CENTRE FOR SCIENCE AND TECHNOLOGY OF THE NON-ALIGNED AND OTHER DEVELOPING COUNTRIES
(NAM S&T CENTRE)

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INTERNATIONAL WORKSHOP ON

MITIGATION OF DISASTERS DUE TO SEVERE CLIMATE EVENTS: FROM POLICY TO PRACTICE

COLOMBO, SRI LANKA
MARCH 10 – 13, 2016

BRIEF REPORT

The entire globe is currently getting highly vulnerable to the impacts of severe climate events originating from atmosphere related conditions. The susceptibility of a country is closely linked to its geological, geographical and socio-economic characteristics. For alleviating the risk of disaster due to severe climate events in a given region, many factors are needed to be studied in depth in an integrated context. The disaster prevention and risk reduction process should be done in a sequential path after gathering the information on geological, meteorological, sociological, technical and economic aspects of the possible severe climate events and a suitable risk mitigation plan should be chalked out and evolved.

During the last few years, due to the constant failure of implementing pre-planned strategies in actual disaster situations there has been a growing need for a concrete platform to educate and train the individuals and entities in the developing world and network with them to act beyond the disaster management policies. Keeping this in view, the NAM S&T Centre in partnership with the National Science & Technology Commission (NASTEC) of Sri Lanka organised an international workshop on 'Mitigation of Disasters due to Severe Climate Events: From Policy to Practice' in Colombo, Sri Lanka during 10-13 March 2016, which brought the scientists, experts and professionals engaged in R&D, policy making and implementation, social activists and other stake holders to a common forum for sharing views and experiences for the development of a road map for reducing the risks in real situations.

The Inaugural Session started with the National Anthem and lighting of the traditional lamp. During the Inaugural Session Prof. Dhammika A. Tantrigoda, Chairman, National Science and Technology Commission (NASTEC) of Sri Lanka made a welcome address, which was followed by the address of Prof. Dr. Arun P. Kulshreshtha, Director General, NAM S&T Centre, who presented the genesis of the event and also briefly described the activities of the inter-governmental organisation headed by him. The Chief Guest, H.E. Susil Premajayanth, Honourable Minister of Science, Technology and Research of the Democratic Socialist Republic of Sri Lanka in his Inaugural Address remarked about the calamities being faced by the humanity due to climate change related natural disasters and shared his experiences from the past in his capacity as the former Environment Minister of Sri Lanka. Dr. Muditha Liyanagedera, Director & CEO, NASTEC presented the Vote of Thanks. Mrs. R. Wijialudchumi, Secretary SLAS (Special) in the Ministry of Science, Technology and Research of Sri Lanka also graced the podium with her presence.

The Colombo Workshop was attended by 64 senior professionals from 19 countries, respectively, Cambodia, Egypt, Hungary, India, Indonesia, Iran, Malaysia, Mauritius, Myanmar, Nepal, Nigeria, Pakistan, Palestine, Thailand, Uganda, Venezuela, Zambia and Zimbabwe, and the host country Sri Lanka. Mr. Davino Ribeiro de Sena, Deputy Chief of Mission of the Embassy of Brazil in Colombo was present during the Inaugural Session.

The 23 foreign participants were from Cambodia [Mr. Neth Vansitha, General Secretary and Mr. Viseth Ung, Deputy Secretary General, National Science and Technology Council (NSTC), Ministry of Planning, Phnom Penh]; Egypt [Dr. Mohour Ibrahim Hassan Hassan, Supervisor, Climatic Changes Unit, Egyptian Environmental Affairs Agency (EEAA), Cabinet of Ministers, Alexandria]; Hungary [Prof. Dr. Laszlo Bozo, Scientific Adviser, Hungarian Meteorological Service (HMS) and Corvinus University of Budapest]; India [Prof. Rajesh Kumar Mall, Institute of Environment & Sustainable Development, Banaras Hindu University (BHU), Varanasi (U.P.)]; Indonesia [Dr. Ir. Adawiah, Deputy Director, Harmonization of Innovation Programmes and Policies, Ministry of Research, Technology, and Higher Education, Jakarta]; Iran [Dr. Reza Aghnoum, Deputy of Research and Technology, Khorasan Razavi Agricultural and Natural Resources Research and Education Center (KANRRC), Mashhad]; Malaysia [Dato' Ir. Rohaizi Mohd Jusoh, Senior Director, National Disaster Management Agency, Prime Minister's Department, Putrajaya; Prof. Dr. Chandima Gomes, Professor of Electrical Engineering, Department of Electrical and Electronics Engineering, Faculty of Engineering, Universiti Putra Malaysia (UPM), Serdang, Selangor Darul Ehsan; and Prof. Biswajeet Pradhan, Faculty of Engineering, Department of Civil Engineering, UPM]; Mauritius [Mr. Grish Gunraz Gunesh, Acting Senior Chief Executive, Ministry of Environment, Sustainable Development & Disaster and Beach Management, Port Louis]; Myanmar [Dr. Aye Mya Cho, Associate Professor, Department of Civil Engg., Mandalay Technological University, Mandalay]; Nepal [Prof. Jiba Raj Pokharel, Vice-Chancellor, Nepal Academy of Science and Technology (NAST), Kathmandu]; Nigeria [Mr. Agoro, Olayiwola A., Chief Scientific Officer, Department of Physical and Life Sciences, Federal Ministry of Science and Technology, Abuja; and Dr. Onimode Abdullahi Bandele, Deputy Director, Search and Rescue, National Emergency Management Agency (NEMA), Abuja]; Pakistan [Mr. Muhammad Danish, Principal Scientific Officer, National Institute of Oceanography (NIO), Karachi]; Palestine [Mr. Hatim Fahed Al Wahsh, Researcher, An-Najah National University, Nablus]; Thailand [Prof. Jayant K. Routray, Professor, Regional and Rural Development Planning, Coordinator of Interdisciplinary Academic Program on Disaster Preparedness, Mitigation & Management (DPMM) and Climate Change & Sustainable Development (CCSD), Asian Institute of Technology (AIT), Bangkok]; Uganda [Dr. Kisamba Mugerwa, Executive Chairperson, National Planning Authority, Kampala]; Venezuela [Prof. Dr. Joaquin Alejandro Linayo Rivero, President, Research Center C.I.G.I.R, Disaster Risk Reduction Research Center, Caracas]; Zambia [Mr. Mpanga Shadreck, Lecturer, Department of Electrical and Electronic Engineering, School of Engineering, University of Zambia, Lusaka]; and Zimbabwe [Ms. Chipo Mudavanhu, Lecturer, Geography Department, Bindura University of Science Education, Bindura]. The NAM S&T Centre was represented by its Director General, Prof. Arun P. Kulshreshtha and Ms. Nidhi, Research Associate.

