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Committee on Disaster Risk Reduction**Second session**

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**Enhancing regional cooperation on disaster
risk reduction in Asia and the Pacific****Enhancing regional cooperation, knowledge and
capacity for disaster risk reduction in Asia and the
Pacific****Note by the secretariat***Summary*

The present document discusses the importance of enhancing regional cooperation and capacity development for disaster risk reduction in Asia and the Pacific. It provides a summary of four secretariat initiatives aimed at building regional knowledge and capacity for disaster risk reduction through regional cooperation and the progress made in implementing them. The initiatives discussed are: (a) the *Asia-Pacific Disaster Report*; (b) the Asia-Pacific Gateway for Disaster Risk Reduction and Development; (c) the Regional Cooperation Mechanism for Disaster Monitoring and Early Warning, Particularly Drought; and (d) the launching by the Asian and Pacific Training Centre for Information and Communication Technology for Development of training modules on information and communications technology for disaster risk reduction and for climate change abatement. The Committee may wish to review the document and provide the secretariat with guidance on its future activities.

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I. The *Asia-Pacific Disaster Report*

A. Background

1. The Asia-Pacific region is susceptible to a large number and variety of natural hazards, with floods, storms and earthquakes being the most significant. The *Global Assessment Report on Disaster Risk Reduction*¹ indicates that the top 10 countries with the largest number of people exposed to flooding are all in Asia. The absolute physical exposure to

¹ Inter-Agency Secretariat of the International Strategy for Disaster Reduction, 2009 *Global Assessment Report on Disaster Risk Reduction: Risk and Poverty in a Changing Climate*. Available from www.preventionweb.net/gar09.

flooding is highest in Bangladesh, followed by China, Kazakhstan and India. Asian countries also have the highest absolute exposure to storms and storm surges, while Pacific island countries, with their small populations, have the highest relative exposure to these events, in particular Fiji and Vanuatu. One of the common features of the region is the high concentration of populations in areas of seismic activity. This situation, which is particularly prevalent in China, India, Indonesia, Kyrgyzstan and Tajikistan, generates a very high absolute exposure to earthquakes. In comparison, relative exposure is high in small countries, such as Bhutan and a number of Pacific countries located in seismically active areas.

2. The region has continued to be hit by significant disasters: extensive floods in Pakistan and Australia in 2010, the 6.5-magnitude earthquake in Christchurch, New Zealand, on 22 February 2011 and the devastating 9.0-magnitude earthquake off the north-eastern coast of Japan and the associated tsunami on 11 March 2011. All told, these disasters affected tens of millions of people and caused extensive damage and loss of life. Continued efforts are needed to document these disasters in order to provide better analyses and policy options to reduce the risks associated with them.

B. Development of the report

3. In its resolution 64/2 on regional cooperation in the implementation of the Hyogo Framework for Action 2005-2015: Building the Resilience of Nations and Communities to Disasters in Asia and the Pacific, the Commission requested the Executive Secretary, among other things, to strengthen the role and capacity of ESCAP in the area of disaster risk reduction, and to facilitate, in cooperation with relevant United Nations entities, the implementation of the Hyogo Framework for Action² in the Asia-Pacific region.

4. The Committee on Disaster Risk Reduction at its first session, held in March 2009, recognized the importance of addressing issues and concerns related to minimizing the effects of natural disasters in the Asia-Pacific region (see E/ESCAP/CDR/9). Several delegations recognized that disaster risk reduction was fundamental for sustainable socio-economic development and described their strategies, plans, programmes and recent achievements in mainstreaming disaster risk reduction into development policies.³ Recognizing the absence of a comprehensive regional publication on disaster management, the Committee recommended that a publication focusing on best practices and lessons learned in various aspects of disaster risk reduction and management in the Asia-Pacific region should be issued.⁴ A high-level round table on regional cooperation for disaster risk reduction recommended that the publication would focus, among other things, on best practices and lessons learned from specific national efforts, regional cooperation, champions for disaster risk reduction, trends and major events, socio-economic analysis of the impact of disasters and disaster recovery programmes.⁵

² A/CONF.206/6 and Corr.1, chap. I, resolution 2.

³ See E/ESCAP/CDR/9, para 23.

⁴ See E/ESCAP/CDR/9, para 6.

⁵ See E/ESCAP/CDR/9, annex I, para 17.

