



International Workshop on Disaster Risk Reduction and Contingency  
Planning  
9-10 March 2012

Report –Technical Sessions

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Organized by



Department of Revenue and Disaster Management



Technical advice by



## Introduction

As disaster management in India is going through a paradigm shift since the introduction of the National Disaster Management Act in 2005, following the footsteps of the Central Government, the Government of Kerala constituted Kerala State Disaster Management Authority (KSDMA), notified disaster management rules and formulated a disaster management policy with emphasis on risk reduction. Recognizing the fact that disasters do not limit to political boundaries and that there are numerous replicable best practices for disaster risk reduction across the country and the world, the Government of Kerala was keen to foster the sharing of the experience of key global and national actors through an international workshop.

In the event of increasing frequency of hazards and disasters in Kerala, under the able leadership and guidance of Mr. Thiruvanchoor Radhakrishnan, Honourable Minister for Revenue, Disaster Management and Vigilance of Kerala, the Department of Revenue and Disaster Management, Government of Kerala, Kerala State Disaster Management Authority (KSMDA) and Institute of Land and Disaster Management (ILDm) collaboratively conducted a two day international workshop on the topic 'Disaster Risk Reduction and Contingency Planning' with the slogan 'Towards a Safer State' from March 9 to 10, 2012, at Kanakakunnu palace grounds in the capital city of Kerala, Thiruvananthapuram. The Center for Earth Science Studies was the technical advisors of the programme. The workshop was intended to make a better platform to interact and establish relationships with scientists and experts in hazards and disaster risk management from all over the world and to receive global inputs for the formulation of world standard scientific frameworks and policies to manage and reduce future disaster risks and threats.

Surakshaayanam was the first of its kind of event on disaster risk reduction in the whole country. It was the first event wherein disaster risk reduction was dealt comprehensively from all angles. The eight day exhibition associated to the workshop was a unique eye opener, particularly 'the globe' which was an representation of earth's northern hemisphere. The inner part of the globe was painted with an abstract representation of the inside of earth – namely, the core, the mantle and the crust with magmatic chambers and vents. The globe was also used as a theatre to play a carefully crafted video for DRR education and awareness building. Figure 1 is a photograph of the globe.



*Figure 1: The Globe at Surakshaayanam 2012*

The major focus of the workshop was framing various scientific policies to resist and reduce the risks which emerge from ever persistent threats of hazards and disasters. Invited experts and scientists from over ten countries delivered valuable talks and presentations that contained policy guidelines, scientific inputs and experiences in the implementation of disaster risk reduction measures to support and fulfil the following objectives:

- To solicit and foster collaboration between national and international governance and policy experts for deriving a pragmatic frame work for disaster risk reduction policy formulation and governance strategy planning
- To facilitate lively interactions and opportunities for networking between national and international disaster risk reduction practitioners, scientists, governance professionals and risk communicators for disaster risk management planning and implementation of mitigation measures
- To foster sharing of knowledge on best practices from across the country and elsewhere in the world related to community based disaster risk reduction
- To facilitate relevant stakeholders with an opportunity to interact and network with the best available international experts on the science of disaster risk reduction

### **The workshop programme**

The workshop opened with the inauguration function on 9 March 2012. Dr. Nivedita P. Haran IAS, Addl. Chief Secretary, Department of Revenue and Disaster Management delivered the welcome address. The function was chaired by Mr. Thiruvanchoor Radhakrishnan, Honourable Minister for Revenue, Disaster Management and Vigilance of Kerala. Mr. Oommen Chandy, Honourable Chief Minister of Kerala inaugurated the workshop. The chief guest of the occasion was Mr. Mullapally Ramachandran, Honourable Minister of State for Home Affairs of India. Ms. Geraldine Fraser Moleketi, Global Director of Democratic Governance, UNDP delivered the keynote address in the session. Mr. T. Nandakumar, Honourable Member, National Disaster Management Authority delivered the felicitation speech and Dr. K.B Valsalakumari IAS, Secretary, KSDMA thanked all those who attended the programme. Figure 2 shows an instance from the inauguration function. With the closing of the inauguration function, the technical sessions of the workshop began.



