some of the interesting DRR initiatives that are being taken up by the Member States and activities of SDMC(IU) and other regional agencies. Looking forward for your suggestions / inputs/ feedback on the same.

P K Taneja

Director, SDMC (IU)

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**Disclaimer:** The opinions expressed in this newsletter are the personal opinions of the authors. SDMC(IU) is not responsible for the accuracy, completeness, suitability, or validity of any information in this newsletter. All information is provided on an as-is basis.

## SDMC(IU) and UNISDR build capacities for Disaster Loss Databases and Sendai Framework Monitoring for SAARC Member States

Since the adoption of the Sendai Framework for Disaster Risk Reduction in 2015, countries and regions around the world are undertaking preparatory steps for its implementation. The Asian Ministerial Conference on Disaster Risk Reduction (AMCDRR) held in New Delhi, India in November 2016, brought together more than 50 countries and adopted the Asia Regional Plan which sets biennial milestones at the regional level for the implementation of the Sendai Framework.

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The event brought together 24 officials from SAARC Member States representing key institutions and experts from eminent agencies like United Nations office for Disaster Risk Reduction (UNISDR); Asian Disaster Preparedness Centre (ADPC); SAARC Secretariat, BIMSTEC Secretariat, National Remote Sensing Centre (NRSC), India Meteorological Department (IMD) contributed in the workshop.



Program Inauguration by Lightening of Lamp by Director SDMC (IU) and delegates



Ms. Iria (UNISDR) briefing the participants



Mr. Timothy Wilcox (UNISDR) explaining process of DLD to participants



Group Photograph: "Disaster Loss Databases and Sendai Framework Monitoring" during 13th November to 16th November 2018

## SDMC(IU) conducts workshop on Utilization of Space based and Geo-Spatial Information for achieving the targets of SFDRR in association with UNOOSA

SAARC region is highly disaster prone and requires significant capacities at various institutional levels for dealing with frequent natural disasters. SFDRR recognizes and advocates the role of the space based and geospatial information in understanding disaster risks for better preparedness.

Therefore, to deliberate on available geo-spatial information, international agencies working on it, procedural guidelines and standard operating procedure in utilization of space based and geospatial information in disaster management.

SDMC(IU) in association with UNOOSA & UNSPIDER organized "Regional workshop and capacity building programme for utilization of space based and geospatial information for achieving the targets of the Sendai Framework for Disaster Risk Reduction" during 04 – 07 December 2018.

During the workshop topics like importance of Earth observation for Flood & Drought risk management and monitoring, Agriculture damage assessment and risk transfer mechanism, Emergency response mapping for relief and rescue operations; Integrating crowdsourcing, in-situ and space-based data for emergency response were discussed along with hands-on training.

The event brought together 23 participants from member states 7 experts from The United Nations Office for Outer Space Affairs (UNOOSA), International Water Management Institute (IWMI), SAC - ISRO, CSSTEAP, etc.



Program Inauguration by Lighting of Lamp by Director SDMC (IU) and delegates



Group Activity: Application of technology for data Collection



CM Bhatt, CSSTEAP delivering a talk during the program.



Director SDMC(IU) visiting the demonstration by ISRO



Group Photograph: "Disaster Loss Databases and Sendai Framework Monitoring" during 13th November to 16th November 2018

## SDMC (IU) Celebrates 34th SAARC Charter Day

34th SAARC Charter Day was celebrated on 8th December, 2018 at SAARC DM Centre(IU). On this occasion a panel discussion on “Use of Space Technology in Disaster Risk Reduction” was conducted. The expert panel consisted of representatives from the SAARC secretariat and International and National organizations including UNOOSA, UNISPIDER, National Remote Sensing Center (NRSC), Centre for Space Science and Technology Education in Asia Pacific (CSSTEAP), Space Application Centre – Indian Space and Research Organization, International Water Management Institute (IWMI) participated in the Panel Discussion. Delegates from all the member states including the SAARC Secretariat remained present in the event.

The expert panel was chaired and moderated by Mr. P. K. Taneja, Director, SDMC. Following experts interacted during the panel discussion.

- Mr. Sangye Chewang, Director (Environment, Natural Disaster and Biotechnology), SAARC Secretariat, Thimpu, Bhutan,
- Dr. Nilesh Desai, Deputy Director, SAC, Ahmedabad, India,
- Mr. S. V. Shiva Prasad Sharma Scientist/Engineer, NRSC, Hyderabad, India,
- Dr. Shirish Ravan, UNOOSA/UNSPIDER, Beijing, China,
- Mr. Niranga Alahacoon, RS/GIS Analyst, IWMI, Colombo, Sri Lanka,
- Mr. C. M. Bhatt Scientist and Course Director (GIS/Remote Sensing, CSSTEAP, Dehradun, India.



