



WORLD BANK REGIONAL EMERGENCY OPERATIONS CENTRE WORKSHOP

Summary Report
July 22–24, 2019

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Executive Summary

The World Bank Regional Emergency Operations Centre Workshop was conducted July 22–24, 2019 in Bangkok, Thailand. Approximately 60 participants attended the workshop from eight different countries representing nearly 30 disaster preparedness and emergency response agencies.

Building emergency preparedness

The workshop was delivered by Ascentra (EP&R TED firm) in collaboration with the Japan-World Bank Program for Mainstreaming DRM in Developing Countries, the U.S. Agency for International Development, Office of Foreign Disaster Assistance, and Thailand’s Department of Disaster Prevention and Mitigation. The workshop was developed and delivered with the support of GFDRR’s Preparedness Planning Program.

The workshop goal was to build the capacity of various South Asian countries in emergency preparedness and coordination by enhancing the participants’ understanding of the planning and development processes involved in establishing an emergency operations centre (EOC), and the role, functions, and management processes of an EOC.

Key Objectives:

The workshop engaged participants in focused, participatory discussions and activities on how their respective EOCs can accomplish the core functions of an EOC within the organizational structures each country has established. This included examining how existing EOC procedures and technologies are designed and implemented to facilitate accomplishing these functions. Finally, the workshop explored the role of leadership in the EOC, emphasizing the importance of crisis leadership.

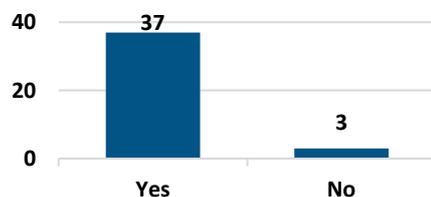
In order to achieve this objective, the workshop discussed the following principles:

- Policy and Doctrine that Shapes Emergency Preparedness
- EOC Organizational Structures
- Establishing and Maintaining Situational Awareness
- International Coordination Challenges and Multi-Agency Coordination
- EOC Resource Management
- Incident Action Planning

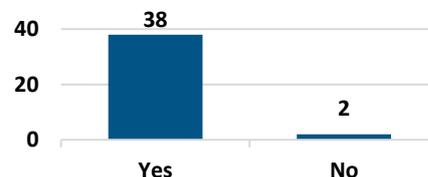
Exercise Objective Effectiveness

Based on participant feedback and facilitator observations, the key elements of the workshop were found to be met with overwhelming success as illustrated below:

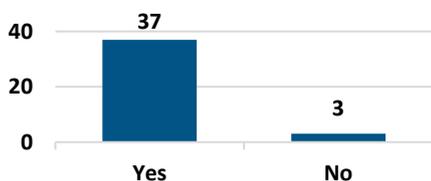
- a. Did the workshop provide participants with information to more effectively address emergency preparedness policy and doctrine?



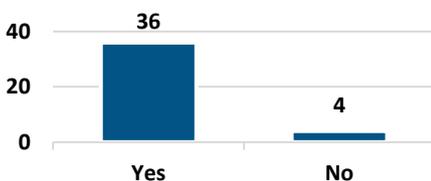
- b. Did the workshop provide participants with basic emergency operations centre principles?



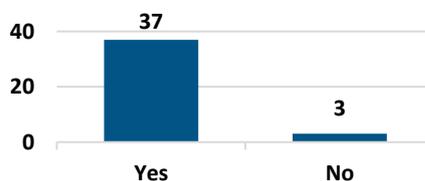
c. Did the workshop provide participants with information on the various forms of emergency operations centre structures?



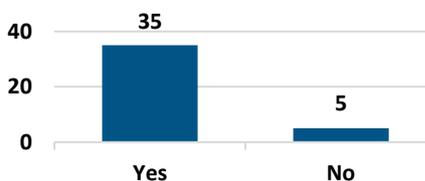
e. Did the workshop outline and provide basic resource management principles to employ in the emergency operations centre?



d. Did the workshop emphasize the importance of information sharing and methods to accomplish this function?



f. Did the workshop emphasize the importance of planning in the emergency operations centre environment and methods to accomplish this function?



The workshop was able to bring together some of the key stakeholders engaged in emergency preparedness and response in this region. At the workshop, University of Tokyo’s International Center for Urban Safety Engineering and the Disaster Management Training Center made presentations during different learning sessions, USAID made a Technical Presentations and Asian Disaster Preparedness Centre facilitated the field visit. In addition, these stakeholders also contributed in the design and development of the workshop sessions. This was the first-ever regional EOC workshop with close to 60 participants from eight different countries in the region (see the list

of countries and agencies below). The workshop was delivered in a participatory manner and included several learning from experience sessions (Japan, U.S.A. and Global), field trip to the Department of Disaster Prevention and Mitigation EOC to expose the participants to a functional EOC and to enable them to broadly understand structure and functions of EOCs, and a social media exercise where the participants were provided a simulated scenario and then had to determine what information they had for developing a situation report and what information they needed to obtain.