5. In a follow-up to the recommendations of the Committee, ESCAP developed the *Asia-Pacific Disaster Report* jointly with the Inter-Agency Secretariat of the International Strategy for Disaster Reduction (UNISDR). Assembling the publication was a multi-stakeholder effort with participation from disaster risk reduction organizations and experts in the region.⁶ In addition to ESCAP and UNISDR, the International Recovery Platform, the Disaster Management Centre of the South Asian Association for Regional Cooperation and Practical Action volunteered to be the lead contributing organizations for respective chapters of the publication, while the National Emergency Management Agency of the Republic of Korea generously covered the costs of printing the report.

6. The first report, entitled *Protecting Development Gains, Reducing Disaster Vulnerability and Building Resilience in Asia and the Pacific*,⁷ was launched at the Fourth Asian Ministerial Conference on Disaster Risk Reduction, which was held in Incheon, Republic of Korea, on 26 October 2010.

C. Key findings of the 2010 report

7. The report indicates that, between 1980-1989 and 1999-2009, the number of disaster events reported globally increased from 1,690 to 3,886. Over the entire period, 45 per cent of those events were in the Asia-Pacific region. The report notes that the Asia-Pacific region and Africa experienced the largest increases in the number of disasters during the last decade. These increases could be related to many factors including increasing numbers of people exposed to hazards and improvements in the reporting and collection of data and information.

8. Disasters have affected all subregions in Asia and the Pacific. During the period from 1980 to 2009, South and South-West Asia witnessed the greatest number of disasters, at 1,238 events, followed by South-East Asia at 1,069. These subregions also experienced the highest number of fatalities, with figures for South-East Asia spiking as a result of the 2004 Indian Ocean tsunami. However, East and North-East Asia suffered in terms of the number of people affected and the economic damage inflicted.⁸ Considering the smaller country and population size of Pacific island States, both human and economic losses were significant among this group.

9. People in the Asia-Pacific region are four times more likely to be affected by natural hazards than people in Africa and 25 times more vulnerable than people in Europe and North America. While the region generates 25 per cent of the global gross domestic product (GDP), it has suffered 42 per cent of global economic losses due to disasters. The region has 61 per cent of the world's population and has suffered a similar proportion of disaster-related deaths but has 86 per cent of the total population affected by disasters. Hence, the immediate challenge is to

⁶ Key contributing organizations and individual experts are acknowledged on pages ix-xi of the *Asia-Pacific Disaster Report 2010*.

⁷ Available from <http://www.unescap.org/idd/pubs/Asia-Pacific-Disaster-Report%20-2010.pdf>.

⁸ Information contained here is from the *Asia-Pacific Disaster Report 2010*. The information and data may change due to the August 2010 floods in Pakistan and March 2011 earthquake and tsunami in Japan.

protect the development gains already made from the impact of disasters in order to achieve the Millennium Development Goals by 2015.

10. The report is centred on the view that efforts made by Asia-Pacific countries to reduce vulnerability to disasters, though positive, have not been adequate. Disaster risks are increasing exponentially as a result of the compounding effects of inequitable economic growth patterns, population pressure and climate change. Consequently, activities to mitigate disaster risks must be scaled up and new multidisciplinary policy approaches need to be taken.

11. The report recognizes that disaster risks are increasing globally and tend to be highly concentrated in the middle and low-income countries, with the main driver being the rapidly increasing exposure to risk. It identifies three opportunities for reducing risk, namely: (a) making disaster recovery resilient; (b) improving the use of emerging technologies to ensure that efforts before and after disasters are more efficient and effective; and (c) leveraging regional cooperation with a view to the emergence of a commonly shared political will and action plans that prioritize the work necessary to reduce risks. The report also attempts to improve the understanding of disaster risks in the region through an analysis of historical data on disaster damage and loss.

D. Thematic focus of the 2012 report

12. The thematic focus of the *Asia-Pacific Disaster Report 2012* will be guided by the recommendations of the Committee on Disaster Risk Reduction at its first session (see E/ESCAP/CDR/9). Hence, this report will continue to focus on the emerging socio-economic impact of disasters as well as best practices and lessons learned from national and regional efforts. It will also highlight the role of champions at the regional, national and community levels in promoting disaster risk reduction.

13. In the context of reducing risk, the forthcoming report will continue to focus on the need to reduce vulnerability amid increasing exposure to disasters. People who are constantly exposed to natural hazards are more likely to remain poor, perpetuating the vicious cycle of risk and poverty. Although vulnerability to disasters has been reduced in most of the subregions of Asia and the Pacific, this area needs to be investigated further due to the rising number of natural hazards and climate change.

