

SUMMARY REPORT

A. Organization of the meeting

1. The Regional Workshop on “Promoting ICTs for Inclusive and Disaster Resilient Development” was organized from 26-27, 29 October 2015 by the United Nations Economic and Social Commission for Asia and the Pacific (ESCAP). It was the second of two workshops on this theme organized as part of a United Nations Development Account project entitled “Strengthening information and communications technology capacities for disaster risk reduction and development: addressing information, knowledge and policy gaps in Asia” and focuses on Expected Accomplishment 1 of that project, ‘Increased knowledge and awareness among policy makers of the importance of ICTs for promoting inclusive and disaster resilient development’. Sessions of the workshop were co-organized by the ICT and Disaster Risk Reduction Division as well as the Statistics Division of ESCAP.

B. Objectives

2. ESCAP Resolution 69/10 on “Promoting regional information and communications technology connectivity and building knowledge-networked societies in Asia and the Pacific” was adopted by member States at the 69th session of the ESCAP Commission encourages member States to continuously promote regional cooperation to address the digital divide and to formulate and implement coherent ICT policies that build knowledge-networked societies.

3. In order to operationalize this mandate and fulfil the development goals of the project, this workshop was oriented for policy and decision makers from ministries that are involved in ICTs, DRR and development planning, including National Disaster Management Authorities, in order to help address the identified capacity building needs. Drawing upon existing ESCAP studies in conjunction with the research activities of this project, this meeting focused on addressing the identified gaps and opportunities found in the region, including topics such as disaster related statistics, lessons learned in the use of ICT in cross-border multi-hazard early warning systems and emerging applications such as social media. The Workshop provided a platform for participants from ESCAP member States to share their experiences in the use of ICT for disaster risk reduction, exchange views, catalyse peer learning and assess the existing gaps and resources in disaster risk reduction and management in Asia as well as provide training on the preparation of statistics to measure ICT for DRR and development. Agenda of the meeting is attached as Annex 1.

B. Attendance at the meeting

4. The workshop was attended by participants from ministries of ICT and Disaster Management from Azerbaijan, Bangladesh, Bhutan, Cambodia, Fiji, Kyrgyzstan, Lao PDR, Mongolia, Myanmar, Nepal, Palau, Philippines, Sri Lanka and Viet Nam.

5. Sessions of the Workshop were moderated by Major General Asghar Nawaz, Chairman of National Disaster Management Authority of Pakistan and H.E. Mr. Inia Batikoto Seruiratu,

Minister of Agriculture, Rural and Maritime Development and National Disaster Management, Fiji.

6. The list of participants is attached as Annex 2.

C. Proceedings

Session 1

7. Mr. Alf Blinkberg presented material to the workshop on addressing challenges and gaps in regional early warning systems for disaster risk reduction. As part of his remarks, he emphasized the importance of early warning systems, as recognized in the recent outcome of the Sendai process. In this regard, multi-hazard and cross border early warning systems have become increasingly recognized for their value in DRR. From an ICT perspective, the importance of interoperability between early warning systems was highlighted, including emerging standards such as the Common Alerting Protocol makes it easier to implement linkages between early warning tools.

8. Mr. Junichi Yoshitani presented to the workshop on the challenges and opportunities of early warning for managing risks of water-related hazards with trans boundary origins in the Asia-Pacific region. The examples he shared with participants highlighted the risks of flood events in countries such as Afghanistan, Pakistan and Japan. Systems which have enabled decreasing fatalities were also highlighted and examined. As part of this study, the ICT systems facilitating early warning, including satellite and rainfall data were examined, together with a review of the predictive reliability of these systems over time. Lessons learned from this case study include the need for observation of water flows, the use of sophisticated satellite or meteorological tools as second alternative, and the need to thoroughly evaluate and calibrate the forecasting system using historical observation data by experts. These processes extensively use ICT resources and rely on a communications and information dissemination networks including media, related organizations, local communities and residents.

