



Information and Communications Technology and Disaster Risk Reduction
Division
ICT and Development Section

Regional Workshop on Resilient ICT Connectivity for the Knowledge Economy,
SDGs and the WSIS Goals

SUMMARY REPORT (DRAFT)

20-22 September 2016, Almaty, Kazakhstan

A. Organization of the workshop

1. The Regional Workshop on “Resilient ICT Connectivity for the Knowledge Economy, SDGs and the WSIS Goals”¹ was jointly organized by the United Nations Economic and Social Commission for Asia and the Pacific (ESCAP) and the United Nations Economic Commission for Europe (UNECE) in collaboration with the Government of Kazakhstan in Almaty on 20-22 September 2016. In conjunction with the regional workshop, ESCAP and UNECE organized the eighth session of the SPECA Working Group on Knowledge-based Development (WG on KBD)² on 22 September 2016. The events were hosted by the Centre for Emergency Situations and Disaster Risk Reduction (CESDRR). The workshop was organized as part of a project funded by the Government of the Russian Federation entitled “Use of ICT for Effective Management of Disaster-Related Information in the Asia-Pacific Region”.

B. Objectives

2. The purpose of the regional workshop was to bring together international and regional Information and Communications Technology (ICT) connectivity and Disaster Risk Reduction (DRR) policy experts to discuss resilient ICT connectivity for developing the knowledge economy and achieving the Sustainable Development Goals (SDGs) and the World Summit on the Information Society (WSIS) goals. In addition, this meeting was the primary venue to initially disseminate and receive feedback on ESCAP’s study on ICT e-resilience in the SPECA subregion.
3. ESCAP Resolution 69/10³ on “Promoting regional information and communications technology connectivity and building knowledge-networked societies in Asia and the Pacific”, 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. Furthermore the workshop also addressed ESCAP Resolution 71/10⁴ on “Strengthening regional ICT connectivity through the Asia-Pacific information superhighway”, and ESCAP Resolution 72/10⁵ on “Regional review of the implementation of the World Summit on the Information Society action lines”.
4. In order to operationalize the mandate and fulfil the development goals of the project, this workshop was oriented towards policy and decision makers from organizations involved in ICT, DRR development planning, and National Disaster Management Authorities. Participants were encouraged to share lessons learned, identify good practices and build networks to facilitate ongoing interaction and peer learning.

¹ <http://www.unescap.org/events/regional-workshop-resilient-ict-connectivity-knowledge-economy-sdgs-and-wsis-goals>

² <http://www.unescap.org/events/eighth-session-speca-thematic-working-group-knowledge-based-development>

³ <http://www.unescap.org/resources/escap-resolution-6910-promoting-regional-information-and-communications-technology>

⁴ http://www.un.org/ga/search/view_doc.asp?symbol=E/ESCAP/RES/71/10

⁵ http://www.unescap.org/sites/default/files/E72_RES10E.pdf

5. The programme of the meeting is attached as Annex 1 and the presentations made during the meeting are made available on the ESCAP website.⁶

B. Attendance at the meeting

6. The workshop was attended by delegations from Azerbaijan, Kazakhstan, Kyrgyzstan, as well as representatives of United Nations Organizations, including UNECE, ESCAP, International Telecommunications Union (ITU), United Nations Office for the Coordination of Humanitarian Affairs (OCHA), United Nations Information Centre (UNIC) of Kazakhstan, UN Women; International and Regional organizations, including the Central-Asian Institute for Applied Geosciences (CAIAG), Asian Disaster Preparedness Centre (ADPC), International Fund for the Aral Sea, Centre for Emergency Situations and DRR (CESDRR); business, academia & other organizations, including the Federal State Unitary Enterprise Radio Research & Development Institute (FSUE NIIR), Pakistan Telecom Authority, Al-Farabi Kazakh National University, International IT University; as well as WSIS prize winners from Belarus, Kazakhstan, Kyrgyzstan and Ukraine.
7. The list of participants is attached as Annex 2.