The Sri Lankan participants, who made technical presentations during the Workshop, were Mrs. A.R. Warnasooriya, Deputy Director; Mr. N. Kumarasinghe, Senior Electronic Engineer and Mrs. W.N.S. Rupasinghe, Meteorologist of the Department of Meteorology,

Colombo; Mrs. Subashini Dyananda, Legal Officer, Ministry of Disaster Management, Colombo; Mr. K. Sivapalasundaram, Director, Assets Management & Disaster Management, Department of Irrigation, Colombo; Dr. P. Jayasinghe, Senior Geologist; Mr. D.M.D.S. Dissanayaka, Scientist; Ms. W.D.G.D.T Rajapaksha and Mr. W.A.D.T Wijesinghe of the National Building Research Organization, Colombo; Mr. Nalaka Deepal Subasinghe, Associate Research Professor, National Institute of Fundamental Studies, Kandy; Dr. J.M.S.B. Jayasundara, Head, Department of Environmental Management, Rajarata University, Mihinthale and Mr. R.T. Thrimawithana, Zebra Technologies Lanka Pvt. Ltd.

The overall programme of the Workshop was conducted in eight technical sessions, respectively chaired by Dr. Rajesh Kumar Mall of India; Dr. Riza Aghnaum of Iran; Prof. Chandima Gomes and Prof. Biswajeet Pradhan of Malaysia; and Prof. Dhammika Tantrigoda, Mrs. A.R. Warnasooriya, Dr. J.M.S.B. Jayasundara and Mr. R.M.S. Bandara of Sri Lanka, as well as the Plenary / Concluding Session.

The technical programme commenced with a Keynote Address by Prof. B. Pradhan of Malaysia on 'Multi-Sensor Remote Sensing Data & Geoinformation Tools for Natural Hazards Monitoring, Forecasting and Mitigation for Disaster Risk Reduction'. The other scientific papers presented during the Technical Sessions were on 'Cambodia's Resilient Actions to release Severe Disaster and Climate Change' by Mr. Neth Vansitha of Cambodia; 'Global Warming and Changing Weather Patterns' by Dr. Mohour Ibrahim Hassan Hassan of Egypt; 'Changing Weather and Air Quality Patterns in Central European and Mediterranean Region' by Dr. Laszlo Bozo of Hungary; 'Integration of Disaster Risk Reduction and Climate Change Adaptation in SAARC Region: A New Approach towards Disaster Risk Resilience' by Prof. Rajesh Kumar Mall of India; 'The Impact of Climate Change on Natural Disasters in Iran' by Mr. Reza Aghnoum of Iran; 'Identification of Indonesian Technology Readiness in Disaster Risk Reduction' by Dr. Ir. Adawiah of Indonesia; 'Optimization of Mitigation Strategies under Severe Climate Conditions by addressing Practical Issues' by Prof. Dr. Chandima Gomes of Malaysia; 'Existing National Policies on Natural Disaster Management in Malaysia - Directive No 20 and Flood Management' by Mr. Dato' Ir. Rohaizi Mohd. Jusoh of Malaysia; 'Climate Change and Changing Weather Condition' by Mr. Grish Gunraz Gunesh of Mauritius; 'Development of Damage Patterns and Isoseismal Maps for Thabeikkyin Earthquake in Myanmar' by Dr. Aye Mya Cho of Myanmar; 'Challenges in Implementation of Climate Change Policy of Nepal' by Prof. Jiba Raj Pokharel of Nepal; 'Natural Disasters and Climate Change in Nigeria: Issues and Mitigation Strategies' by Mr. Agoro Olayiwola A. of Nigeria; 'The Impact of Climate Change on the Socioeconomic, Hydrological and Soil Characteristics in the Chad Basin (Borno and Yobe States) of Nigeria' by Dr. Onimode Abdullahi Bandele of Nigeria; 'Impact of Climate Change and Natural Hazards on Pakistan Coast in a Worst Case Scenario' by Mr. Muhammad Danish of Pakistan; 'Academic Hubs: Using Applied Research and Community Services to Build Resilience of Nations and Communities to Disasters' by Mr. Hatim Fahed Al Wahsh of Palestine; 'Disaster Mitigation Policies and Practices in South Asia with a Focus on Social Capital' by Prof. Jayant K Routray of Thialand; 'Mitigation of Disasters due to Severe Climate Events: A Case of Landslides and Mudslides in Uganda' by Dr. Kisamba Mugerwa of Uganda; 'Experience in designing A National Research Agenda on Disaster Risk Management' by Prof. Dr. Joaquin Alejandro Linayo Rivero of Venezuela; 'Mitigating the Effects of Adverse Climatic Conditions in