9. Ms. Mandira Singh Shrestha related a case study on the regional flood information system in the Hindu Kush region of the Himalayas. In this context, trans boundary flood events affecting multiple countries are a key concern. In this regard, the project on a regional World Hydrological Cycle Observing System (WHYCOS) system for Bangladesh, Bhutan, China, India, Nepal and Pakistan was outlined for workshop participants. With the goal to minimise the loss of lives and property by reducing flood vulnerability in the sub region, the project seeks to establish a network of monitoring stations incorporating tools such as mobile phones (using CDMA/GSM) and satellite communications to facilitate real-time flood information systems. Some challenges faced by the project include limited capacity and human resources as well as high variability in the necessary technical infrastructure and aptitude for forecasting and early warning available in the region. Among the lessons learned, the value of real-time data and information for developing flood outlook was demonstrated. Finally, the continued need for regional cooperation and collaboration across borders and trans boundary sharing of information to minimize adverse impacts of disasters through regional and international partnerships was emphasized.

10. Mr. Khieu Hourt related the case of the Mekong River Commission its regional centre which serves an important role for data and information sharing, capacity exchange and collaboration across members States. An important component of this cooperation features the Hydmet tool, a software system which stores observed hydrological data, time records,

import/export capacity, and reporting functions. Lessons learned from this mechanism emphasize the challenges in production of timely and reliable information, including the quality of the data and appropriate collection and transfer mechanisms. Specific concerns related to forecast accuracy include dealing with absence of a human data collector due to issues such as illness, failure in telecoms networks or isolated stations, as well as issues with data sharing tools. Recommendations included the critical need for investment in data as a basic step towards better management of flood risks as well as the need to further strengthen work to streamline communication and messaging to the community.

11. The discussion session following these presentations focused on what can be done to enhance regional cooperation for trans boundary river basin floods, as well as the needs and options for closer regional cooperation on tropical cyclones in the Pacific building on the experience of Cyclone Pam. Finally, the opportunities for ESCAP and its partners to support the further strengthening and sustainability of regional early warning systems were explored.

12. In the resumed session, Mr. Xu Tang provided a presentation on the tropical cyclone programme, including experiences from the ESCAP/WMO Typhoon Committee and the WMO/ESCAP Panel on Tropical Cyclones. Extensive Information was provided on the Tropical Cyclone Programme and its relevance as a sub regional coordination mechanism. Among the lessons learned from this programme, the importance of developing human resources and communication capacity through enhancement of capacity building activities, particularly in transition from the World Meteorological Organization's existing Global Telecommunication System to the modernized WMO Information System. Finally, Mr. Tang recommended that there should be a further strengthening of cooperation within regions and among regional organizations to promote establishing multi-hazard early warning systems at national and regional levels as well as an international network in the near future.

13. Mr. Inia Seruiratu presented to the participants on the regional platforms and mechanisms available in the Pacific, including the Pacific Islands Forum, the Secretariat of the Pacific Community and others. However, despite these mechanisms and the progress achieved, there remains a problem of coherence and coordination in the Pacific. Therefore, a regional mechanism that provides convergence between DRR and climate change as well as the mainstreaming of the resilience agenda into sustainable development, is needed. ESCAP mechanisms such as the Regional Cooperation on Space Applications Programme (RESAP) and technical advisory services provide new impetus for improving the access to extensive good practices in this regard.

Session 2

14. The moderator, Mr. Inia Batikoto Seruiratu, opened the session with introductory remarks on the resumed session and theme of the meeting. He was followed by Ms. Shairi Mathur on the topic of post disaster needs assessment in the Asia-Pacific region. Ms. Mathur shared with the workshop participants that the Post Disaster Needs Assessment (PDNA) methodology, previously developed by ECLAC, was designed to assess the socio-economic consequences and impacts, including gender dimensions, of frequent disasters on the national economies of small islands. As the first comprehensive methodology covering all sectors included in the System of National Accounts it has been applied in 21 cases since 2005 in the ESCAP region. It was recommended to make greater use of innovative tools such as space technology, crowdsourcing applications and others developed by ESCAP into the PDNA methodology.