C. Proceedings

Opening

8. Mr. Arslan Dandybayev, Head of the Representative Office, Ministry of Foreign Affairs, Almaty, Kazakhstan, welcomed all the participants to the regional workshop. Mr. Dandybayev stressed the importance of ICT connectivity, highlighting, in particular, the impact of ICT on socio-economic development in the subregion.
9. Mr. Nikolay Pomoshchnikov, Head of the Joint ESCAP/UNECE SPECA Office in Almaty and Senior Economic Affairs Officer of the ESCAP Subregional Office for North and Central Asia (SONCA), also highlighted the critical role of ICT in development, as well as in disaster management. Mr. Pomoshchnikov further noted that there is a growing digital divide among SPECA countries as well as between urban and rural areas within SPECA member countries. Mr. Pomoshchnikov then pointed out that the SPECA subregion is particularly susceptible to disasters, and that the role of ICTs is crucial in mitigating risks to businesses and governments and developing the knowledge economy. Concluding his speech, Mr. Pomoshchnikov stressed the need for cooperation among policymakers, experts and other stakeholders in addressing the challenges associated with ICT connectivity and promoting the use of ICT for DRR and development of the knowledge economy.
10. Mr. Christopher Athey, UNECE Secretary to the SPECA WG on KBD and Economic Affairs Officer, UNECE Economic Cooperation and Trade Division, thanked colleagues in the ICT and DRR Division at ESCAP for their efforts in putting together

⁶ <http://www.unescap.org/events/regional-workshop-resilient-ict-connectivity-knowledge-economy-sdgs-and-wsis-goals>

such a relevant and interesting agenda. He highlighted in particular the necessity of improved ICT connectivity across all countries if the ambitious goals of Agenda 2030 are to be met. This includes not just SDG9 on industry, innovation and infrastructure, with ICT connectivity and the innovation that it enables being an important driver across all of the SDGs. Without resilient connectivity across the board, there is a risk of countries or certain regions of countries, in particular rural areas, being left behind as we seek progress to achieve Agenda 2030. Mr. Athey thanked delegates and speakers for their attendance and wished the participants a successful event.

11. Mr. Valery Petrov, Director of the Centre for Emergency Situations and Disaster Risk Reduction (CESDRR), welcomed everyone to the event. Mr Petrov noted that ICT for DRR is one of the most important avenues of future development in the current framework of dealing with disasters. He further stated that ICT for DRR is of paramount importance because it in itself influences actions, which have the potential to save lives as well as materials. Mr. Petrov said that he believed that the proceedings of this meeting will also benefit future development of the Centre. He noted that this meeting was the first event hosted by the Centre since the opening the previous week. Mr. Petrov concluded that he was looking forward to and welcomed future collaborations with ESCAP and other partners to promote DRR through the use of ICT.
12. Following welcoming remarks, each workshop participant briefly introduced themselves.
13. Ms. Atsuko Okuda, Chief of ICT and Development Section (IDS) of ICT and Disaster Risk Reduction Division (IDD), ESCAP, introduced the objective of the meeting, namely to strengthen the capacity of the SPECA countries in enhancing e-resilience for the development of knowledge economy and achievement of the goals of the 2030 UN Sustainable Development Agenda and WSIS. In particular, Ms. Okuda highlighted the link between the WSIS Action Lines, SDGs and ESCAP's mandate to support member States in the implementation of the WSIS Action Lines.⁷

Session 1

14. Mr. Christopher Athey commenced the regional workshop's first session, titled "ICT Connectivity for enhanced e-resilience", which aimed to provide regional and subregional overview of ICT developments, with a focus on connectivity as the basis for a resilient, knowledge-based economy and the achievement of the SDGs. The session also aimed to showcase findings of ESCAP's studies, and how resilient ICT connectivity could be promoted in the region.
15. Ms. Atsuko Atsuko introduced ESCAP in the context of the United Nations, and outlined its functions. She then explained resolution 69/1 on promoting the exchange of best practices and experiences and knowledge related to the development of ICT infrastructure, including in-depth analysis of the policy and regulatory barriers that may impede efforts to synchronize the deployment of infrastructure across the region in a seamless manner. Ms. Okuda highlighted ESCAP's recent technical paper, *The State of ICT in Asia and the Pacific 2016: Uncovering the Widening Broadband*

⁷ For full slides, please see: <http://www.unescap.org/resources/resilient-ict-connectivity-knowledge-economy-sdgs-and-wsis-goals>

Divide,⁸ and introduced figures relevant to the subregion and the session. Next, Ms. Okuda introduced ESCAP's resolution 71/10, which, as part of it, seeks to provide the necessary support to facilitate the work of the open-ended working group on the Asia-Pacific Information Superhighway⁹. Finally, the AP-IS initiative was briefly introduced, along with its four pillars, as well as characteristics of well-developed and balanced design of backbone connectivity as well as natural hazard risk consideration, regional IXP paucity, and resultant high IP transit costs which affect the SPECA subregion's connectivity development.¹⁰