14. Reports on the effects of disasters mainly dwell on lives lost and property damage while the scale of the indirect effects or adverse effects on the economy are poorly understood. The forthcoming report will attempt to highlight some of these effects, such as slowing GDP growth, rising indebtedness levels and wider fiscal deficits. The report will also analyse some of the social issues that often result during the post-disaster recovery and reconstruction phase. In particular, it will attempt to deal with emerging social issues and address inequalities that arise as Governments tackle the cumbersome task of rebuilding infrastructure. The report will also include more discussions on mainstreaming disaster risk reduction in development planning, taking into consideration the complex and multifaceted nature of people's vulnerability to hazards and the status of existing institutions, policies and legislation that deal with disasters. An analysis of the social and economic effects of disasters, in particular an evaluation of the psychological impact will be included in the 2012 report.

15. The 2012 report will be linked to ongoing global events and publications that focus on social and economic aspects of disasters. It will also contribute to the biennial *Global Assessment Report on Disaster Risk Reduction*.⁹ Efforts will be made to produce a global perspective on the one hand, and a community scenario on the other in order to make the regional report more comprehensive. The publication of the 2012 report will follow the same process used to produce the previous one. Its structure and content will be guided by an editorial committee supported by a voluntary group of professionals from ESCAP member countries. A high-level advisory council comprised of nominees from the Governments of member States may be set up to provide guidance to the drafting process and to approve the report. The launching of the report is expected to take place at the Fifth Asian Ministerial Conference on Disaster Risk Reduction, which will be hosted and organized by the Government of Indonesia in partnership with UNISDR in 2012.

II. Progress in creating the Asia-Pacific Gateway for Disaster Risk Reduction and Development

A. Introduction

16. The Committee on Disaster Risk Reduction at its first session recommended that the secretariat promote an Asia-Pacific gateway on disaster risk reduction and development for information sharing and analysis for disaster risk reduction, in collaboration with regional and other partners working in the field (see E/ESCAP/CDR/9, para. 9).

17. Pursuant to the recommendation of the Committee, the secretariat developed the Asia-Pacific Gateway for Disaster Risk Reduction and Development as a web portal that promotes the mainstreaming of disaster risk reduction into development planning to help mitigate the socio-economic effects of disasters. To assist countries in Asia and the Pacific in achieving this goal, the Gateway targets the information and networking needs of national disaster management authorities and line ministries that play a key role in promoting disaster risk reduction and disaster management at both the national and regional levels. The Gateway was launched during the second session of the Committee on Information and Communications Technology, which was held in November 2010.¹⁰

B. Challenges and gaps in mainstreaming disaster risk reduction into development planning

18. Many developing countries continue to focus on disaster management at the expense of disaster risk reduction; this hampers efforts to achieve the full intended outcome of the Hyogo Framework for Action. In addition, many national disaster management authorities in Asia and the Pacific were established relatively recently and therefore lack the capacity (human resources and knowledge) or experience to mainstream disaster risk reduction into development plans effectively, while regulations and laws pertaining to this issue are at a nascent stage in many developing countries

⁹ Inter-Agency Secretariat of the International Strategy for Disaster Reduction, *Global Assessment Report on Disaster Risk Reduction: Risk and Poverty in a Changing Climate: Invest Today for a Safer Tomorrow* (Geneva, United Nations, 2009). Available from: <http://www.preventionweb.net/english/hyogo/gar/>.

¹⁰ See E/ESCAP/CICT(2)/INF/7. See also E/ESCAP/67/9, para. 46.

of the region. The lack of research and analysis of the costs and benefits of investing in disaster risk reduction based on a commonly accepted methodology further compounds the difficulties in prioritizing disaster risk reduction in national policymaking. Not surprisingly, as a result, disaster risk reduction-related spending is often deemed an expenditure instead of an investment.

19. The Internet is not fully developed as a tool for offering resources to national disaster management authorities and line ministries in their efforts to mainstream disaster risk reduction into development planning. Currently, no website contains a concise overview of the relevant information needed for mainstreaming disaster risk reduction into different sectors while information on policies, legislation and plans pertaining to the mainstreaming of disaster risk reduction into development planning at the national level is not easily accessible. Meanwhile, many groups that are engaged in regional or subregional disaster management and disaster risk reduction initiatives do not access online networks and are therefore deprived of key information that is obtainable through online discussions and access to useful documents and events.