Delegates from Pakistan presenting Memento to  
Director -SDMC (IU) & Director (ENB) SAARC Sec.



Expert Panel on 34th SAARC Charter Day was celebrated on 8th December, 2018

## Disaster Risk Mitigation of Afghanistan National Disaster Management Authority (ANDMA)



### Construction of Protection Walls

Currently ANDMA has 15 projects and their construction is ongoing. The construction of the citation walls for avoiding avalanches, clearance of flood routes to curb the damage, and walls avoiding falling of rocks and creating blockage into the streets and damaging houses i.e. citation wall in seven provinces of Kabul, Panjsher, Baghlan, Badakhshan, Takhar, Samangan and Parowan.

Construction Of 19 embankment Project has been completed which are construction of the citation walls for avoiding avalanches, clearance of flood routes, and walls avoiding rocks from falling i.e. citation walls in five provinces of Panjsher, Baghlan, Takhar, Samangan and Parowan.

To identify damaged areas in five provinces, 34 survey projects were carried out in Ghor, Bamyan, Parowan Samangan and Panjsher.

Sr. No.	Activity	Province	Remark
1.	Building Citation Wal	Kapessa	Complete
2.	Citation Wall	Panjsher	Complete
3.	Building Citation Wall	Panjsher	Complete
4.	Building Citation Wall	Parwan	Complete
5.	Building Citation Wall	Panjsher	
6.	Citation Wall	Parwan	Complete
7.	Citation Wall	Parwan	Complete
8.	Building Citation Wall	Panjsher	Complete
9.	Strution of the Bridge	Panjsher	Complete
10.	Excavation and Cleaning	Baghlan	Complete
11.	Harness and Bridge Construction	Panjshre	Complete
12.	Clearance of flood routes to curb the damage	Baghlan	Complete
13.	Ruction of an agricultural Channel	Panjsher	Complete
14.	Clearing of sea Sediments	Samangan	Complete
15.	Building Citation Wall	Panjsher	Complete
16.	Citation Wall by the sea	Samangan	Complete
17.	Gabion Wall	Parwan	Complete
18.	Construction of the Road	Panjsher	Complete
19.	Gabion Wall	Parwan	Complete

Sr. No.	Activity	Province	Remark
20	Ruction of an agricultural Channel	Panjsher	70%
21	Building Citation Wall	Herat	85%
22	Purchased land for displaced persons of 300 families	Badakhshan	Progress
23	Purchased land for displaced persons of 126 families	Badakhshan	Progress
24	Gabion Wall	Baghlan	Progress
25	Citation Wall	Panjsher	85%
26	Citation Wall by the sea	Parwan	70%
27	Building Citation Wall	Parwan	60%
28	Excavation and Cleaning	Samangan	50%
29	Purchased land for displaced	Badakhshan	Progress
30	Gabion Wall	Parwan	70%
31	Ruction of an agricultural Channel	Panjsher	75%
32	Citation Wall by the sea	Panjsher	60%
33	Purchased land for displaced	Badakhshan	Progress
34	Destruction of rock mass	Kabul	50%

Source: Directorate of Risk Prevention and Mitigation, ANDMA



## Highlights of Regional Integrated Multi-Hazard Early Warning System (RIMES) Activities in South Asia

Regional Integrated Multi-Hazard Early Warning System (RIMES) is an international and intergovernmental institution, owned and managed by its 45 member and collaborating countries that includes Afghanistan, Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan, and Sri Lanka. The mandate of RIMES is to build capacity of participating countries in generation and application of user-relevant early warning information.

RIMES provides portfolio of services to meet demands of its countries that includes 24/7 early warning relating to Earthquake monitoring, Tsunami advisories, customized Ocean State Forecasts, 3 to 10 days weather forecast data for reference purposes, and also predictions at climate and climate change time scales through National Hydro Meteorological Services (NHMS). RIMES provides these services on daily basis to Afghanistan, Bangladesh, Bhutan, Maldives, Nepal, Pakistan and Sri Lanka.

RIMES facilitates monsoon forum in Bangladesh, Bhutan, Maldives, Nepal, Pakistan and Sri Lanka to institutionalize dialogue process between NHMS and user departments to enhance the uptake of risk information for decision making purposes. The bi-annual monsoon forums bring together technical institutions involved in generating climate and early warning information, such as NHMS and the potential users of such information such as Disaster Management, Agriculture and allied sectors, Water Resources, Public health, Energy, planning etc., based on demands generated through National Monsoon forum and RIMES Council meetings.