16. Mr. Alexey Kravchenko, Associate Economic Affairs Officer at IDS/IDD/ESCAP, provided an overview of broadband connectivity growth within the SPECA subregion. Mr. Kravchenko noted that while GNI per capita could explain some of the disparity in regional broadband penetration rates, it could not be the main reason for all countries. Turkmenistan, in particular, whose GNI is the second highest among the SPECA member countries, has the second lowest fixed broadband penetration rate among not just SPECA member countries, but within the ESCAP region as a whole. Nevertheless, he shared, the Central Asian region has seen some of the best improvements in infrastructure, as measured by telecommunication infrastructure and online service indices, especially when contrasted against South & South West Asia neighboring countries. Finally, Mr. Kravchenko introduced ESCAP's Asia-Pacific Information Superhighway initiative as a way forward to enhance affordability and availability of broadband within the region, and explained the four pillars of AP-IS (connectivity, network management, e-resilience and broadband for all).¹¹
17. Ms. Shaina Hasan, consultant at IDS/IDD/ESCAP, and Mr. Jeremy Marand, intern at IDS/IDD/ESCAP, presented findings via a Skype connection of their study on building resilient ICT in the SPECA subregion. First, they outlined the types and magnitudes of disasters in the region. They highlighted that earthquakes have the highest predicted average annual losses (AAL), followed by floods, landslides and droughts, and that Kazakhstan has the highest multi-hazard AAL within the region. Next, Ms. Hasan and Mr. Marand provided an overview of the digital divide in the region, suggesting that affordability may be a major factor in explaining the disparity. Next, they introduced ICTs in the context of SME development in the region, examining its uses and suggesting they are a key growth enabler on macro and micro levels but there still is some scope to further expand the use of ICT. They concluded that it is imperative to protect ICT assets through enhancing e-resilience and increasing cooperation, particularly in times of disasters, which tend to be cross-border.¹²
18. Mr. Alofsat Aliyev, Head of Division, Institute of Information Technologies, Azerbaijan National Academy of Sciences, presented on the issues of resilience of ICT in managing DRR while building information society and knowledge based economy in Azerbaijan. Mr. Aliyev first outlined general state and trends of socio-economic development of the Republic. Next, he discussed the issues pertaining to information society and knowledge-based economy. In particular, Mr. Aliyev highlighted the

⁸ <http://www.unescap.org/resources/state-ict-asia-and-pacific-2016-uncovering-widening-broadband-divide>

⁹ <http://www.unescap.org/apis>

¹⁰ For full slides, please see: <http://www.unescap.org/resources/ict-connectivity-and-asia-pacific-information-superhighway>

¹¹ For full slides, please see: <http://www.unescap.org/resources/ict-connectivity-central-asia>

¹² For full slides, please see: <http://www.unescap.org/resources/building-resilient-icts-speca-region>

National Strategy to Develop Information Society (2014-2020), which among its goals includes wide usage of ICTs, as well as an increase in resilience of ICT infrastructure. He discussed specific steps of the National Strategy, including bridging the digital divide among countries via completion of the TASIM project, rolling out of the 4G infrastructure, among others. Mr. Aliyev then argued that effective e-governance can be a means of DRR, particularly with regard to sharing and disseminating information during and after disasters, including on mass media and social networks. Finally, Mr. Aliyev mentioned specific hazard risks and efforts to reduce them in Azerbaijan.¹³

Session 2

19. Ms. Okuda introduced the second session titled “DRR through the Use of ICT”, which aimed to add to the discussion of the regional workshop the topics of resilience in expanding ICT connectivity and promoting knowledge-based development among the SPECA countries. Hence, the sessions’ purpose was to examine the framework of ICT use for DRR and some tools which could be considered by SPECA countries. Ms. Okuda noted that when a natural disaster strikes, it disrupts business and government operations, and affects small and medium sized enterprises disproportionately. In this context, the use of ICT for DRR has gained significant attention in recent years.
20. Mr. Puji Pujiono, Regional Adviser on Disaster Risk Reduction of IDD, ESCAP, delivered a presentation on ICT and SMEs Resiliency in Central Asia. He underscored the benefits of leveraging ICTs efficiency for delivering better quality goods and services, enhancing the profitability, and promoting sustainability of SMEs. The peculiar business environment in Central Asia and within the SPECA subregion in terms of the ease of doing business, obtaining credit, the easy of resolving insolvency, etc., requires unique approaches to harness the interconnectedness between ICT and DRR at the different phases of the disaster risk management. This range from risk prevention through reduction, preparedness, response and recovery. Additionally, the specific characteristics of SMEs in Central Asia also pose unique opportunity, and challenges notwithstanding, where the DRR measures in the judicious use of ICT for the SMEs benefits outweigh costs in the long run.¹⁴
21. Mr. Viliam Sarian, Professor at the Federal State Unitary Enterprise (FSUE) Radio Research & Development Institute (NIIR), discussed a new paradigm to radically reduce losses in the event of disasters and emergencies. He argued that the current methods of disaster responses are ineffective, when combined with the unpredictability of some events, notably earthquakes, and called for a new method of personalized management of disasters leveraging location-aware Internet of Things (Geo-IoT) technologies. Mr. Sarian suggested that such paradigm can help with execution of rescue operations, which could save up to 90% of potential casualties. Such technology, he continued, relies on low-cost sensors and transmitters, and existing mobile devices, enabling users to find the way out of densely populated buildings without assistance. He concluded that his paradigm would firstly improve predictive capacity of existing monitoring systems for natural and man-made disasters,