Zambia' by Mr. Mpanga Shadreck of Zambia; 'Children's Experiences, Participation and Resilience to Flooding: Insights from Muzarabani, Zimbabwe' by Ms. Chipo Mudavanhu of Zimbabwe; and 'Changing Climate and Disaster Mitigation: Current Status in India' by Ms. Nidhi of NAM S&T Centre.

The presentations made by the Sri Lankan participants were on 'Mitigation of Water Scarcity Caused by Severe Droughts in Sri Lanka' by Mr. Nalaka Deepal Subasinghe; 'A Methodology for Assessing Changing Drought Conditions in Tropical Dry Lands' by Dr. J.M.S.B. Jayasundara; 'Case Study of Flash Floods Event on 14th November 2014 in Colombo due to Short Period High Intense Rainfall' by Mrs. A.R. Warnasooriya; 'Disaster Management Policy of Sri Lanka' by Mrs. Subashini Dayananda; 'Disaster Management associated with Kelani River' by Mr. K. Sivapalasundaram; 'Geotechnical and Geological Characterization of Kahagolla Earth Slip for Mitigation Purpose' by Mr. W.A.D.T. Wijesinghe; 'Land Subsidence at Atchuweli: A Case Study from Sri Lanka' by Dr. P. Jayasinghe; 'Adaptation of Modern Consumer Technology for Disaster Management and Mitigation' by Mr. R.T. Thrimawithana; 'Challenges in introducing New Technologies for Risk Reduction' by Mr. Nuwan Kumarasinghe; 'Physical and Social Environmental Assessment of Dodandeniya and Watagoda Landslides In Matale' by Ms. W.D.G.D.T. Rajapaksha; 'Applying Advanced Investigation and Monitoring Techniques to mitigate Slow Moving Landslides in Sri Lanka' by Mr. D.M.D.S. Dissanayaka; and 'Possible Early Warning for Landslides in Sri Lanka using "Antecedent Daily Rainfall Index": A Case Study of Meeriyabedda Landslide on 29.10.2014' by Mrs. W.N.S. Rupasinghe.

The official Banquet Dinner was hosted by the Chairman and the members of NASTEC at The Imperial Room of Mount Lavania Hotel on 11th march 2016.

The Plenary Session was chaired by Prof. Dhammika Tantrigoda (Chairman, NASTEC), Prof. Dr. Arun Kulshreshtha (DG, NAM S&T Centre), Mr. R.M.S. Bandara (Sri Lanka), Prof. Dr. Chandima Gomes (Malaysia), Prof. Dr. Joaquin Alejandro Linayo Rivero (Venezuela), Prof. Jayant K. Routray (Thailand) and Prof. Dr. Biswajeet Pradhan (Malaysia), in which to begin with, a brief presentation titled 'Role of NAM S&T Centre for South-South Cooperation in Science & Technology' was made by Prof. Arun Kulshreshtha. This was followed by extensive discussion on a draft Colombo Resolution on 'Practical Guidelines to minimize Hazards due to Severe Natural Events', which in the end was unanimously adopted by the participants for its submission to the concerned ministries, agencies and other authorities in their countries. The Certificates of Participation were handed over to the Workshop participants by Prof. Dhammika Tantrigoda and Prof. Arun Kulshreshtha. The Session concluded with the Vote of Thanks by Dr. Muditha Liyanagedera, Director and CEO, NASTEC.

After the workshop a Technical – cum – Cultural visit for the foreign delegates was organised to Kandy, the second largest city in Sri Lanka located in the Central Province and a sacred Buddhist UNESCO World Heritage site. In Kandy the delegates were taken to the provincial office of National Building Research Organization (NBRO) where a presentation was made by Mr. R.M.S. Bandara, Director, Landslide Research and Risk Management Division on the activities of NBRO and landslide warning and mitigation programmes of Sri Lanka. The delegates also visited a Landslide site at Mahamaya Girls School of Kandy.