15. Mr. Govind Raj Pokharel shared the national experience of Nepal in the application of the PDNA framework. In the case of the recent earthquake, the PDNA process provided an opportunity for a robust examination of the post disaster situation. The presenter stated that the Government of Nepal's published PDNA is the only authoritative, all-inclusive statistics on the impact of the disaster. As part of the lessons learned from this exercise, the need to prepare adequate technical human resources for different types of jobs was noted.

16. Ms. Lenie Duran Alegre shared the experiences of the Philippines in the application of the PDNA methodology. As part of the multi-sectoral approach of this methodology, the inclusion of telecom infrastructure was also noted. This methodology was provided in the content of the Philippines Disaster Risk Reduction Mechanism, which includes as part of its goals the aim to prevent new and reduce existing disaster risk through the implementation of integrated and inclusive measures that prevent and reduce hazard exposure and vulnerability to disaster, increase preparedness for response and recovery, and thus strengthen resilience.

17. Mr. Santosh Kumar presented to the participants on the role of rapid assessment in the process of promoting resilient recovery. He emphasized that rapid assessment needs to be precise, evidence based and monitored. He highlighted the use of high-resolution imagery, crowdsourcing and geospatial modelling to facilitate rapid assessment. In this regard, SAARC and ESCAP jointly developed the Rapid Assessment for Resilient Recovery (RARR) which serves as a 'smart' PDNA tool. In addition, approaches to damage and loss assessment in SAARC member countries were reviewed and the value of a framework for post disaster needs assessment of in South Asia was outlined.

18. As part of the conclusion of this session, the participants discussed a variety of points, including what can be done to enhance the regional capacity for PDNA. Additionally, methods for institutionalizing PDNA for disaster assessment were discussed, as well as the prospects of Rapid Assessment for high frequency, low impact disasters.

Session 3

19. Mr. Rafiqul Islam began this session with a discussion of the approach to disaster statistics undertaken in Bangladesh. Within this context, the use of ICT tools such as SPSS, Stata and CSPro were mentioned. Finally, as part of the analysis of the strengths, weakness, opportunities and threats facing Bangladesh, the topic of ICT facilities & media support was listed as a specific opportunity area.

20. Ms. Sahar Sahebi Araghi, shared the experience of Iran in the application of disaster statistics principles in the case of the 2003 earthquake in the Kerman province in south-eastern Iran. A cooperative approach to this incident was undertaken, involving collaboration between the office of standards and statistical supervisions in SCI, the Iran Disaster Mitigation and Management organization and the Department of management and disaster reduction in the Health Ministry. Challenges faced included a lack of sufficient budget allocation, the lack of statistical perspective among related organizations, and that the exercise was not a major activity of the National Statistical Office.

21. Mr. Kyaw San Oo presented the national experience of Myanmar in response to cyclone Komen in July of 2015. In that incident, the Emergency Operations Center (EOC), which serves as a central location where the government performs executive decision-making and inter-agency coordination, initiated immediate disaster response operations. In this case, a

lesson learned was the limitations to post disaster needs assessment caused by a lack of sufficient pre-disaster baseline data.

22. Ms. Athukorala, provided a case study on the national experience of Sri Lanka on disaster related statistics. As part of her presentation, she described the use of ICT products to facilitate these efforts, such as the DesInventar damage and loss database as well as the Sahana and Riskinfo portals.

23. Mr. Daniel Clark presented material on statistical perspectives for disaster definition and classification as pertinent to the current practices on disaster-related statics in Asia and the Pacific. As part of his presentation, he illustrated that the definitions included in DesInventar for human impacts, particularly deaths and injured, are more likely to be used in countries as compared to CRED or FDES definitions. To illustrate this point, the FDES use of the term "affected" persons scored slightly higher than the definition for "affected" cited from the DesInventar, emphasizing the value of conducting a further round group discussion to achieve common understanding among Member States and exploring possibility to set a standard of practice to accommodate varied practices among Member States.