¹³ For full slides, please see: <http://www.unescap.org/resources/вопросы-устойчивости-использования-икт-в-управлении-снижения-риска-бедствий-в-целях>

¹⁴ For full slides, please see: <http://www.unescap.org/resources/ict-and-smes-resiliency-central-asia>

hence forewarn people about potential risks and forthcoming disasters; and secondly, optimize the behavior of people caught in the emergency area.¹⁵

22. Ms. Chinara Berbaeva, Head of DRR Department of CESDRR, introduced the Centre with her presentation. She opened that the Centre is based in Almaty, and was established by the Governments of Kazakhstan and Kyrgyzstan, with Afghanistan having formally delegated a representative as an observer. She emphasized that the Center is a permanent intergovernmental body, an international organization established to ensure effective mechanisms to decrease the risk of disasters, to mitigate damage and loss, to organize a joint response through agreed measures of the Parties and to enhance regional and international cooperation. Ms. Chinara subsequently outlined the Centre's objectives and main functions, which include cooperation in Emergency Situations (ES) and DRR; implementation of ES and DRR related joint projects; harmonization of legislation; exchange of experience and best practices, among other functions.¹⁶
23. Mr. Bill Ho, Head of the Information Technology and Communication Department of the Asian Disaster Preparedness Centre (ADPC), focused on ICT and Risk Governance in his presentation. Mr. Ho started off by stating that the Centre's work involves DRR rather than response. He then defined governance as "the process of decision-making, and the process by which decisions are implemented or not implemented", and noted that risk governance involves decisions associated with natural and technological risks. Next, Mr. Ho explained the importance of the focus on development and risk governance, suggesting that development programmes, if carried out correctly, can decrease vulnerability to disasters. Mr. Ho then outlined ADPC's work in the Asian region, with recent examples on risk portals in Nepal, Lao DPR, Mekong Delta, and Mandalay. Finally, Mr. Ho outlined the challenges and priorities of ADPC, as well as its future focus, and expressed his wish to extend their presence in Central Asia.¹⁷
24. Mr. Anar Aghayev, Chief Officer, Captain of the Department of Statistics and Information Technologies, Ministry of Emergency Situations (MES) of Azerbaijan, on behalf the leadership of the Ministry conveyed greetings to the organizers and participants of the workshop. He shared that in recent years Azerbaijan provided substantial energy security to Europe, and was involved in international relations and discussion of global issues. He noted that oil and gas industries are the most important components of the economy, and infrastructure development has been largely shaped by investments in these sectors. He then cautioned that this infrastructure is vulnerable to disasters, hence it is important to enhance efforts in monitoring and responding to disasters. Mr. Aghayev revealed that the most important work of the Ministry is using latest ICT for monitoring and responding during ES. Examples of this work include collection and analysis of data during ES; creation of GIS maps of critical infrastructure; improving communications systems used during ES, among others.¹⁸

¹⁵ For full slides, please see: <http://www.unescap.org/resources/improving-efficiency-use-ict-radically-reduce-losses-event-emergencies>

¹⁶ For more information on the Centre, please see: <http://www.unescap.org/resources/center-emergency-situations-and-disaster-risk-reduction-about>

¹⁷ For full slides, please see: <http://www.unescap.org/resources/ict-and-risk-governance>

¹⁸ For full slides, please see: <http://www.unescap.org/resources/информационные-технологии-в-системах-мониторинга-и-реагирования-при-чрезвычайных-ситуациях>