20. The above-mentioned concerns suggest the need for institutionalized policies that promote the implementation of activities and result in behavioural changes that increase the capacity of institutions. This type of capacity-building needs to be carried out over a long period of time. Within its overall mandate, the Gateway and its services are driven by the challenges and gaps identified above. While the Gateway is obviously not equipped to resolve long-term institutional challenges, it does provide a convenient, systematic, easy to access information tool for improving disaster risk reduction.

C. Scope and outreach of the Gateway

21. As part of the overall goal of promoting the mainstreaming of disaster risk reduction into development planning in specific sectors and issues, the Gateway enhances regional access to information on good practices, policy options and programmes related to disaster risk reduction in socio-economic development. It provides member States and organizations with a common platform for information sharing, establishing networks, accessing technical services and facilitating regional cooperation. The contents of the Gateway are expected not only to be a valuable resource for national disaster management authorities and line ministries, but also to be of interest to academic and research institutions as well as non-governmental organizations involved in disaster preparedness and management.

22. In order to make the Gateway an effective network of networks and to avoid duplication of effort, three different types of partnership networks are envisioned: knowledge partners tasked with organizing and disseminating disaster risk reduction information; resource partners tasked with contributing services and needed technologies; and theme moderators, who will operate the Gateway's analysis and information pages in a manner similar to the way Wikipedia pages function. ESCAP will identify lead agencies and institutions to help manage these pages and promote online discussions.

23. More specifically, to ensure that that the Gateway functions effectively, the following strategies have been devised:

(a) To leverage online resources with a view to making available new information and analytical tools and opportunities that would help national actors identify gaps and cross-cutting issues relevant to mainstreaming disaster risk reduction into development planning;

(b) To create an interactive regional web-based platform for disaster risk reduction which would enable practitioners to share information and participate in online discussions;

(c) To provide quick and easy access to networks and organizations that focus on disaster risk management, particularly disaster risk reduction, in the region. This would provide users with context-specific information and help them identify relevant focal points;

(d) To provide critical information on why mainstreaming disaster risk reduction into different sectors is important and showcase the different tools/approaches, and challenges for doing so;

(e) To facilitate regional-level analysis of disaster risk reduction trends and support information sharing among member States by providing a multilingual networking environment.

D. Regional cooperation and benefits

24. The objectives of the Gateway will be achieved through multiregional partnerships. Current and expected partners are the United Nations Development Programme, UNISDR, the Asian Disaster Preparedness Center, the Association of Southeast Asian Nations and Prevention Web. Potential partners include the Food and Agriculture Organization of the United Nations (FAO), the United Nations Environment Programme (UNEP), the Asian Development Bank (ADB), the International Federation of Red Cross and Red Crescent Societies, the ISDR Asia Partnership on Disaster Reduction (IAP), Pacific Disaster Net, the Secretariat of the Pacific Community Applied Geoscience and Technology Division, the South Asian Association for Regional Cooperation and the University of the South Pacific.

25. The Gateway's association with ESCAP helps make it unique in comparison with other portals in the region. Through this association, the Gateway stands to benefit from the multidisciplinary work of ESCAP and from the secretariat's access to a wide range of information and statistics. The Gateway is a knowledge management platform that potentially engages every area of the ESCAP programme of work. In addition, the Gateway will receive input from the secretariat's regional institutions, such as the Asian and Pacific Training Centre for Information and Communication Technology for Development (APCICT) and the Asian and Pacific Centre for Transfer of Technology and subregional offices as well as the mechanisms promoted by ESCAP, such as the Regional Cooperative Mechanism on Disaster Monitoring and Early Warning, Particularly Drought, the ESCAP/World Meteorological Organization (WMO) Typhoon Committee and the WMO/ESCAP Panel on Tropical Cyclones (see E/ESCAP/CDR(2)/5).

26. The Gateway will be linked to the IAP disaster risk reduction project portal,¹¹ which provides information on disaster risk reduction projects and initiatives in the region, and the resource pages of Prevention Web.¹² This will prevent duplication of work and encourage partnerships; it will also enhance resources and access to disaster risk information. The partnerships will help combine and bring together the knowledge and expertise of organizations working in the region, increase the scope of the Gateway, and make it easier for visitors to access the information they require.