The participants from different countries, many of whom were senior officers, immensely contributed to the discussions during the workshop, were keen to learn from other countries, and ensured significant socialization during informal gatherings.

The Task Team Leaders (TTLs) who joined the workshop worked closely with their respective delegations on different activities during the week to discuss how EOCs can be organized and the leadership and management roles in the EOC. The groups also determined which EOC model is most appropriate for their countries and then developed a plan for how the various positions would be filled. The TTLs helped the participants in identifying current strengths and areas for improvement related to their ongoing development of EOCs and an emergency preparedness culture in their countries. Both TTLs and country delegations were very happy with the final outcome and there were some conversations about potential follow-up activities with the countries that participated in the event for more focused support. Finally, it was a great opportunity for peer learning between the different countries and the SAR teams.

List of counties and agencies that participated in the workshop:

- **Bangladesh:** Department of Disaster Management (Additional Secretary), Dhaka North City Corporation (Project Director in charge of EOC), Dhaka South City Corporation (Project Director in charge of EOC). All are in the process of setting up EOCs. Already funded through Bank projects.
- **India:** National Disaster Management Authority (Additional Secretary); Jammu & Kashmir Disaster Management Relief, Rehabilitation and Reconstruction Department (Additional Secretary); Tamil Nadu Commissioner Revenue Administration; Uttarakhand State Disaster Management Authority CEO.
- **Nepal:** Ministry of Home Affairs (Additional Secretary); National Reconstruction Authority (Joint Secretary).
- **Pakistan:** National Disaster Management Authority NDMA Additional Secretary.
- **Sri Lanka:** Disaster Management Center, Deputy Director, Emergency Operations Center and Director—technology, mitigation, research and development.
- **Maldives:** Chief Executive, National Disaster Management Authority and Deputy Chief Executive.
- **Bhutan:** Department of Disaster Management, Program Officers.
- **Afghanistan:** Afghanistan Disaster Management Authority ANDMA.

Participants left the workshop satisfied with the knowledge they gained and many felt that a similar process in their individual countries would be beneficial to ongoing EOC efforts. The participants appreciated the Bank's investment in them and discussed the critical role that EOCs play in managing emergencies effectively, especially in large-scale and complex emergencies. Some of the feedback from the participants at the end of the workshop emphasized the importance of a common, nationally accepted doctrine and framework for building preparedness and disaster resiliency.

The participants also appreciated the overview of legal frameworks for disaster preparedness and the discussions on varied roles of public and private agencies during disaster and emergency response. Finally, some of the main takeaways of the participants from the workshop were related to the importance of situational awareness and the EOC's role in gathering, analysing, and disseminating information as well as management of public information and technology-based information management systems that can be utilized in the EOC.

Background

In 2017, 335 natural disasters affected over 95.6 million people, killing an additional 9,697 and costing a total of USD \$335 billion. This burden was not shared equally, as Asia seemed to be the continent most vulnerable for floods and storms, with 44% of all disaster events, 58% of the total deaths, and 70% of the total people affected.

Despite this, the Americas reported the highest economic losses, representing 88% of the total cost from 93 disasters. China, the U.S., and India were the hardest hit countries in terms of occurrence with 25, 20, and 15 events respectively. Flooding in India, Nepal and Bangladesh alone affected about 27 million people with about 450 million people exposed to the same flooding.

There is extensive research indicating that increasing anthropogenic activities, glacier melt, and sea level rise are likely to result in an increase

in the frequency and intensity of hydro-meteorological disasters. A report from the Asian Development Bank points out that increasing economic damages from tropical cyclones may be explained by the increasing wealth in locations prone to these cyclones, rather than increasing frequency or intensity of disasters and goes on to point out that the damages may double, even without human-induced climate change due to concentration of economic assets and wealth in the vulnerable locations. There is a general agreement that the damages due to natural disasters are increasing and may increase further in the future. This calls for concerted efforts and proactive actions by all stakeholders not only to save precious human lives but also to minimize economic damages and losses and environmental degradation from disasters and emergencies.

Historically, proactive actions and effective response by government agencies and other stakeholders have resulted in saving lives and minimizing damages. Emergency response—being a multi-agency, multi-stakeholder function—requires elaborate mechanisms for coordination and cooperation. In a normal situation, different organizations/agencies are engaged in performing routine tasks assigned to them and falling in their jurisdiction. However, these

organizations/agencies must come together and combine their capabilities in order to respond to emergencies. The scenario keeps changing in a large-scale emergency and response needs to be undertaken in constantly changing situations with varying demands. This calls for a significant extent of coordination and cooperation within the emergency response organizations as well as among all assisting and cooperating agencies.

About EOCs

EOCs play a critical role in managing emergencies effectively. The need for a well-equipped and well organized EOC becomes even more relevant in large scale and complex emergencies. An EOC is a central coordination point responsible for carrying out the emergency management functions during an emergency. An EOC is responsible for providing strategic direction and making broad operational decisions. An EOC operates at the strategic level while field-level tactical decisions are made by the responding agencies.