Session 3

25. Ms. Gabrielle Iglesias, Programme Officer at the UN Asian and Pacific Training Centre for Information and Communication Technology for Development (APCICT), ESCAP, introduced the speakers of the session, titled “Knowledge-based Economy, WSIS and SDGs”. The session focused on how ICT connectivity and resilience help develop knowledge-based economy among the SPECA countries. The session also placed the discussion in a larger context of how resilient ICT and accelerated knowledge-based economy will help achieve internationally agreed development goals, such as the WSIS Action Lines and SDGs in the subregion.
26. Mr. Christopher Athey remarked that knowledge-based development and innovation are drivers across all SDGs. He further stated that UNECE’s work on Innovation Performance Reviews is particularly relevant to SDG 9, which promotes building resilient infrastructure, as well as enhancing scientific research, but stressed that knowledge-based development is relevant to all SDGs. UNECE’s country-level policy review methodology has been updated to reflect the adoption of the SDGs and the crosscutting nature of innovation as a driver of 2030 Agenda, with forthcoming reviews now referred to as UNECE Innovation for Sustainable Development Reviews. Such national reviews are demand-driven, upon the request of the country concerned, and subject to the availability of extrabudgetary funding. Mr. Athey then discussed the links between WSIS and the regional commissions, WSIS Action Lines and SDGs, highlighting that the activities of the SPECA WG on KBD are highly relevant to promoting both - the Information Society objectives as well as the SDGs in Central Asia. Mr. Athey concluded by describing actions under consideration, including ensuring effective collection of information on ICT-related projects; effective coordination between regional commissions and other UN agencies; that ICTs are reflected in the UN Development Assistance Framework (UNDAF); and the possibility of regional platforms to share best practices.¹⁹
27. Mr. Vlastimil Samek, Representative of United Nations Department of Public Information, United Nations Information Office (UNIC), unveiled two new mobile applications to promote SDGs. The first app is a calendar of UN observances which aims to promote awareness of important political, social, cultural, humanitarian and human rights issues.²⁰ The app not only informs, but also promotes ways to get involved with links provided to related events. The second app, SDGs in Action, has *been developed to highlight the SDGs – the world’s to-do list to end poverty, reduce inequalities and tackle climate change.*²¹ Mr. Samek stressed the importance of communication and acknowledged that such apps are just one way communications. However, he hoped that growth in ICT will enable more two-way communications and citizens’ engagement, underlying the importance of Internet connectivity and access.
28. Mr. Muhammad Arif Sargana, Director of Economic Affairs, Pakistan Telecom Authority, shared the experience in Pakistan in developing ICT connectivity and introduced the Government’s Telecom Policy, which includes broadband targets. Mr. Sargana highlighted the statistics on Internet usage, including 3G and 4G coverage,

¹⁹ For full slides, please see: <http://www.unescap.org/resources/knowledge-based-economy-wsis-and-sdgs>

²⁰ <https://play.google.com/store/apps/details?id=org.un.mobile.calendar&hl=en>

²¹ <https://sdgsinaction.com/>

which is now 86% in Pakistan. He then introduced the National Financial Information Systems (NFIS) targets, whereby the Government aims for 50% of adults to have a formal transactional bank account by 2020, which currently stands at 16%. Mr. Sargana noted that there were prohibitive regulations inhibiting growth in the digital money sector barring telecom operators from holding money and prohibiting banks from transferring money digitally (only allowing telecoms to do that). Hence, the solution was to introduce third parties to provide mobile money in collaboration with banks. Mr. Sargana described the growth in mobile wallet, suggesting it as a path forward to enhance efficiencies and socioeconomic benefits, but stressed that such an initiative relies on reliable broadband infrastructure.²²

29. Ms. Gitanjali Sah, WSIS Coordinator at International Telecommunication Union (ITU), introduced WSIS Action lines – their history, meaning, links between WSIS and SDGs, major events and outcomes. She mentioned that the UN General Assembly passed resolution A/70/125 on 1 Feb 2016 by which it adopted the outcome document on the overall review of the implementation of the outcomes of the WSIS. She added that ESCAP then adopted its resolution 72/10, mandating the ESCAP secretariat to hold a regional review of the implementation of the Summit Action Lines as part of the session of the Committee on Information and Communications Technology, Science, Technology and Innovation; and coordinate United Nations agencies and partners in the regional review and follow-up towards harmonized approaches in the implementation of the Summit targets. She explained that the WSIS Regional Review meeting would be held in Bangkok on the 4th of October, back-to-back with the Committee. Finally, Ms. Sah discussed the phases of the Open Consultation Process of the WSIS Forum 2017, WSIS Stocktaking and introduced the WSIS Prizes and Prize winners.²³
30. Ms. Iryna Politova, Chief of the Research & Development Department of the Odessa National Academy of Telecommunications n.a. A.S. Popov and WSIS prize winner, introduced the prize winning project of child safety online training in the Commonwealth of Independent States (CIS) region, child cyber security and inappropriate content filtering in Ukraine (see Figure 1 (a) below). Ms. Politova underscored that the Child Online Protection Centre for the CIS region was established with the aim to provide countries in the CIS region with centralized advisory and technical assistance provision on various aspects of child online protection. She went on to demonstrate one of the initiatives, the multimedia course which targets children at various ages and teaches them about online safety concepts. She further described an automated recommender system for selection of technical content filtering tools on the Internet, which targets users with various levels of technical skills.²⁴
31. Ms. Janna Barakova, Head of the Department Information Technologies and Systems in Telecommunications at the Institute of Electronics and Telecommunications of Kyrgyzstan, introduced the information and training centre for people with disabilities in Kyrgyzstan (see Figure 1 (b) below). Ms. Barakova updated the participants that