E. Issues and challenges

27. A number of issues and challenges need to be addressed to ensure that national disaster management authorities, concerned line ministries and other potential users benefit from using the Gateway. Among them are the following:

(a) Promoting enhanced partnerships as a way to foster financial resources, and raise awareness at the national and regional levels;

(b) Obtaining feedback from users in order to ascertain whether the demands and needs of the expected users are being met. This type of feedback would assist in the further development of the Gateway;

(c) Putting in place appropriate methods for managing and monitoring links and for tagging documents and publications from partner websites, and ensuring that there is enough staff to carry out the functions required.

28. The Information and Communications Technology and Disaster Risk Reduction Division of ESCAP will function as the secretariat of the Gateway. The Committee may wish to provide the secretariat with further guidance on the future direction of the development of the Gateway to ensure that it provides useful information to member States.

III. Regional Cooperation Mechanism for Disaster Monitoring and Early Warning, Particularly Drought

A. Background

29. After water-related disasters, drought is the second most severe disaster occurrence in the Asia-Pacific region that affects the sustainable development, food security and social stability of countries. In 2002, ESCAP members began exploring the development of a cooperation network centred on drought disasters when the Intergovernmental Consultative Committee of the Regional Space Applications Programme for Sustainable Development (RESAP) at its eighth session discussed the possibility of establishing a regional cooperative mechanism for disaster management. That Committee at its thirteenth session, in 2009, agreed on the following priority activities: promoting regional cooperation on drought; developing a framework for a regional cooperative mechanism and space-based information products and services for disaster management; and harmonizing the initiatives regarding early warning systems to reduce

¹¹ www.drrprojects.net.

¹² www.preventionweb.net.

duplication and to avoid gaps and incompatibility between various warning and monitoring systems.

30. The Regional Cooperative Mechanism for Disaster Monitoring and Early Warning, Particularly Drought was officially launched at a stakeholder meeting on the Mechanism in Nanjing, China, on 16 September 2010. At the meeting, it was recommended that the Mechanism focus on other types of disasters, beginning with floods, once the fundamental modalities were established. The secretariat arrangement for the Mechanism was discussed at the fourteenth session of Intergovernmental Consultative Committee of RESAP, held in Manila on 16 and 17 December 2010.¹³

B. Major components of the Mechanism

31. The Mechanism is comprised of three components: (a) a distributed platform designed to provide satellite information products and services for disaster monitoring and early warning; (b) an information portal for accessing drought disaster management-related information, technical resources and services of the Mechanism; and (c) capacity-building through various technical and non-technical advisory services, training sessions and workshops to assist less capable drought-prone countries in developing capacities at the national level.¹⁴

32. The distributed platform is meant to enable the sharing of space-based information products and services for identifying and monitoring high-risk drought areas. Satellite information products and services provide substantive support for carrying out an integrated analysis of space- and ground-based observations for operational drought disaster monitoring and early warning. As the core of the Mechanism, information from space-based devices will be two-tiered. Low-resolution (250 m to 1 km) satellite data services, such as the existing ones available from WMO and FAO, will be used to identify areas at high risk of drought. Once these areas are identified, medium-resolution (20-60 m) satellite data will be utilized to derive dedicated products and services that are critically needed by decision makers in order to plan and implement prevention, mitigation and preparation measures to forestall a disaster. The data will be provided by contributing institutional members of the Mechanism upon the request of a country or group of countries, at little or no cost, subject to the data policies of the particular institution. The information can be verified through the sharing of baseline data and ground observations. The platform is also meant to enable the sharing of computing and other technical capacities for producing dedicated products and services.

33. The information portal will enable access to drought disaster management-related information, technical resources and the services of the Mechanism, including: (a) details of ongoing and planned national, regional and international initiatives and relevant outreach activities and capacity-building opportunities; (b) case studies and best practices; (c) archived data for disaster studies and response; (d) links to relevant websites and other initiatives; (e) country profiles on drought disaster management-related information and technical resources; and (f) a compendium of space-based

¹³ See the report of Intergovernmental Consultative Committee on the Regional Space Applications Programme for Sustainable Development on its fourteenth session, para 4. Available from: http://www.unescap.org/idd/events/2009_EGM-13thICC/Report%20of%20the%20meeting.pdf.

¹⁴ *Ibid.*, para 7.

information products and services to be used as a reference. The portal will be part of the Asia-Pacific Gateway for Disaster Risk Reduction and Development with the objective of serving as an access point for technical services, national profiles on drought disasters, technical references and advisory information.