RIMES provide Decision Support Systems (DSS) support to Sectoral user agencies to transform science based weather/climate data into user relevant information for decision making purposes. An illustrative list of RIMES services to South Asian countries are:

RIMES in collaboration with India Meteorological Department (IMD) and Government of Tamil Nadu, developed pilot DSS for translating climate/weather forecast at various time scales into agricultural advisories and IMD replicates it to whole of India.

RIMES has been providing operational flood forecast support to Bangladesh since 2009, a Bhutan, Nepal, and Sri Lanka since 2015, in translating weather forecast in terms of flood forecasting and advisory.

RIMES and Commissionerate of Revenue Administration and Disaster Management, Tamil Nadu, jointly developed and operationalized a DSS called TNSMART – Tamil Nadu System for Multi-Hazard Potential Impact Assessment, Alert, and Emergency Response planning and Tracking, in 2018.

TNSMART is a web-based system for assessing potential impacts of a hazard using weather forecast information, and for evaluating, generating, and disseminating impact management options.

Since June 2018, RIMES is associated with Odisha State Disaster Management Agency in developing One Stop Risk Management System for effectively managing disaster risk in the State through cutting edge technologies.

A Climate Data Access and Analysis System (CDAAS) has been developed for Myanmar, Pakistan and Sri Lanka in 2016, which is an easy-to-use web-based portal to access and analyse different Global Climate models, gridded observation data sets and downscaled high-resolution regional climate model products, for guiding adaptation planning in various sectors.

**Mr. Edappadi K. Palaniswami, Chief Minister, Tamil Nadu (India) launched TN-SMART.**



## Disaster Risk Reduction Initiatives National Disaster Management Authority, Pakistan

### Multi Hazard Vulnerability and Risk Assessment (MHVRA)

#### (1) MHVRA of District Ghotki and Kashmore, Sindh

MHVRA exercise for 2x districts of Sindh namely Kashmore and Ghotki, has been successfully completed with the financial support of World Food Program (WFP). Designing and composing of work is in progress for formal publication. The activity during exercise covered the following modules:

- (a) Assessment of Earthquake, Flood and Drought Hazards.
- (b) Exposure / Vulnerability Assessment (Physical, Social & Food Insecurity).
- (c) Capacity & Risk Assessment.

#### (2) MHVRA and SHVRA (28 Selected Schools) of District Chitral

NDMA's Project Execution Plan covering two major activities i.e. Multi Hazard Vulnerability & Risk Assessment (MHVRA) & School Hazard Vulnerability & Risk Assessment (SHVRA) for 28 selected schools in Union Councils of Charum and Mulko) is prepared for District Chitral to assess hazards, vulnerability and risk factors in regards to natural hazards that endanger the safety of students and has a potential to disrupt educational activities. Major focus is being given to devise mechanisms that shall ensure physical, social and academic safeties of the targeted schools. The Project is funded by WFP and is currently being executed.



### Raising of National Disaster Response Force (NDRF)

In pursuance to Prime Minister's approval during the 5th NDMC meeting, a Committee under Chairman NDMA was constituted to finalise Concept Paper incorporating estimate of Financial Implications for Raising Smart Specialised Force at Federal Level (named as NDRF) which recommend fresh recruitment of individuals instead of merger of various components of already existing outfits.

Basing on the recommendations of the Committee, a Summary for the approval of Prime Minister has been moved,

### Host Nation Support Guidelines (HNSG)

NDMA in collaboration with ADPC and Australian High Commission at Islamabad prepared comprehensive guidelines for Foreign Assistance in disaster response in Pakistan named Host Nation Support Guidelines (HNSG). These guidelines were launched on 21 June 2018 at Islamabad. Orientation workshops on Host Nation Support Guidelines will be held at Islamabad, Lahore and Karachi for familiarization of Government officials and other stakeholders.

### National Industrial Hazard Risk Assessment (NIHRA)

NDMA initiated industrial hazard risk assessment at macro level in August 2017. The Project with the aim to Carry out industrial hazard assessment, exposure analysis, and calculate/assess vulnerabilities and risk based on primary/ secondary data and field assessments. During the study mapping of all industries across Pakistan was undertaken. Furthermore, all possible hazards of industries were also being identified.