²² For full slides, please see: <http://www.unescap.org/resources/meeting-wsis-targets-digital-financial-services-%0B-case-pakistan>

²³ For full slides, please see: <http://www.unescap.org/resources/world-summit-information-society-wsis-implementation-process>

²⁴ For full slides, please see: <http://www.unescap.org/resources/создание-центра-по-защите-ребенка-в-онлайн-среде-для-региона-снг>

people with disabilities face barriers in accessing ICT services, education, health, transport and employment, with only 28% of all persons with disabilities under 18 covered by basic education. She attributed that to lack of enabling environment, infrastructure and resources as the main challenges. Hence, the goal of the project was the creation of favourable infrastructure conditions to provide an opportunity for persons with disabilities to gain skills in ICT, as well as to increase the availability of web services by increasing their accessibility. Ms. Barakova described the centre's facilities, including a workplace for visually impaired persons and persons with mobility impairments; outlined training initiatives and completed activities.²⁵

Figure 1. WSIS Prize Winners' Initiatives presented at the regional workshop.



32. Ms. Natalia Ovsyanko, Head of the Education Platform of the Academy of Public Administration under the aegis of the President of Belarus, introduced the WSIS prize winning project “PlacesToGo”, which is a training and education start-up in a form of a business incubator with the purpose of created web-products for specific customers through developing competences and skills (see Figure 1 (c) above). PlacesToGo is a student-led project designed to attract tourists to the unusual and peaceful places of Belarus. PlacesToGo also teaches IT technology skills to support digital literacy nationwide. The project is a training programme where future specialists in information resources management can acquire requisite competences in several fields, including marketing; website and application development; capacity building and networking; corporate ethics; and communication and translation.²⁶

²⁵ For full slides, please see: <http://www.unescap.org/resources/information-and-training-resource-center-people-disabilities>

²⁶ For full slides, please see: <http://www.unescap.org/resources/project-placestogo-new-educational-concept>

33. Ms. Malika Kurmangaliyeva, Senior Specialist of the State Register Department of JSC “Information Accounting Center”, Kazakhstan, introduced the Centre and its online marketplace project. The online marketplace consists of auctions, tenders and competitions. Ms. Kurmangaliyeva demonstrated the statistics of usage, which included breakdown by the types and dollar values of assets. While cars had the most numerous transactions, at more than 50%, auction of company shares had the highest overall values of transactions. The projects completed by the Centre also included a registrar of state assets, as well as a depository of financial statements for public entities (see Figure 1 (d) above).²⁷

Session 4

34. Ms. Gitanjali Sah introduced session four, titled “ICT Capacity Development in DRR and Women’s Entrepreneurship”, which sought to discuss ICT capacity development, which is an integral part of promoting ICT for development, e-resilience and knowledge based economy, with an emphasis on work carried out by the APCICT. Particular attention was given to training modules (localized in Russian) on ICT and DRR, and the Women and ICT Frontier Initiative (WIFI) flagship programme to promote women’s entrepreneurship in Asia and the Pacific.
35. Ms. Gabrielle Iglesias introduced the APCICT, their work, particularly within the SPECA subregion and welcomed partnerships to translate/localize training modules. Ms. Iglesias also referenced to the Academy of ICT Essentials for Government Leaders,²⁸ which aims to equip government leaders with the essential knowledge and skills to fully leverage opportunities presented by ICTs to achieve socioeconomic development goals. Ms. Iglesias highlighted that it has a flexible modular design, stand-alone yet interlinked modules covering basic to advanced ICT for development concepts. She gave examples of localized content for the SPECA countries, including the usage of modules in Afghanistan by the Ministry of Communications, as well as by various other organizations in Azerbaijan, Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan and Uzbekistan. She explained that modules are available in 16 languages in print and online versions. Next, Ms. Iglesias introduced the programme: Turning Today’s Youth into Tomorrow’s Leaders.²⁹ Finally, she introduced the latest flagship programme, Women and ICT Frontier Initiative (WIFI),³⁰ which seeks to create socially and economically-empowered women through ICT-enabled entrepreneurship.³¹
36. Mr. Karabek Uzakbaev, representing the Central-Asian Institute for Applied Geosciences (CAIAG) of Kyrgyzstan, discussed addressing the challenges to resilience with ICT capacity building. As part of his presentation, Mr. Uzakbaev gave examples of development of ICT tools to demonstrate the importance of ICT in climate change mitigation and adaptation and disaster risk management. As an