The concept of the EOC is an important element of emergency response and has been evolving over the years. It has been observed that EOCs are at different stages of evolution.

While EOCs are now well entrenched in emergency response systems of many advanced countries

like the United States, Japan, and Australia, they are still in the nascent stage in many others. They tend to vary from country to country, and many times within a country. The structure and functions of EOCs depend on operational jurisdiction, perceived needs, available capabilities and access to technological know-how.

One of the challenges observed in the development of EOC mechanisms within many countries is the lack of a base doctrine, authority, or accepted emergency response practices within a country. The reason that countries such as Australia and the U.S. have mature EOC processes is the very fact that both have an emergency/incident management doctrine, set terminology, and a set of national practices for EOC functions, integration, and authorities.

“This type of workshop is very helpful. The workshop should be arranged regularly.”
Workshop Participant

Conversely, in some countries with well-defined authorities and EOC understanding, there is a gap in the “marketing” of the EOC and integration within field forces or governments that need to be addressed in order for EOCs to be part of the unity of effort concept for a country-wide response. These challenges can be amplified when the country response has a mix of command/control systems. Countries that have a mix of command/control systems hamper effective EOC integration and coordination. For example, the World Health Organization recommends that healthcare systems utilize the American Hospital Incident Command System model, while some countries utilize the U.K.’s Gold-Silver-Bronze system for their paramilitary civil

protection teams. This can cause confusion and organizational structure challenges at the EOC level when the country has not adequately planned for this integration for large responses.

To ensure the appropriate functionality of an EOC, planning starts from its design phase and continues through its lifetime. A suitable pre-design process will include resilient designing and construction appropriate to the EOC’s location and size, Standard Operating Procedures (SOPs) supported by appropriate human resources, technology, equipment, and systems and processes that will support the seamless functioning of an EOC. Each of these parameters requires meticulous planning.

Workshop Structure

This workshop was a multiday, interactive workshop. In addition to the informative discussions and presentations, participants also engaged in interactive workshop activities and small group, break-out sessions designed to strengthen their

knowledge of developing the appropriate EOC environment. All sessions provided time for questions with speakers and facilitators. A tour of a local emergency preparedness facility was also conducted.



Workshop Agenda Day 1

Learning from Experience Sessions 1 & 2—The Japan Case; Japan’s EOCs and response to large-scale incidents, their perspectives on emergency management, and current preparedness initiatives were provided by members of the University of Tokyo’s *International Centre for Urban Safety Engineering* and the *Disaster Management Training Center*.

Technical Session 1—Policy and Doctrine that Shapes Preparedness; An overview of the importance of a common, nationally accepted doctrine and framework for building preparedness and disaster resiliency was the focus of this session. It also addressed legal frameworks for disaster preparedness and the varied roles of public and private agencies

during disaster and emergency response.

Technical Session 2—Introduction to EOC Principles; This session focused on the concept, significance, and primary roles/responsibilities of EOCs. Interaction with field incident management was also addressed.

Learning from Experience Session 3—International Coordination Challenges and Multi-Agency Coordination; The U.S. Agency for International Development, Office of Foreign Disaster Assistance shared experience in establishing emergency management programs, multi-agency coordination systems, and emergency operations centres throughout the world to include case studies in Southeast Asia.

Workshop Agenda Day 2

EOC Field Tour—A site visit of the Thailand Ministry of Interior’s Department of Disaster Prevention and Mitigation emergency preparedness facilities in Bangkok was conducted. The purpose of the visit was to expose the participants to a functional EOC and enable those still developing their programs to better understand structure and functions of EOCs. Several informative presentations were

provided by the facility operational staff highlighting past activations and lessons learned.

Technical Session 3—EOC Structure Development; Participants were introduced to how EOCs can be organized as well as leadership and management roles in the EOC. Personnel coordination, training, and human resource needs in the EOC environment was also addressed.



Activity Session 1—EOC Structure Development; Participants worked together in an interactive session to determine which EOC model (from Technical Session 3) would be most appropriate for their program. They were then tasked with developing a plan for how the various positions would be filled.

Technical Session 4—Establishing and Maintaining Situational Awareness; This session focused on the meaning and importance of

situational awareness and introduced the essential elements of information. It also revealed the EOC's role in gathering, analyzing, and sharing/disseminating information with the incident site, elected and appointed officials, and community stakeholders. Management of public information was also addressed as well as technology-based information management systems that can be utilized in the EOC.

Day 3

Activity Session 2—Situational Awareness Drill; Participants were provided a simulated scenario and then worked in small groups simulating an EOC to develop a situational report that could be presented to an elected or appointed government official or administrator.

Technical Session 5—Introduction to EOC Resource Management; The role of EOCs in supporting the resource requests of incident sites to include location, acquisition, tracking, and deployment. The use of technology-based resource management systems that can be utilized in the EOC will also be reviewed.

Activity Session 3—Resource Management Drill; Participants continued their disaster scenario

resource needs, priorities, and worked together to identify sequencing, and disposition of resource requests from several notional disaster incidents.