*Figure 2: A glimpse of the inauguration function – from right to left are Hon’ble Chief Minister of Kerala, Mr. Oommen Chandy, Honb’le Minister for Revenue and Disaster Management, Mr. Thiruvanchoor Radhakrishnan and Ms. Geraldine Fraser Moleketi, Global Director, Democratic Governance, UNDP*

The technical talks and discussions in the workshop were grouped into four thematic plenaries and six parallel sessions (cf. Table 1). Invited speakers presented their experiences and talks through multi-media presentations in the thematic plenaries which were intended to show case the state of the art in the world as well as in the country. The parallel sessions were conducted to foster discussions on selected topics between subject experts and participants of the workshop. All parallel sessions resulted in three to five resolutions based on the discussions therein.

Table 1: Technical sessions, speakers and topics discussed

Event	Date	Theme/Chair/Rapporteur	Speaker	Topic
Thematic Plenary 1	9 March	<p>Governance, policies and risk communication for disaster risk reduction</p> <p>Chairperson: Mr. T. Nandakumar, Member, National Disaster Management Authority, India</p> <p>Rapporteur: Mr. Ajith Chacko, State Project Officer, GoI-UNDP DRR Programme &amp; Programme Officer, KSDMA</p>	Mr. T. Nandakumar, Member, National Disaster Management Authority, India	Governance, policy and planning for disaster risk reduction in India
			Mr. Roger Yates, Director of Disasters and Humanitarian Response, Plan International, UK	Governance, policy and planning for disaster risk reduction
			Mr. John Samuel, Advisor, UNDP, New York/Oslo	Democratic governance and disaster response
			Mr. Sandeep Chachra, Director, ActionAid, India	Policies for better disaster response
			Ms. Lorna Victoria, Advisor, Centre for Disaster Preparedness Foundation, Philippines	Community based disaster preparedness
			Prof. Dr. K. Sekar, National Institute of Mental Health and Neuro Sciences, Bangalore, India	Psycho-social issues in disaster risk reduction
Parallel Session 1	9 March	<p>Issues in governance and policy planning for disaster risk reduction</p> <p>Chairman: Dr. R. Banerjee, Chief Executive Officer, GSDMA</p> <p>Rapporteur: Mr. Binukumar, District Project Office, Palakkad, Govt. of Kerala</p>	<p><b>Panellists</b></p> <ul style="list-style-type: none"> <li>Mr. Pradeep K.K, Emergency Coordinator, SDMA Karnataka</li> <li>Mr. Roger Yates, Director, Plan International, UK</li> <li>Ms. Lorna Victoria, Advisor, Centre for Disaster Preparedness, Philippines</li> <li>Dr. Keshav Mohan, Director, Institute of Land and Disaster Management, Kerala</li> <li>Shri. Ajith Chacko, Project Officer, SDMA, Kerala</li> </ul>	
Parallel Session 2	9 March	<p>Media and disasters</p> <p>Chairman: Mr. Venkatesh Ramakrishnan, Deputy Editor, The Hindu/Frontline</p> <p>Rapporteur: Ms. Tinu Rose Francis, City Project Officer, Kochi, Govt. of Kerala</p>	<p><b>Panellists</b></p> <ul style="list-style-type: none"> <li>Mr. John Mundakayam – Chief of Bureau, Malayala Manorama</li> <li>Mr. M.G Radhakrishnan – Associate Editor, India Today</li> </ul>	
Thematic Plenary 2	9 March	<p>Community and psycho-social issues in Disaster Risk Reduction</p> <p>Chairperson – Ms. Lorna Victoria, Advisor, Centre for Disaster Preparedness, Philippines</p>	Dr. Enrique Castellanos Abella, General Director, Institute of Paleontology and Geology, Cuba	The Cuban Model in disaster risk reduction
			Dr. G. Padmanabhan, Emergency Analyst, UNDP	Community based DRM in India
			Mr. David Barker, HSE Manager, WS Atkins, UAE	Health and safety in high rise buildings