²⁷ For full slides, please see: <http://www.unescap.org/resources/электронная-торговая-площадка>

²⁸ <http://www.unapcict.org/academy>

²⁹ <http://www.unapcict.org/frontpage/aboutus/programmes/advisory/future-ict-leaders-programme>

³⁰ <http://www.unapcict.org/wifi>

³¹ For full slides, please see: <http://www.unescap.org/resources/united-nations-asian-and-pacific-training-centre-information-and-communication-technology>

example, he showed a pilot system of seismic monitoring stations that sense earthquakes' waves' across geographic locations, which has the potential to predict earthquakes 10-15 seconds ahead of them reaching certain areas. He also introduced a web portal which provides a database of geolocations of important facilities, such as schools, which would be invaluable during the time of ES, as well as aids in providing assessment of disaster hazard risks of each facility. For the final example, he demonstrated a system to predict floods that is based on river flows and snow cover.³²

37. Following the presentation of Mr. Uzakbaev, Ms. Gabrielle Iglesias introduced APCICT learning modules related to DRR as part of the *Academy of ICT Essentials for Government Leaders*, and *The Primer Series on ICTD for Youth*. She discussed the role of ICT in the phases of disaster risk management, introduced the information management cycle and expanded on various information needs during each phase. Using those information needs as a basis, she gave examples of sensors in early warning systems, web applications for dissemination, and an example of a community tsunami early warning centre. Ms. Iglesias further described the use of social media and big data. Finally, Ms. Iglesias briefly talked about ICT trends in relationship to climate change, in particular in pursuit of green growth, with an emphasis on e-waste, recycling and green computing.³³

Session 5

38. During this session, Ms. Okuda summarized the discussions of the day with concrete recommendations and salient issues, while the participants were invited to make statements and engage into a discussion in the subsequent session (the next day) in light of the topics discussed during previous sessions.

Session 6

39. Ms. Atsuko Okuda introduced the sixth session, titled "AP-IS as a way forward: DRR, Connectivity and Knowledge-based Development", which sought to link previous discussions on ICT connectivity and resilience with the development of knowledge-based development of economics among the SPECA countries. Ms. Okuda opened with an overview of the ESCAP's upcoming inaugural session of the Committee on Information and Communications Technology, Science, Technology and Innovation on 5-7 Oct, 2016 in Bangkok. In addition, Ms. Okuda discussed the back-to-back side events to support the intergovernmental deliberations. As part of this overview, Ms. Okuda, briefly discussed the issues to be presented to the Committee, in particular the agenda on the way forward for the Asia-Pacific Information Superhighway (AP-IS) initiative, including the Master Plan, and the Regional Cooperation Framework Document for the AP-IS.³⁴ The progress made on the AP-IS, the composition of the working group and the proposed structure of governance were also discussed. Ms.

³² For full slides, please see: <http://www.unescap.org/resources/meeting-challenges-resilience-ict-capacity-building>