24. Following the remarks by the ESCAP Secretariat, brief presentations were made summarizing the activities of the breakout task groups of the workshop. As a continuation of a previous meeting in which took place in March 2015, the task groups continued the development of work to further support the production of disaster-related statistics. Task group one focused on the agreed classification of hazards and the alignment to existing terminology used in targets and indicators of the emerging international monitoring frameworks for the post-2015 disaster risk reduction framework and the sustainable development goals. Task group two focused on an agreed definition for the temporal and geographical boundaries of disaster occurrences, and addressed the various definitional challenges involved in the interplay of geographical and administrative units in the practical application of such definitions. Task group three worked on the creation of agreed terminology and classifications for immediate, direct impacts of disasters in the context of existing internationally agreed statistical standards and classifications.

Session 4

25. At the beginning of this session, a brief introduction and overview from the ESCAP secretariat was provided by Mr. Puji Pujiono and Mr. Matthew Perkins. Their remarks focused on the need for enhancing disaster related statistical capacities in the region and the important role of issues related to resilience. The relevance of the Asia Pacific Information Superhighway in enhancing the resilience and reach of ICT communications infrastructure and providing the basis for social media and big data applications was emphasized.

26. Ms. Francesca Perucci provided remarks which focused on the updates to the development of the indicator framework for the Sustainable Development Goals, together with the disaster risk reduction related indicators included in the measurement framework. The progress of the Interagency Expert Group meeting was also described, such as the efforts underway to review and select proposals, including additional suggestions from consultative mechanisms, and discussion of the preparation for the final proposal to the United Nations Statistical Commission. In this regard, Ms. Perucci related the decision of the IAEG to defer the consideration of disaster related statistical indicators to the ongoing Sendai framework measurement process.

27. Mr. Rajesh Sharma provided an overview of the work of Global Centre for Disaster Statistics, a joint undertaking between the UN Development Programme and the International Research Institute of Disaster Science. In order to facilitate enhanced disaster risk governance, the work of the Centre focuses on issues such as cutting edge research and application of disaster statistics and international data sharing and platform for disaster statistics, including information sharing to the general public through innovative use of social media and applications, tools and apps. In addition, the Centre seeks to facilitate the necessary technical capacity building in disaster-prone countries through the development of systems and tools for disaster statistics, knowledge products, training of focal points and creation of databases.

28. Mr. Michael Nagy provided an overview of the statistical issues and context for the Task Force on Measuring Extreme Events and Disasters. ESCAP Member States Armenia, Kazakhstan and New Zealand participate in the work of the task force. As part of this effort, it has been acknowledged that there is a need to agree on common classifications and definitions for statistical purposes and the strong links with the work on climate change related statistics. Among the statistical issues within the scope of this effort, data issues such as analysing main data needs and ESCAP recommendations and mapping of official statistics with identified data needs. Data sharing, including data confidentiality problems, was also discussed.

29. At the conclusion of the session, within the context of current practices for disaster-related statistics at the regional and country level, the importance of processing and reporting of disaster data from a variety of approaches, including Goal 11 of the SDGs, was emphasized.

D. Main conclusions and recommendations

30. The workshop participants noted the need for stakeholders in the region to include ICT infrastructure in discussions of critical infrastructure components in disaster planning and response, particularly in the coordination of trans-boundary disaster events.

31. The participants shared regional challenges and experiences in developing resilience to disasters from the vantage point of regional cooperation. These discussions helped identify remaining gaps in infrastructure, including as related to regional early warning systems and the use of PDNA for disaster resilience development and recovery in Asia and the Pacific. The workshop participants also recognized the role of ESCAP in supporting regional mechanisms which include effective implementation of ICT and disaster risk reduction as represented in the 2030 Sustainable Development Agenda and the Sendai Framework for Disaster Risk Reduction 2015-2030.

32. The workshop participants also noted that while the introduction and mainstreaming of ICT at various stages of disaster management has proven to be indispensable in identifying, managing and reducing disaster risk and in promoting early recovery from disasters, gaps remain in the effective application and use of these technologies in the region. Because ICTs are a cross cutting factor, the strong need for an approach integrating ICTs was agreed by the participants. In particular, the harmonization between GIS data, GeoPortals, national and regional early warning systems and statistical systems was emphasized.