		Rapporteur – Mr. Ramesh Krishnan, Programme Coordinator, GoI-UNDP URR Programme, KSDMA	Fr. Varghese Mattamana, Director, Caritas India, New Delhi	Disaster preparedness through community empowerment
Thematic Plenary 3	10 March	Science for disaster risk reduction  Chairperson – Prof. Dr. Jancy James, Vice Chancellor, Central University, Kasargode  Rapporteur – Dr. Sekhar L. Kuriakose, Head, HVRA Cell, ILDM, Govt. of Kerala	Dr. Muralee Thummarukudy, Chief, Disaster Risk Reduction, UNEP, Geneva	Science for Disaster Risk Reduction – Keynote
			Dr. N.P Kurian, Director, Centre for Earth Science Studies, Thiruvananthapuram, India	Status of hazard, vulnerability and risk assessment studies in Kerala
			Mr. Stuart Hartley, Vice President, Life Saver International, USA	Safety in waters
			Prof. Dr. Olof Linden, World Maritime University, Sweden	Coastal protection against oil spills
			Prof. Dr. Tad S. Murty, University of Ottawa, Canada	Tsunami modeling and early warning systems
			Dr. Srinivasa Kumar Tummala, Indian National Centre for Ocean Information Services, Hyderabad	Tsunami early warning systems in India
Parallel Session 3	10 March	Community based disaster risk management  Chairman: Ms. Lorna Victoria, Advisor, Centre for Disaster Preparedness Foundation, Philippines  Rapporteur: Ms. Viji Ajith, City Project Officer, Thiruvananthapuram, Govt. of Kerala	<b>Panellists</b> <ul style="list-style-type: none"> <li>Ms. Annie George – CEO, BEDROC, Nagapattinam</li> <li>Fr. Varghese Mattamana – Director, CARITAS India</li> <li>Dr. Alassankutty – Director, Literacy Mission, Kerala</li> <li>Mr. Andrew David Barker – HSE Manager, WS Atkins, UAE</li> </ul>	
Parallel Session 4	10 March	Hazard, vulnerability and risk assessment  Chairman: Dr. Enrique Castellanos Abella, General Director, Institute of Paleontology and Geology, Cuba	<b>Panellists</b> <ul style="list-style-type: none"> <li>Dr. Mark van der Meijde – Associate Professor, ITC, University of Twente, The Netherlands</li> <li>Shri. G. Sankar – Scientist, CESS, Kerala</li> <li>Dr. Sreekumar Chattopadhyay – Scientist, CESS, Kerala</li> </ul>	

		Rapporteur: Ms. Parvathy, Junior Research Fellow, HVRA Cell, ILDM, Govt. of Kerala	<ul style="list-style-type: none"> <li>Dr. K.K Ramachandran – Member Secretary, KSCSTE, Kerala</li> </ul>	
Thematic Plenary 4	10 March	Science for disaster risk reduction Chairperson – Prof. Dr. V.N Rajasekharan Pillai, Executive Vice President, KSCSTE Rapporteur – Mr. Vijeesh, City Project Officer, Kozhikode, Gol-UNDP URR Programme	Dr. Mark van der Meijde, UNU-DRM Centre for Spatial Analysis and Disaster Risk Management, University of Twente, The Netherlands	Advances in slope and dam stability assessments
			Dr. P.K Champati Ray, Indian Institute of Remote Sensing, ISRO, Dehradun	Landslide hazard assessment – Indian examples
			Dr. Murali Das, Former Scientist F, Centre for Earth Science Studies, Thiruvananthapuram	Lightning hazard in Kerala
			Prof. Dr. A.K Gosain, IIT Delhi	PMF estimation for dam safety
			Prof. Dr. Jean Schneider, University of Natural Resources and Life Sciences, Vienna, Austria	Dam break analysis
			Dr. V. Hariprasad, National Remote Sensing Centre, ISRO, Hyderabad, India	Flood hazard assessment
			Dr. R.K Dave, Former OSD (IT), Govt. of Gujarat, India	ICT for disaster risk reduction
Parallel Session 5	10 March	Hazard early warning systems Chairman: Dr. Mark van der Meijde, UNU-DRM Centre for Spatial Analysis and Disaster Risk Management, University of Twente, The Netherlands Rapporteur: Ms. Mary Maxy Midhula, Project Fellow, HVRA Cell, ILDM	<b>Panellists</b> <ul style="list-style-type: none"> <li>Dr. Murali Das – Former Scientist, Centre for Earth Science Studies, Kerala</li> <li>Dr. P.K Champati Ray – Scientist, IIRS (ISRO), India</li> <li>Dr. K.V Thomas – Scientist, Centre for Earth Science Studies, Kerala</li> <li>Dr. Enrique Castellanos Abella – General Director, IGP, Cuba</li> <li>Dr. R.K Dave – Former Officer on Special Duty (IT), Gujarat State, India</li> </ul>	
Parallel Session 6	10 March	Dam safety Chairman: Prof. Dr. Jean Schneider, University of Natural Resources and Life Sciences, Austria	<b>Panellists</b> <ul style="list-style-type: none"> <li>Prof. Dr. A.K Gosain – IIT Delhi</li> <li>Dr. V. Hariprasad – Scientist, NRSC (ISRO), India</li> <li>Shri. John Mathai – Scientist, Centre for Earth Science Studies, Kerala</li> <li>Shri. Karappankutty – Chief Engineer, Kerala State</li> </ul>	

		Rapporteur: Mr. Siju, Project Fellow, HVRA Cell, Dept. of Disaster Management, ILDM	Electricity Board, Kerala
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Thus the workshop had forty one invited speakers. Figure 4 shows three of the invited speakers delivering their talks. Specific resolutions of individual sessions are given herein subsequently.