Technical Session 6—Incident Action Planning; This session provided an overview on the EOC's role in planning support during an incident. An introduction to Action Planning was also provided.

Activity Session 4—Participant Lessons Learned; Facilitators assisted participants in identifying current strengths and areas for improvement related to their ongoing development of EOCs and an emergency preparedness culture in their countries. Suggestions for future workshops were also discussed.

Lessons Learned

Activity Session 4 of the workshop was a facilitated group discussion that provided participants the opportunity to reflect on lessons learned during the

workshop and personal observations for future improvements. The following is a summary of the discussion.

“Amazing workshop—very educational and very informative. A comprehensive workshop on every aspect of EOCs..” *Workshop Participant*

- Participants agreed that the workshop format would benefit other countries throughout the region and should be provided again at a future date. Many felt the workshop could be expanded to offer additional days and topics to increase their knowledge of general emergency management and emergency operations centre practices. There were also requests for varied levels of training from beginner to advanced.
- The breakout small group work sessions were found to be very beneficial in practicing skills discussed in the presentations and also served to expand communication and collaboration with neighbouring countries. Future workshops would benefit from additional exercises of this type with a variety of scenarios and increased challenges that would allow the participants to gain more proficiency in decision-making, planning, coordination, and information gathering and sharing. This “hands on” practice is invaluable and can be applied in their daily as well as emergency activities.
- Some additional subjects for future workshops identified by the participants included pre-event planning, meteorology awareness, and case studies on lessons learned and best practices from participating countries.
- It was observed that one of the single most valuable facets of the workshop was the peer-to-peer networking that was accomplished. Participants were given the opportunity to build relationships and learn from each other’s experiences. With that, many thought it would be advantageous to form a regional working group to continue to share information, develop mutual aid capabilities were possible, and establish an environment for future regional growth.

Recommendations for Future Programs

Participants found the overall subject matter of the workshop extremely beneficial. Their primary request was for World Bank to provide specific, more detailed workshops that focused on each of the individual elements presented in this event. Each

workshop should be specific to the country or region and oriented to the particular challenges or concerns for the intended audience. The following workshop topics are recommended for future World Bank sponsored activities.

“World Bank need to coordinate and continue its efforts to strengthen by creating a forum for South Asian countries.”
Workshop Participant

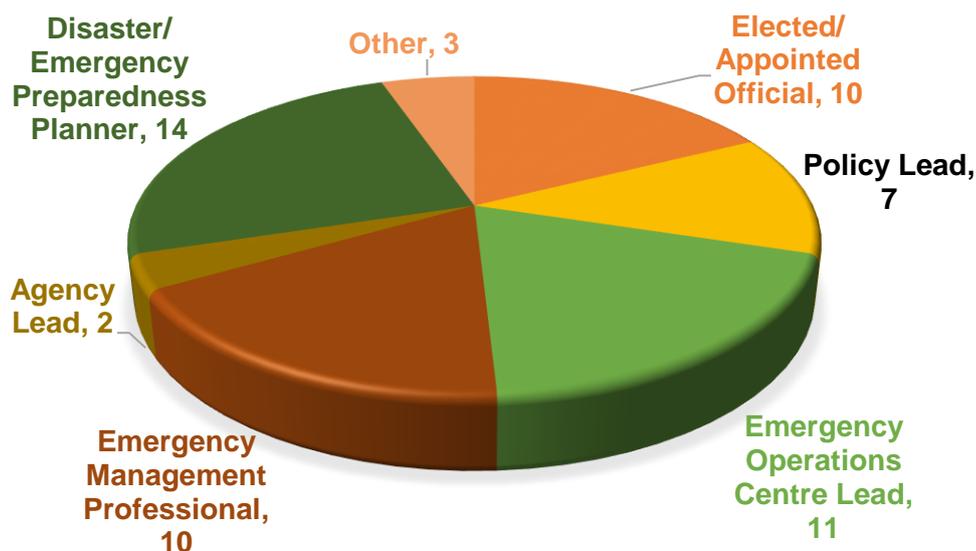
- **Emergency Operations Centre Incident Action Planning**—delivers an overview of EOC Action Planning for emergency managers other EOC staff members to help them apply the knowledge of the Incident Command/Management System as part of a broad based emergency management system. In addition, it will educate participants in various aspects of planning and the necessary elements required to develop an Action Plan.
- **Advanced Incident Management**—provides the skills necessary to effectively plan for and manage a large-scale incident by applying and implementing an all-hazards, multi-disciplinary, command and management team approach with specific emphasis on the incident planning, multi-agency coordination, and resource management processes.
- **Emergency Operations Centre/Incident Command System Interface**—provides an opportunity for emergency management and response personnel to begin developing an Incident Command System (ICS)/EOC interface for their communities.
- **Standard Operating Procedure/Guideline Development**—addresses the process of writing standard operating procedures and the essential parts of the procedure to document and communicate complex information with clarity and conciseness to others within their organization.
- **Emergency Operations Centre Facility Design**—description and principles needed to ensure the physical emergency operations centre facility is designed with survivability, security, sustainability, interoperability, and flexibility so that personnel can perform assigned tasks and duties during any activation level.