34. Capacity-building through technical and non-technical advisory services, training and workshops will help drought-prone countries devise technical modules for integrated analysis of space-based information with ground-based observations, develop localized products, services and decision-supporting tools, and establish national service networks. This component will also promote the sharing of good practices for technical and institutional aspects as well as the transfer of technology between members of the Mechanism.

C. Addressing the challenges of monitoring and early warning

35. The functions of the components of the Mechanism address some of the predominant challenges of disaster monitoring and early warning, particularly for drought.¹⁵ In order to formulate the most appropriate response to the warnings, capacity-building is necessary in the following areas: (a) increasing the adequacy, data quality and density of the meteorological and hydrological data collection network; (b) enhancing data sharing between government agencies and other relevant stakeholders; (c) ensuring that the information delivered through the information systems is targeted at the correct level of technical detail for maximum benefit to end users; and (d) ensuring that end users are knowledgeable in order to derive maximum benefit from the monitoring and early warnings.

36. Effective use of space-based information for drought monitoring and early warning requires technical and institutional capacity to analyse the satellite data along with other relevant meteorological, hydrological, agricultural and historical data. In order for the data to be obtained through the Mechanism, the beneficiary countries must establish a national service and distribution network for stakeholders. To facilitate such networks, the Mechanism is aimed at supporting the development of networks to extend relevant services to local stakeholders at the community level. The information portal and distributed platform will provide the means to disseminate key forecasting, monitoring and early warning data in a timely manner to end users.

37. In order to be able to share baseline data for relevant cross-boundary services, including historical, real-time/near real-time data and ground observations, member States must have the capacity at the national level to collect and aggregate the information so that the space-based data can be verified for more accurate monitoring and early warning.

¹⁵ See World Meteorological Organization, *Drought Monitoring and Early Warning: Concepts, Progress and Future Challenges* (WMO-No.1006, 2006). Available from: <http://www.wamis.org/agm/pubs/brochures/WMO1006e.pdf>.

D. Coordination and the way forward

38. In order for member countries to reap benefits from the Mechanism, two national focal points from each member country, one from the national disaster management authority and one from a national space-based organization, will be tasked with complementary roles in the operation of the Mechanism.¹⁶

39. The focal point from the disaster management authority will carry out the following functions: (a) coordinating with national agencies to contribute to and benefit from the Mechanism; (b) establishing national drought disaster monitoring and early warning networks and providing such services to stakeholders, including those at the community level; (c) requesting and receiving technical services from the Mechanism; (d) exploring the technical, financial and human resources available to support the Mechanism at the national and regional levels; (e) providing and updating the country's profile on drought and other major disasters and share relevant information and experiences through the Mechanism; and (f) acting as the alternate member of the Regional Thematic Working Group on Drought and Other Major Disaster Monitoring and Early Warning under the RESAP framework.

40. The following is a list of priority cooperation areas that can be further developed into concept notes for the thematic working group under RESAP with a view to operationalizing the Mechanism:¹⁷

(a) *Standards for data sharing*: standard operating procedures for technical development and/or adaptation of operational services and the selection of the best and most suitable methodologies;

(b) *Multisatellite and multiplatform approaches and integration of data*: satellite resource compendium (availability of satellite resources) and approach to optimizing data requirements and maximizing utility;

(c) *Standard harmonization of modelling systems for drought monitoring*: to enable the drought profile to be shared through the Mechanism and utilized when adapting models for drought monitoring;

(d) *Drought vulnerability maps*: to develop different types of drought vulnerability maps for easy integration at the local, national and regional levels based on a common standard format built on historical drought data. This information could be used by different stakeholders, such as policymakers, planners and legal and financial professionals;

(e) *Capacity-building*: to focus on training, knowledge sharing, advisory services and technology transfer, with priority given to least developed countries, landlocked developing countries and Pacific island countries.

¹⁶ See report of Intergovernmental Consultative Committee on the Regional Space Applications Programme for Sustainable Development on its fourteenth session, para 11. Available online from: http://www.unescap.org/idd/events/2009_EGM-13thICC/Report%20of%20the%20meeting.pdf.

¹⁷ The priority areas were identified by an expert group meeting convened by the secretariat.

IV. Training modules on information and communications technology for disaster risk reduction and for climate change abatement

A. Introduction

41. In pursuance of its objective to build the capacity of members and associate members of the Commission through training programmes in the use of information and communications technology (ICT) for purposes of socio-economic development,¹⁸ APCICT has been implementing a range of ICT for development capacity-building initiatives through regional cooperation. The Centre's flagship programme is the Academy of ICT Essentials for Government Leaders, which employs an ICT for development training curriculum currently comprising eight modules.¹⁹ Its purpose is to equip policymakers and government officials with the essential knowledge and skills to harness new technologies for development.