Figure 4: Dr. Enrique Castellanos, Mr. David Barker and Mr. John Samuel delivering their thematic talks (left to right)

#### **Resolutions of parallel session 1: Issues in Governance and policy planning for disaster risk reduction**

- Institutions and departments shall use the terminology disaster risk management or disaster risk reduction, whichever is more appropriate as the term 'disaster management' is often misleading
- Disaster preparedness must be a priority of all departments and thus 5% of their budget should be allocated for disaster risk reduction
- It is noted that disaster risk management institutions are yet to function according to the Disaster Management Act and Policy in India
- Government should formulate policies and rules that are gender neutral and shall ensure that women, children and under privileged strata of the community are considered in such policies and rules
- Guidelines and policies on Disaster Management should flow from NDMA to DDMA/SDMA/PRI/LSGDs

#### **Resolutions of parallel session 2: Media and Disasters**

- Need a tangible, concrete demised approach in disaster awareness among public through school syllabus articles etc.
- Sensitize the media by imposing a code of conduct in disaster risk reduction issues
- Disasters must be monitored in (24x7, 365) manner with accuracy index by comparing the media reports, that must be a joint venture of government and media and publish the compilation monthly
- Monitor the day-to-day activity which can turn to be a disaster

#### **Resolutions of parallel session 3: Community based disaster risk management**

- Gender bias must not prevail in disaster risk management
- NGOs should be mobilized and their capacities have to be developed such that local disaster risk reduction actions are made suitable to the local conditions
- Community based disaster education is inevitable and it should be practical
- Stakeholder training programmes should be based on realistic field conditions and shall be less theoretical
- Community participation in disaster response should be facilitated by training professional peer groups and deploying them to relevant areas
- Local solutions with global outlook to local problems shall be the motto of community empowerment for disaster risk reduction

#### **Resolutions of parallel session 4: Hazard, Vulnerability and Risk Assessment**

- Public shall have the right to know the hazard potential of the area where they live A good disaster database on a spatial platform should be available at least regarding natural hazards and vulnerabilities
- Scientific hazard, vulnerability and risk assessment should be a priority and such assessments shall be updated on a regular interval
- Disaster risk reduction plans has to be formulated based on scientific risk assessment
- Regular fund allocation should be ensured for conducting and regularly updating HVRA

#### **Resolutions of parallel session 5: Hazard early warning systems**

- Generate efficient early warning systems to disseminate timely response to an impending disaster
- Educating public on the scientific data being shared reduces uncertainties
- Implement SOP directly at the point where a disaster is likely to occur
- Strengthen early warning systems for coastal hazards
- Database to recognize the major lightning prone areas in Kerala

#### **Resolutions of parallel session 6: Dam break analysis**

- Dams should be demolished after the desired design life time
- Dams should have control spill ways that can be used to drain the entire water rapidly if need be
- All dams should have a dam break analysis conducted alongside its commissioning
- Dam monitoring should be enhanced using necessary technology

Thus, the workshop resulted in concrete proposals for building a generic framework for future disaster risk reduction (DRR) policy formulation and streamlining of governance strategies based on scientific understanding of the hazards, vulnerabilities and risks. The workshop also provided guidance for deriving a suggestive framework for mainstreaming and institutionalizing disaster risk reduction through systematic and scientific contingency planning which could be a role model in the country for comprehensive disaster risk reduction policy formulation, planning and implementation. Further, the experts and invited speakers in the workshop collectively arrived at a statement that may have implications in future policy planning related to disaster risk reduction, globally which may be found blow. The statement called the 'Trivandrum Statement on Disaster Risk Reduction' was handed over by Prof. Tad S. Murty, University of Ottawa to Mr. Thiruvanchoor Radhakrishnan, Honourable Minister for Revenue, Disaster Management and Vigilance on the closing ceremony. Honb'le Minister assured the workshop participants that follow up action will be initiated by the state government on the various recommendations made by the workshop. Further, he appealed to the invited speakers and to the global disaster risk reduction community that the spirit of this workshop is taken up and actions and measures for disaster risk reduction and implemented.