- **Emergency Operations Centre Situational Awareness and Information Sharing**—addresses the fundamentals of situational awareness and the common operating picture for emergency management and includes concepts, theory, capabilities, tools, and techniques for achieving a more effective situational awareness and the common operating picture system to effectively improve critical decision-making prior to, during, and after an incident.
- **Emergency Operations Centre Resource Coordination and Management**—applies resource management principles as for centres supporting large, multi-jurisdictional incidents, and shows how systems for managing resources can be used to improve incident response.
- **Public Information and Social Media Coordination**—introduces participants to what the Public Information Officer (PIO) does in emergency management. Potential topics covered include the role of the PIO; communication tools and resources encompassing social media; effective communication; preparing the community through outreach and other means; and communication in an incident.
- **Exercise Design**—designed to introduce participants to the fundamentals of exercise design. Exercise program managers can learn to develop, execute, and evaluate exercises that address the priorities established by an organization’s leaders. These priorities are based on the national goals, strategy documents, threat and hazard identification/ risk assessment processes, capability assessments, and the results from previous exercises and real-world events.
- **Exercise Evaluation**—introduces the basics of emergency management exercise evaluation and improvement planning to prepare participants to evaluate an exercise and create actionable after action reports.
- **Country and/or Regional Functional Exercises**—scenario-based exercises focusing on the unique and varied man-made incidents and natural disasters to evaluate emergency operations centre capabilities, functions, plans, and personnel in a realistic, real-time environment.

Appendix A: Participant Feedback

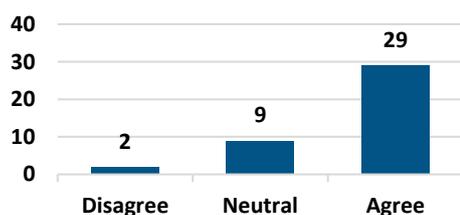
Participant Demographics

a. What is your role within the organization’s emergency preparedness structure?

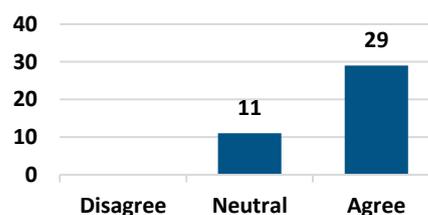


Workshop Design/Conduct

a. The length of the individual sessions was appropriate.



b. The workshop provided the opportunity to address significant decisions in support of critical mission areas.

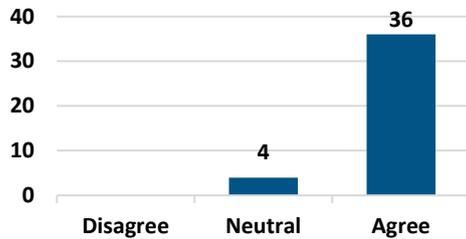


Participant Observation Summary

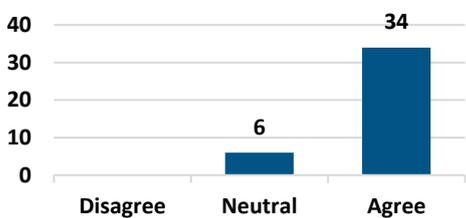
The workshop brought together appropriate participants from different countries and facilitated a process of information and knowledge sharing under the guidance of well-informed technical specialists using effective

methodology. The following information is a summary of commentary and observations themes provided by participants; a transcript of individual comments can be found at the end of this section.

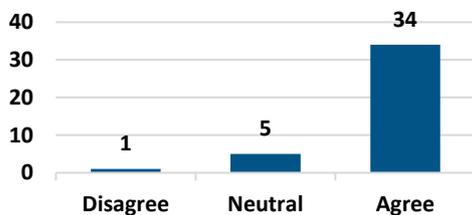
c. The facilitators were knowledgeable about the material, kept the workshop on target, and were sensitive to group dynamics.



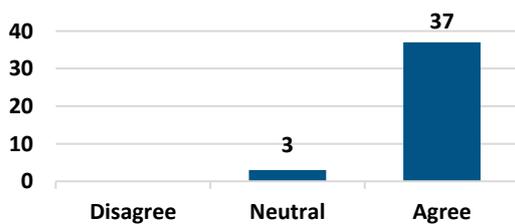
e. This workshop allowed me to identify areas for improvement.



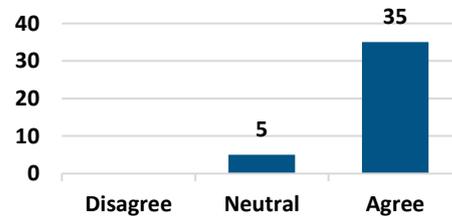
g. The workshop space was comfortable and conducive to a learning environment.



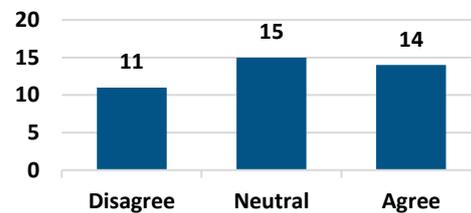
i. The workshop increased my understanding about and familiarity with the emergency operations centre concept.