42. The Committee on Disaster Risk Reduction at its first session welcomed the recommendation of the Committee on Information and Communications Technology for APCICT to develop a new training module on ICT for disaster risk reduction and requested that it be introduced for capacity-building.²⁰ In response to the recommendation, APCICT took a strategic decision to develop and incorporate new training content on ICT for disaster risk reduction in the Academy programme. Moreover, despite close interlinkages and overlap between the themes of disaster risk reduction and climate change, APCICT chose to create two separate modules rather than one in order to provide adequate coverage to these distinct yet related and complex fields. These Academy modules are entitled "ICT for disaster risk management" (module 9) and "ICT and climate change, Green Growth and sustainable development" (module 10).²¹

43. The substantial reach and well-dispersed partner network of the Academy programme is expected to make the two new modules accessible to a large number of key policymakers in the Asia-Pacific region. As of March 2011, the Academy programme has already been rolled out in 18 countries in strategic partnership with government ministries, training institutions, universities, and regional and international organizations. In the process, the programme has been institutionalized in national ICT human resource development frameworks in many countries, demonstrating strong use and acceptance in the field. The Academy curriculum has also been translated into five languages, with translation into four more languages at an advanced stage of completion. The strategy of integrating the development of the two new modules within the Academy programme will enable them to be effectively promoted and widely utilized while concurrently furnishing Academy partners with valuable opportunities for regional knowledge sharing and exchange of case studies and best practices.

¹⁸ See Commission resolution 61/6 of 18 May 2005.

¹⁹ See www.unapcict.org/academy.

²⁰ See E/ESCAP/CDR/9, para 10.

²¹ The two modules can be downloaded from www.unapcict.org/academy/overview/academy/academy-modules/english.

44. The development of the new modules is well aligned with the increasing importance of issues related to disaster risk management and climate change on the regional as well as global development agendas. The Asia-Pacific region has been particularly affected by disasters.²² There is strong concern about the impact of climate change on the frequency and severity of disaster occurrences. In this scenario, the benefits of the dramatic economic growth experienced by the region over the past decade, mainly in the areas of poverty reduction and social progress, are under threat. ICT can play a significant role in disaster risk reduction, in various phases of disaster management, and in assisting with adaptation to climate change as well as in green growth. Hence, the development of the two new modules is a positive step towards equipping ESCAP member States with the capacity to address the challenges stemming from disasters and climate change on the basis of regional cooperation and knowledge sharing.

B. Development and promotion of the modules

45. The content of both new modules has been designed to meet the current capacity-building needs of the target group. Module 9 addresses how countries can mitigate the human and economic losses that result from disasters with the aid of ICT. It is aimed at providing government officials and policymakers with an overview of disaster risk management while presenting an approach for identifying information needs in disaster risk management and matching the needs with ICT. The module is also aimed at familiarizing the target group with existing ICT applications for disaster risk management, and discusses the benefits and barriers for utilizing ICT in disaster risk management efforts.

46. Module 10 provides policymakers with an understanding of the role ICT plays in observing and monitoring the environment, sharing information, mobilizing action, enhancing decision-making, promoting environmental sustainability and abating climate change. The module also explores the potential of ICT to transform the economy into an engine for sustainable green growth, while integrating ICT into such an economy.

47. As with previous Academy modules, the inclusive and participatory approach of APCICT has been an integral part of the process of developing and shaping the contents of the modules. In creating the outlines and drafts of the modules, the Centre engaged national experts in the preliminary consultations for the development of the modules, subject matter experts from international/regional organizations, the regional commissions, governments, academia and the private sector; it engaged experts in the field of ICT for development to review the draft modules. Current Academy partners in 18 countries and prospective partners were continuously apprised of and engaged in the development of the modules. As a result, Academy partners have already committed to roll out modules 9 and 10 starting in 2011.