33. The participants also identified and discussed regional strategies to address common risks, such as the need for continued enhancement to regional multi-hazard early warning

systems, with the shared goal of moving to the creation of a regional cooperative mechanism for early warning, and extending collaboration on multi-hazard early warning to the South Pacific. Specific topic areas included emerging data solutions, such as big data applications and social media, which offer the prospect of important new tools to promote citizen participation in disaster planning and response. Meeting participants also shared good practices and lessons learned on how to use ICTs as a key tool for collection and analysis of disaster related data, including measurement issues, network vulnerabilities and ICTs resources.

34. Further, the participants reviewed the development of a draft disaster-related statistics framework which has been developed to support advancement of a guideline for disaster-related statistics. This framework was developed with the intention to facilitate testing of the implementation of the statistical definitions, classifications and conventions in countries in Asia and the Pacific.

35. It was agreed by the participants that the results of framework were sound and should be pilot tested in Bangladesh, Fiji, Indonesia and the Philippines as soon as possible.

36. Where applicable to the scope of the Committee, participants brought the outcomes of the workshop to the attention of the Committee on Disaster Risk Reduction on its fourth session through a series of panel discussions held on 27-28 October 2015, namely on regional mechanisms for disaster risk reduction in the context of the post-2015 development agenda, regional multi-hazard early warning systems, and risk sensitive development.

37. The above-mentioned outcomes and recommendations of the workshop were considered and supported by the Committee on Disaster Risk Reduction.

**WORKSHOP ON PROMOTING ICT FOR INCLUSIVE AND DISASTER
RESILIENT DEVELOPMENT**

26-27, 29 October 2015

Bangkok

Annex 1

PROGRAMME

| Monday, 26 October 2015 | |
|-------------------------|---|
| 13:30-17:00 | <i>Session 1: Addressing challenges and gaps in regional early warning systems for disaster risk reduction</i> <i>Moderated by Major General Asghar Nawaz, Pakistan</i> |
| 13:30-13:45 | Status of early warning systems in the Asia-Pacific region and future priorities for regional cooperation, by ESCAP |
| 13:45-14:00 | Challenges and opportunities in managing risks of water-related hazards with transboundary origins in the Asia-Pacific region, by International Centre for Water Hazard and Risk Management by Mr. Junichi Yoshitani, Deputy Director of ICHARM |
| 14:00-14:15 | Lessons learned from establishing the Regional Flood Information System, by International Centre for Integrated Mountain Development (ICIMOD) by Ms. Mandira Singh Shrestha, Programme Coordinator |
| 14:15-14:30 | Lessons learned from implementing the Flood Management and Mitigation Programme on forecasting and early warning, by Mekong River Commission (MRC) by Mr. Khieu Hourt, Operations Manager of the Flood Management and Mitigation Programme |
| 14:30-15:00 | Moderated discussions on good practices in regional early warning systems for transboundary river basin floods and the role of ESCAP in addressing challenges and gaps. |
| 15:00 – 15:15 | <i>Break</i> |
| 15:15-17:00 | <i>Session 1 continued: Addressing challenges and gaps in regional early warning systems for disaster risk reduction</i> <i>Moderated by Major General Asghar Nawaz, Pakistan</i> |