## Enumerator's Training on Multi Sector Initial Rapid Assessment (MIRA) Guidelines

After launching of MIRA Guidelines on 31 July 2017, Training of the Trainers (ToT) on MIRA Guidelines was held on 6-8 November 2017 for further training of the nominated officers (i.e. Enumerators: who will conduct field survey after disaster) of District Disaster Management Authorities, Line Departments, INGOs/NGOs at district level.

NDMA launched 1st Phase of 2 x days Enumerators' training on MIRA Guidelines and successfully trained 354 x officials of District Disasters Management Authorities, Line Departments (i.e. Education, Health, Irrigation, Agricultural etc.), INGOs/NGOs imparted training in 8 x most vulnerable districts i.e. Muzaffargarh, Swat, Quetta, Sukkur, Rajanpur, Tharparkar, Karachi and Muzaffarabad from 26 December 2017 to 31 January 2018.

2nd Phase of Enumerators' training on MIRA Guidelines was conducted at Multan on 26 – 27 April 2018 and 41 officials were imparted training. MIRA Training of Enumerators is being further planned in 3 x districts i.e. Gwadar, Nowshera and Chitral.

## International Conference on Disaster Management in Islamabad.

NDMA organized an International Conference on Disaster Management at Serena Hotel, Islamabad from 20 - 21 June 2018 in which delegates from Kyrgyzstan, Iran, Turkey, Sweden, Denmark, Kazakhstan, Afghanistan, Azerbaijan & China and local partners participated.



International Conference held in Islamabad on 20-22 June 2018

## Celebration of International Day for Disaster Reduction



Awareness walk on 13th Oct. International Day for Disaster Reduction



Cyclathon on 13th Oct. International Day for Disaster Reduction

## Collaboration with United Nation Development Programme (UNDP)

- (1) Under Building Disaster Resilient Project, NDMA with the support of UNDP is implementing specific activities in selected project districts by creating robust and well-coordinated information management system. In all four project districts (Kashmore and Ghotki in Sindh Province, Rajanpur and Muzaffargarh in Punjab), existing, information management systems would be assessed, including the level of operationalization and the relevance and quality of outputs. Based on the assessment, critical gaps and additional requirements will be identified, prioritised and implemented.
- (2) UNDP will further support officials, DDMA staff and community members of 4 x selected districts in providing on-the-job mentoring to improve existing coordination mechanism and exchange of information mechanism. Information groups will be formed and trained at all levels in four districts and mechanism will be developed and linked with DEOC for exchanging information even during peace times on preparedness level. The information groups will perform the following core function:
  - (a) In-time Coordination and communications.
  - (b) Improve emergency response.
  - (c) Manage and mitigate disasters.
  - (d) Analyse, disseminate and manage all the information.
  - (e) Preparing operational updates, situation reports.
  - (f) Facilitating the higher authority in making better estimation for relief and rehabilitation.

### Launch of Coffee Table Book



## Regional and International Collaboration(UNDP)

### (a) MoU between Pakistan and Kazakhstan on Disaster Management.

NDMA on behalf of Government of Pakistan signed a MoU on 22 June 2018 with Kazakhstan Government in the field of Disaster Management. The MoU was signed by Chairman NDMA and Deputy Chairman Kazakhstan.

### (b) Revised Work Plan Signed with UNFPA.

Revised Work Plan signed between NDMA and UNFPA for Integration of Gender Based Violence (GBV) activities.

## Collaboration with Implementation Partners

Finalization of Project requirements for NIDM with Swiss Agency for Development and Cooperation (SDC). As per the contract signed between SDC and NDMA for the period of two years 2017 – 2019 for the Institutional Capacity of NDMA/ NIDM, a detailed organizational assessment of NDMA was carried out by Auditor firm engaged by SDC for the task. Series of meetings were held and the requirements of NDMA were conveyed to SDC for their consideration. Based on organizational assessment, SDC has provided support for Institutional Capacity Building and conduct of training activities/plans.

## Collaboration with World Food Programme (WFP)

WFP is working closely with NDMA and has consented to extend support to NDMA for Human Resource and institutional Capacity Building and trainings/capacity building of stakeholders to handle disaster management activities across the country.

**Information Shared by**  
**National Disaster Management Authority,**  
**Pakistan.**

**For more details, log in to**  
[www.ndma.gov.pk](http://www.ndma.gov.pk)

## **SAARC Disaster Management Centre (IU)**

Gujarat Institute of Disaster Management Campus,

Koba- Gandhinagar Road, Village Raisan,

B/h Pandit Deendayal Petroleum University,

Gandhinagar- 382007, Gujarat, India.

Ph. +91 79 23275801/04/33 | Fax. +91 79 23275814

[www.saarc-sdmc.org](http://www.saarc-sdmc.org)