48. During the first session of the Committee on Disaster Risk Reduction, several delegations recommended that APCICT continue to develop comprehensive regional and subregional capacity-building programmes, including training of trainers, on ICT for disaster risk

²² Economic and Social Commission for Asia and the Pacific and Inter-Agency Secretariat of the International Strategy and Disaster Reduction, *Protecting Development Gains: Reducing Disaster Vulnerability and Building Resilience in Asia and the Pacific: The Asia-Pacific Disaster Report 2010* (Bangkok, 2010), p.2.

reduction in collaboration with training institutions specialized in disaster risk reduction and management, to address the needs of disaster-prone countries and countries with special needs.²³ This could help enhance the capacity of government ministries and training institutions to deliver and further propagate training on the new modules and enable the creation of a pool of local resource persons. In response to that recommendation, APCICT organized a regional training-of-trainers workshop in Seongnam, Republic of Korea, from 22 to 26 February 2011 to strengthen the pool of trainers who can impart training on the strategic use of ICT for disaster risk reduction, climate change adaptation and mitigation as well as the advancement of green growth. During the course of the workshop, future strategies for the subregional and national level roll-out of the Academy modules were discussed with relevant stakeholders, thus promoting prospects of national ownership and regional cooperation. The workshop also enabled networking among the partners for subsequent peer learning.

C. Other regional cooperation activities of the Centre in the use of information and communications technology for disaster risk management and climate change abatement

49. APCICT has continued to promote regional cooperation and knowledge sharing on the potential of ICT in addressing threats from disasters and climate change through participation in various regional and international forums. The Centre gave presentations on the new modules at the Fourth Asian Ministerial Conference on Disaster Risk Reduction, which was held in Incheon, Republic of Korea, from 25 to 28 October 2010. At the Conference, an exhibition was also set up to disseminate information on the Centre's initiatives and knowledge products in the area of ICT for disaster risk reduction and climate change abatement. In addition, the Centre was represented at the Climate Innovation Centre Workshop organized by InfoDev, a programme of the World Bank and the International Finance Corporation, in Paris on 14 October 2010.

50. To enable effective knowledge sharing among member States on the linkages between ICT, disaster risk management and climate change abatement, APCICT has leveraged the e-Collaborative Hub (e-Co Hub),²⁴ its knowledge-sharing platform with a rich repository of ICT for development resources. A number of resources on the subject matter of module 9 and module 10 were added to e-Co Hub to generate interest among visitors. Moreover, the second issue of the Centre's ICT for Development Case Study Series was published in 2010.²⁵ The series provides analyses and a compilation of best practices and case studies on different aspects of ICT for development with a focus on ICT for disaster risk reduction.

D. Lessons learned and the way forward

51. The Centre's experience during its efforts to develop the two new modules has highlighted the importance of ensuring that all relevant stakeholders are involved from the inception stage in order to develop high-quality and relevant training content. It also has underscored the need to

²³ See E/ESCAP/CDR/9, para 58.

²⁴ www.unapcict.org/ecohub.

²⁵ See www.unapcict.org/ecohub/ict-for-disaster-risk-reduction-1.

share information and to put in place effective mechanisms. Taking this into account, APCICT will refine its national and subregional implementation strategies in consultation with partners with the aim of optimizing the impact of the modules on policy formulation and programme implementation. In the process, the Centre will also aim at strengthening local ownership and embedding the training into national capacity-building frameworks to enable long-term sustainability of the efforts. Localization and customization of the modules' contents will be encouraged in order to enhance their uptake and dissemination. Moreover, in order to expand the reach of the modules to more stakeholders through multiple delivery channels, the Centre will utilize its e-learning platform, APCICT Virtual Academy (AVA),²⁶ which offers the Academy modules in distance-learning format for "anytime, anywhere" access. AVA versions of both new modules will be developed and promoted, and a DVD-ROM version of them will be offered to trainees that have limited or no Internet connectivity.

52. In addition to supporting in-country and AVA-based training, APCICT will work to disseminate the modules through its online resources, such as the e-Co Hub. It will also continue to provide a dynamic platform for member States to share knowledge and best practices on the use of ICT for disaster risk management and climate change abatement through various workshops, forums and meetings and via online channels of information exchange.

53. APCICT seeks the support of the Committee on Disaster Risk Reduction for sensitizing policymakers and other relevant stakeholders about the potential of ICT for coping with challenges associated with disasters and climate change, and promoting awareness about the availability of the two new modules as training resources. The support of the Committee in encouraging the compilation and sharing of national and subregional case studies as a means of knowledge sharing would also be welcome.

V. Issues for consideration by the Committee

54. The Committee may wish to review the issues covered in the present document and advise the secretariat on priority issues that need to be further addressed in order to improve the strategy for fostering knowledge sharing on disaster risk reduction among member States in the region.

²⁶ See <http://ava.unapcict.org>.