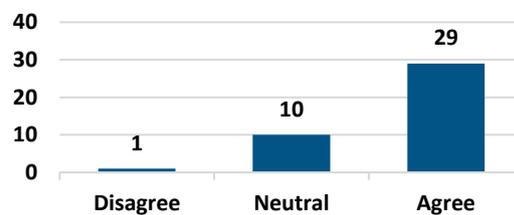
d. After this workshop, I am better prepared to develop a way forward for emergency operations centres development.



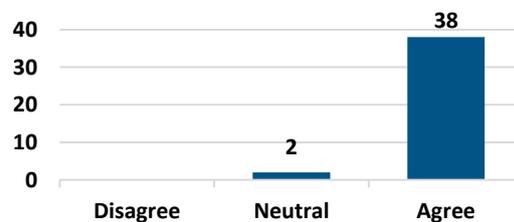
f. The length of the workshop was appropriate.



h. Workshop participants included the right people in terms of level and mix of disciplines.



j. Overall, the workshop was constructive and worthwhile.



Workshop Length and Content

Participants indicated that more time should be afforded to each subject matter area even if that required a longer overall workshop. This would allow a more detailed and specific discussion of the topics.

It was also mentioned that more subject matter experts from the regions could be invited to share their knowledge.

Additionally, each participating country could be encouraged to provide a presentation of their current disaster management and emergency operations centre status. This would provide participants with the country-specific challenges and capabilities their regional partners face and initiate discussions between those with like issues.

Future Training/Exercise Initiatives

One of the first areas identified by participants for future programs was for each country to conduct national-level workshops to establish national priorities, systems, and plans. Many participants noted that such workshops need to involve stakeholders from multiple areas of government to aid in adapting a standard process for designing and managing EOCs and also to contribute to the doctrine of disaster management within their countries. From these workshops agencies could benefit from training in overall emergency/disaster management principles and planning (mitigation, preparedness, response, recovery) so they can determine agency priorities, develop planning efforts, and establish their current and desired capabilities and capacities. Additional training and information on general leadership and management skills as well as standard operating procedure development was also noted as being potential areas for assistance.

Participants also felt that by having sessions that presented best practices, lessons learned, and case studies from other countries—even those outside their region—would help them better understand the universal challenges and approaches to improving on their current systems.

Other frequently requested programs for future workshops included community involvement (maximizing the use of volunteers and community stakeholders); designing and building the emergency operations centre facility; emergency operations centre technology (early warning systems, GIS products, dissemination methods, information sharing platforms, etc.); and additional scenario-based exercises to validate plans and procedures and practice emergency management skillsets.

Direct Support Requests

In addition to participant input on future planning, training, and exercise support, there were several requests for direct support project at the country and regional level. From a regional standpoint, participants requested that World Bank assist in formalizing a regional forum to aid in the exchange of disaster management (i.e. planning/preparedness) dialogue, peer assistance, and disaster management information sharing. Participants requested that the World Bank should track progress of participating countries and share the information within the forum for continuous improvement.

Participants also thought it would be beneficial for a web-based portal to be developed for use in sharing job aids,

planning toolkits, facility of position checklists, and other emergency management related materials that could be incorporated by other members in the southeast Asia regions.

There were also several requests for technical or “hands on” assistance within each country in emergency operations center assessments and subsequent improvement; increasing current search and rescue assets and capabilities; threat and hazard identification and risk assessment; hazard mitigation programs; and technical training on systems and programs used in emergency operations centers.

Transcribed Participant Comments

- The training programs and the duration should be much longer and experience sharing between regions should be included.
- I feel that the length of the workshop could have been longer so that we don't feel completely packed and so tense. And could have included the situation and status of disaster situation reporting of EOC in other regional countries.
- Awareness of EOC functions of the participant countries.
- It is better to have case study shape learning model. It would be easy to understand difficulties and facilities also.
- This kind of capacity building workshop and also leadership building programs would be more helpful in developing the disaster preparedness programmes.
- This workshop is very good. Overall the workshop was constructive and worthwhile.
- Inclusion of local community group/participation.
- A program on develop a robust early warning system will be helpful is disaster preparedness.
- Country presentations are needed to be presented by each country.
- Lengthy program with fully practical sessions is needed.
- Synergize the South Asian EOCs in one platform.
- There should be more regional speakers and content for such workshop to provide the right context.
- The workshop design should be more interactive and be in classroom style—regional knowledge sharing should be encouraged by providing more speaking slots to participants.