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| 15:15-15:30 | Good practices in early warning mechanisms for tropical cyclones: experiences from the Typhoon Committee and the Panel on Tropical Cyclones by Mr. Xu Tang, World Meteorological Organization |
| 15:30-15:45 | H.E. Mr. Inia Batikoto Seruiratu, Minister for Agriculture, Rural and Maritime Development and National Disaster Management, Government of Fiji |
| 15:45-16:40 | Moderated discussions based on good practices and lessons learnt for early warning systems for tropical cyclones and the role of ESCAP in addressing challenges and gaps |
| Tuesday, 27 October 2015 | |
| 09:00-10:45 | <i>Session 2: Post disaster needs assessment for resilient recovery and reconstruction in Asia-Pacific</i> <i>Moderated by Mr. Inia Seruiratu, Minister of Agriculture, Rural and Maritime Development and National Disaster Management, Government of Fiji</i> |
| 09:00-9:15 | Post Disaster Needs Assessment in Asia-Pacific: a regional overview by Ms. Shairi Mathur, Programme Specialist, Recovery/Crisis Response and Re-DRP, UNDP, Bangkok Regional Hub |
| 09:15-9:30 | 2015 Nepal Earthquake: the post disaster needs assessment process by Mr. Govind Raj Pokharel, Member, National Planning Commission, Government of Nepal |
| 09:30-9:45 | Generating results from post disaster needs assessments in the Philippines: lessons learned by Ms. Lenie Duran Alegre, Chief, National Disaster Risk Reduction and Management Service, Government of Philippines |
| 09:45-10:00 | Rapid assessment for resilient recovery: A PDNA tool for the South Asia Recovery Framework by Mr. Santosh Kumar, Director, SAARC Disaster Management Centre |
| 10:00-10:30 | Moderated discussions on lessons learnt from post disaster needs assessment practices in the region and identifying priority areas for ESCAP engagement. |
| 10:30 – 11:00 | <i>Closing</i> |

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| Thursday 29 October |
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| 13:30 – 15:00 | <p>Session 3: Production and Dissemination of Disaster Statistics</p> <p>Further reflections on survey results from statistics perspective:</p> <ul style="list-style-type: none"> • Ms. Sahar Sahebi Araghi, Head of Group for Energy Statistics, Statistical Centre of Iran, Islamic Republic of Iran • Mr. Rafiqul Islam, Deputy Director, Bangladesh Bureau of Statistics, Bangladesh • Mr. Kyaw San Oo, Director, Central Statistical Organization, Ministry of National Planning and Economic Development, Myanmar • Ms. W.A.D.R.D Athukorala, Statistician, Department of Census and Statistics, Sri Lanka • Disaster definition and classification: statistical perspectives: Mr. Daniel Clark, Statistician, SD, ESCAP <p>Part III: Summary by Task Group leaders</p> <ul style="list-style-type: none"> • Definitions and classifications of disaster occurrence: Mr. Agus Wibowo, Head, Data Division, BNPB, Indonesia • Methodology for defining temporal and geographical expanse of disasters: Mr. Pema Thinley, ICT/GIS Officer, Bhutan • Definitions and classifications of disaster direct impacts: Ms. Kathreen Ong, Civil Defence Officer, Philippines and Mr. Rowell Casclang, Statistical Coordination Officer II, Philippines |
| 15:00 – 15:30 | Coffee Break |
| 15:30 – 17:00 | <p>Session 4: Overview of current initiatives to improve statistics and data on disasters</p> <p>Objective: Strengthened relevance and linkages between the work of the Expert Group and related international initiatives</p> <p>Facilitator: Mr. Puji Pujiono, Regional Advisor on DRR, IDD, ESCAP</p> <p>Presentations:</p> <ul style="list-style-type: none"> • Introduction and Overview: Mr. Puji Pujiono, Regional Advisor on Disaster Risk Reduction, IDD, ESCAP • Updates on the development of the overall SDG indicator framework and the disaster risk reduction related indicators included in the list: Ms. Francesca Perucci, Chief, Statistical Services Branch, Statistics Division, Department of Economic and Social Affairs • The state of global disaster statistics: Mr. Rajesh Sharma, Programme Specialist, UNDP Bangkok Regional Hub • Measuring Extreme Events and Disasters: Michael Nagy, Senior Statistician UNECE <p>Discussion on possible implications of initiatives on the future work of the Expert Group</p> |

LIST OF PARTICIPANTS



UNITED NATIONS
ECONOMIC AND SOCIAL COMMISSION FOR ASIA AND THE PACIFIC

WORKSHOP ON PROMOTING ICT FOR INCLUSIVE AND DISASTER RESILIENT DEVELOPMENT

26-27, 29 October 2015
Bangkok

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