**'STATEMENT ON DISASTER RISK REDUCTION' ADOPTED BY THE INTERNATIONAL WORKSHOP ON DISASTER RISK REDUCTION & CONTINGENCY PLANNING, MARCH 10, 2012, THIRUVANANTHAPURAM, INDIA**

*This Statement adopted by the International Workshop on Disaster Risk Reduction and Contingency Planning held on March 9-10, Thiruvananthapuram, India, is a policy guidance for all stakeholders involved in Disaster Risk Reduction. Reducing exposure to hazards, reducing vulnerability of life and property, scientific management of land and environment and improving preparedness for adverse conditions require collaborative efforts of government, communities, civil society, private sector, media and international organisations.*

***Recognising*** that natural hazards and disasters undermine the capacity of countries and communities for sustainable development, an effective disaster risk reduction approach requires a political and policy commitment towards sustainable human development and effective governance of natural resources and environment;

***Affirming*** the Hyogo Framework for Action (HFA) adopted by the countries of the world in 2005;

***Building*** the resilience of nations and communities requires joint action by the government, civil society organizations and people to ensure capacity of institutions, governments and people to develop effective strategies to prevent hazard events turning into disasters and to respond effectively to all disasters;

***Imperative*** for policy makers and practitioners of sustainable development to promote a pragmatic culture of disaster prevention across the world;

***Reducing disaster risk*** by promoting a culture of disaster resilience through awareness and knowledge of the hazards and effective preparedness to deal with the physical, psycho-social, economic and environmental vulnerabilities to disasters that any society faces;

*This Workshop proposes the following points for action to ensure a sustainable and resilient planet, responsible media, transparent governments, capable institutions, responsive corporates and empowered people to work together for safer, greener and disaster-less world:*

- 1. Disaster risk reduction and management should be an international, national, state and local priority for the governments, civil society organisations, corporate sector, media and non-governmental organizations and efforts shall be made to strengthen such disaster risk reduction efforts with effective legislation, public policies, financial resources and institutional capacity.***
- 2. Public policies and programmes of disaster risk reduction should be transparent and should ensure the participation of women, youth, children and vulnerable sections.***

3. *Development initiatives should be formulated based on scientific understanding of risks and developmental plans should contain a clear and holistic assessment of the threat that it may pose to the society and funding agencies should ensure this when research and development funding is granted.*
4. *Public has the right to know the hazard, vulnerability and risk that they are exposed to and all efforts are to be made by the states to provide scientifically based early warning to its citizens regarding impending disasters for which effective knowledge, information and data sharing should be strengthened.*
5. *Capacity-building for disaster risk reduction should move beyond training programmes and the society should ensure that children and youth are well-educated to cope with disasters for which states should be committed to make disaster risk reduction an integral part of all stages of formal and informal education using creative and engaging methods.*
6. *Disaster risk reduction technology including local and traditional practices that are time-tested should be documented and replicated and an ecosystem approach should be adopted towards disaster risk reduction, wherever appropriate.*
7. *Communities and local self-government bodies should be empowered and enabled to deal with all aspects of disaster risk management and linked with governmental response machinery to sustain its capacity for rapid response.*
8. *Possibility of new hazards particularly, anthropogenically triggered hazards such as oil spills, radiation, chemical accidents, etc. should be continuously evaluated and response, mitigation and contingency plans should be prepared and updated regularly.*

*The resolves of this workshop will hereafter be known as the 'Thiruvananthapuram (Trivandrum) Statement on Disaster Risk Reduction'.*

*We the participants of the International Workshop on Disaster Risk Reduction and Contingency Planning on March 9-10, Thiruvananthapuram, India state the above with the earnest hope that generations to follow will carry forward the message of this workshop and bear the responsibility of implementing these resolves into action.*

*Let us all strive 'towards a safer state'*

Signed on behalf of the participants of the Workshop at Thiruvananthapuram on 10 March 2012

s/d  
Dr. K.B Valsala Kumari IAS  
Secretary  
Kerala State Disaster Management Authority  
Government of Kerala

s/d  
Dr. Nivedita P. Haran IAS  
Additional Chief Secretary  
Department of Revenue and Disaster Management  
Government of Kerala