- The group work exercises should be designed to encourage regional dialogue and inter-country learning.
- More interactive sessions and hands-on emergency planning and management training.
- Focusing/adding a module on leadership.
- Formalize a regional cooperation forum/south-south exchange forum/dialogue.
- Facilitate dialogue and exchange as a “community of practice”.
- The SOP development.
- Discuss the EOC functions on a forecast scenario of an impending event.
- Building capacities and communication, especially volunteers.
- Making standardized processes of disaster mitigation, prevention, relief, rescue, rehabilitation, and new concept of BBB.
- Our early warning systems, especially relating to hydrological disasters, needs to be more precise/specific so that prevention/mitigation attempts can be targeted better.
- This course is a basic course on EOC. More advanced course on the design aspects and procedure aspects of the EOC should be covered in the future EOC workshop.
- An in-detail session should be planned to introduce existing technologies like GIS products, dissemination methods, etc.
- Further participants may be required to share the best practices (only after reviewing them and considered as best practice).
- World Bank need to coordinate and continue its efforts to strengthen by creating a forum for South Asian countries. This example of Thai EOC is not up to ten maybe. Some other nation where fully established may help participants to benchmark better.
- Some national-level workshops to establish national priorities, systems, and plans.
- More discussion about EOC onsite.
- Best practices adopted by countries across the world, in terms of disasters like forest fires or landslides.

- Involving and engaging communities for preparation and post-disaster management. Best practices may be shared.
- The sessions were lengthy and least interactive. Learning from regional experts would have been very helpful.
- Let participants share their experience.
- In future chose a place that is universally accessible.
- Capacity building/trainings (more).
- Logistics supports.
- Human resource and its management.
- A portal to access materials, toolkits, and guides.
- Information sharing on a quarterly basis.
- More training.
- Disaster risk reduction.
- Disaster risk management. Five-years plan/policy.
- Early warning system (tsunami, etc.).
- Disaster risk reduction framework—3–5 years plan/policy.
- Regional forum or an institute for knowledge sharing and replication of best practices.
- To have a kind of forum which can meet regularly.
- It would be helpful if World Bank could further support the process.
- It would be helpful if we got technical assistance to countries from World Bank to develop their EOC based on country context.
- EOC based on earthquake should be addressed.
- Regional cooperation and resource person should be included.
- More practical training about EOC.
- Overall, disaster planning and pre- to post-disaster. Training for disasters faced by mountaineering crews like flooding, landslide, road accident, fires, etc.
- Training related to practical session—should be more in training than theoretical parts would be required.

- Such type of training programme helpful to make the policy and work in field level.
- Financial support to the least developed countries.
- Technical and communication skill need further execution of programme (for the least developed countries).
- More illustrations/examples to describe the principles.
- Sharing of regional experience and knowledge.
- Scope beyond EOC. Focus on EOC/DM coordination. Include stakeholders such as hydromet/weather services providers and last mile connection issues.
- I feel that having presentations from countries to understand country-specific challenges and then relating the training materials to their challenges would have been more helpful to centralize and apply for the countries.
- Establishment of EOCs and its expansion.
- Logistics specially focused on SAR, heavy equipment.
- Support for risk reduction specially on flood management and mitigation program.
- Support to increase the SAR capacity.
- Support to enhance technical skills and capabilities of EOC managers/personnel working on it.
- Continuity of the workshops in the future.
- The length was too short, willing to increase the time for workshop.
- Emergency operational management should be implemented as a separate science/academy on regular basis as it is continuous phenomena in our territory.
- Inter-regional support and assistance should be organized in integrated way by World Bank.
- The World Bank Group has to communicate and keep track or record of all of its stakeholder countries about the progress, policy, and process of their emergency management.
- More information on standards/guidelines towards establishment of EOC.

- Design parameters of EOC.
- Best practices of EOC functioning and effectiveness towards saving lives and property.
- Design of EOC as a physical structure and do corporate.
- Deep dive in technology of EOC.
- Experiences of Japan's and U.S.'s emergency practices (lessons) was useful.
- Instrumental for Nepal, as EOC is operational throughout the country and helps identify the gaps in our context and make the improvement on our setups for new EOCs.
- Country-specific disasters (that already occur) could be the scenario.
- Lessons learned and good practices should be shared.
- I think community participation is very important in disaster management activities so one session can be included in EOC workshop.
- I am happy with the contents of the workshop—it is interactive and informative. Hope lessons learned will be replicated back in my country.
- An excellent initiative taken by the group. Workshop is very informative. Forum should continue and handhold each other.
- It is a nice program. It would be more if some regional resource persons were involved. This will enhance understanding.
- Experienced very well on formation and management of EOC.
- The workshop became very helpful with the past experiences of the U.S. and Japan, especially lessons learned become another lesson for us.
- Apart from learning lessons, technical sessions were very much fruitful to apply in our relative field.



Appendix B: Workshop Schedule

Day 1: July 22, 2019

Time	Session/Activity	Speaker
9:15 am	Welcome and Opening Remarks	Mr. Derek Rowan and Mr. Ignacio Urrutia
9:45 am	Learning from Experience Session 1 —The Japan Case	Dr. Kimiro Meguro
11:00 am	Learning from Experience Session 2 —The Japan Case	Dr. Muneyoshi Numada/ Mr. Tetsuro Ito
1:45 pm	Welcome Remarks	Mr. Francis Ghesquiere
2:00 pm	Technical Session 1 —Policy and Doctrine that Shapes Preparedness	Mr. Derek Rowan
3:00 pm	Technical Session 2 —Introduction to EOC Principles	Mr. John Newcomer
4:15 pm	Learning from Experience Session 3 —International Coordination Challenges and Multi-Agency Coordination	Mr. Tim McSherry
5:15 pm	Day 1 recap/Admin instructions for Day 2	Mr. Derek Rowan and World Bank
5:30 pm	Dismissal	Mr. Derek Rowan

Day 2: July 23, 2019

Time	Session/Activity	Speaker
8:00 am	EOC Field Tour	Department of Disaster Prevention and Mitigation EOC Management Team
1:15 pm	Daily Opening Remarks	Mr. Derek Rowan
1:30 pm	Technical Session 3 —EOC Structure Development	Mr. Derek Rowan
2:45 pm	Activity Session 1 —EOC Structure Development	Facilitation Team
3:45 pm	Technical Session 4 —Establishing and Maintaining Situational Awareness	Mr. Derek Rowan
4:45 pm	Day 2 recap/Admin instructions for Day 3	Mr. Derek Rowan and World Bank
5:00 pm	Dismissal	Mr. Derek Rowan

Day 3: July 24, 2019

Time	Session/Activity	Speaker
9:00 am	Daily Opening Remarks	Mr. Derek Rowan
9:15 am	Activity Session 2 —Situational Awareness Drill	Facilitation Team
10:45 am	Technical Session 5 —Introduction to EOC Resource Management	Mr. John Newcomer
1:15 pm	Activity Session 3 —Resource Management Drill	Facilitation Team
2:45 pm	Technical Session 6 —Incident Action Planning	Mr. Derek Rowan
4:00 pm	Activity Session 4 —Participant Lessons Learned	Mr. Derek Rowan
5:00 pm	Dismissal and Closing Remarks	Mr. Christoph Pusch



Appendix C: Participant List

Country	First Name	Last Name	Institution	Title
Bhutan	Jamyang	Tshomo	Samtse District	District Disaster Management Officer
	Phuntsho	Wangdi	Trashigang District	District Disaster Management Officer
Sri Lanka	Lakmali	Ranaweera	Ministry of Public Administration & Disaster Management	Assistant Secretary
	K.A.D. Pradeep	Kodippili	Disaster Management Centre	Deputy Director (Early Warning)
	T.W.K.I. Indika	Pushpakumara	Disaster Management Centre	Assistant Director (Emergency Operation)
Afghanistan	Ahmad Khan	Nafee	Afghanistan National Disaster Management Authority	Director of Emergency Operations Center
	Mohammad Omar	Mohammadi	Afghanistan National Disaster Management Authority	Director of International Relations
Bangladesh	Mohammad Abul	Kashem	Dhaka North City Corporation	Deputy Project Director
	Mosharof	Hossin Mondal	Ministry of Local Government, Rural Development & Co-operative	Administrative Officer Local Government Division
	Mohammed	Abul Fazal	Sylhet City Corporation Department of Disaster Management	Sub Assistant Engineer
	Md. Feroze	Kutubi	Fire Service and Civil Defence	Deputy Assistant Director
	Manoronjohn	Sarker	Fire Service and Civil Defence	Deputy Assistant Director
	Md. Khayrul	Hasan	Emergency 2007 Cyclone Recovery and Restoration Project & Bangladesh Urban Resilience	Director

Country	First Name	Last Name	Institution	Title
India	Bishnupada	Sethi	Odisha State Disaster Management Authority	IAS, Commissioner-cum-Secretary (DM) & Managing Director
	Kishan	Sanku	Andhra Pradesh State Disaster Management Authority	SEOC in charge
	Ridhim	Aggarwal	Uttarakhand State Disaster Management Authority	Additional CEO
	Manoj	Kasana	Ministry of Home Affairs	Second-In-Command
	Samir	Kumar	National Disaster Management Authority	Deputy Project Director
	Pandurang Kondbarao	Pole	Indian Administrative Service	Secretary, Disaster Management, J&K
Pakistan	Shafique Ahmed	Sheikh	Provincial Disaster Management Authority, Government of Sindh	Director (Operations)
	Zeeshan	Abdullah	Provincial Disaster Management Authority, Governemnt of Khyber Pakhtunkhwa (KP)	Director Complex Emergency Wing
	Muhammad Tariq Masood	Farooka	Provincial Disaster Management Authority, Government of Punjab	Director
	Liaqat	Ali Kashani	Provincial Disaster Management Authority, Government of Balochistan	Director Emergency Response
Nepal	Dipak Raj	Nepal	Ministry of Home Affairs	Under Secretary
	Rajendra	Dhungana	Ministry of Finance	Under Secretary
	Tulsi	Prasad Dahal	Ministry of Home Affairs	Section Officer
	Santosh	Subedi	Ministry of Home Affairs	Section Officer
Maldives	Umar	Fikry	National Disaster Management Authority	Deputy Chief Executive
	Safeenaz	Hassan	National Disaster Management Authority	Director General