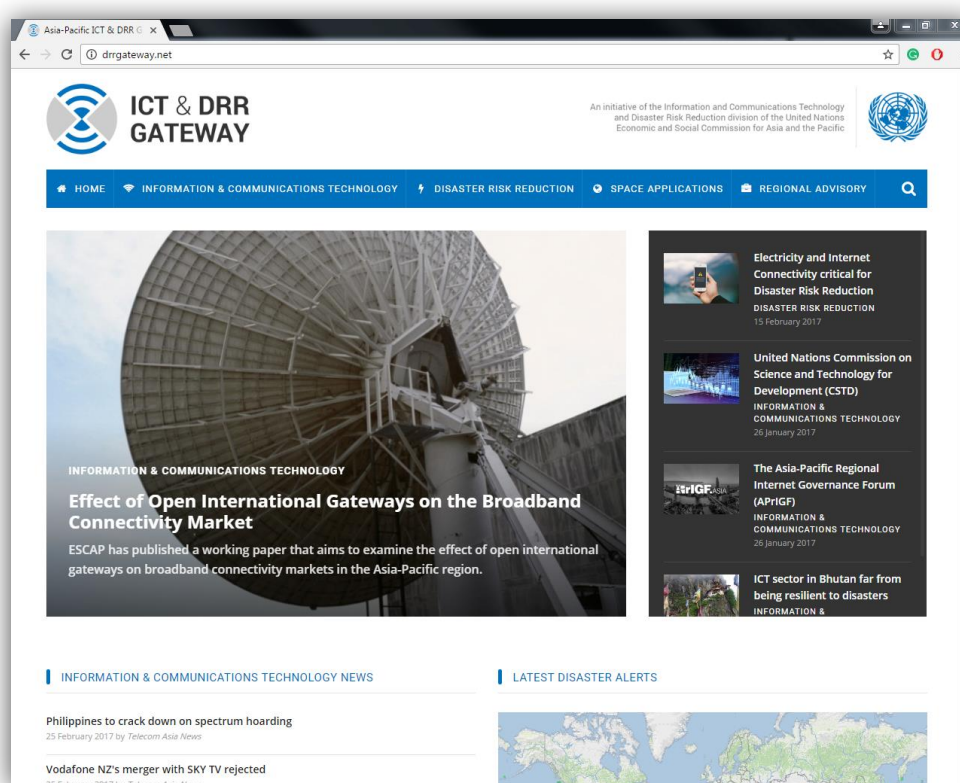
³³ For full slides, please see: <http://www.unescap.org/resources/capacity-building-resources-ict-resilience>

³⁴ Both documents can be accessed via: <http://www.unescap.org/our-work/ict-disaster-risk-reduction/asia-pacific-information-superhighway/master-plan-for-the-ap-is-and-ap-is-regional-cooperation-framework-document>

Okuda concluded that AP-IS aims at enhancing affordable, available and resilient broadband infrastructure for the achievement of WSIS goals and SDGs.³⁵

40. Mr. Alexey Kravchenko briefly introduced the ICT and DRR Gateway as an online portal providing policymakers and relevant stakeholders with news, tools and resources with regard to ICT and DRR from a wide spectrum of international organizations, regional agencies and national ministries in Asia and the Pacific. Further, he shared that, the Gateway can be accessed through <http://drrgateway.net> (see Figure 2 below). In addition, ESCAP established online communities in order to enable engagements through discussions and exchange of ideas and encourage collaborative activities. Also he added that the online communities can be accessed through the Gateway.³⁶

Figure 2. ICT & DRR Gateway



41. Prior to the conclusion of the session, participants were asked to present country perspectives and to share experience, good practices and lessons learned on the topic discussed during the meeting. Representatives from Kyrgyzstan gave a brief introduction of the work of the National Platform of the Kyrgyz Republic on DRR. A representative of the Al-Farabi Kazakh National University emphasized that education is vital, since people may not have confidence in early warning messages, and if they do, they may not know what to do. Likewise, it was pointed out that even if there are hazard maps available, they are not well known, particularly to the general population. Hence, the representative stated that on behalf of his university, he would like to

³⁵ For full slides, please see: <http://www.unescap.org/resources/brief-1st-session-escap-committee-information-and-communications-technology-and-science-0>

³⁶ For full slides, please see: <http://www.unescap.org/resources/asia-pacific-ict-and-drr-gateway>

support initiatives to educate people, and that his university is open for further collaboration and discussions.

42. On a question from ADPC on whether Kyrgyzstan has a DRR plan, representatives of Kyrgyzstan noted that there will be governmental discussions on the Sendai Framework and the SDGs, and that they hope that by the end of the year the strategy that aims to implement the Sendai Framework will be adopted by the Government.
43. Responding to a question from ESCAP on whether there are any specific provisions on ICT within these plans in particular to ensure continuance of ICT services in times of power cuts, a representative from Kyrgyzstan informed that according to the current legislation, every sector must have a plan about civil defense, including warning, reacting and mitigating. However, they noted, there are no plans for ICT specifically in DRR initiatives, and they did not believe that there was one plan in the region. The last point was confirmed by the representative from Kazakhstan, who noted that unfortunately there were no such plans.
44. A representative from Kazakhstan provided a brief statement on the state of ICT in the country. They mentioned the rural/urban digital divide, whereby on average 72.9% of people in Kazakhstan use the Internet, while in cities the percentage is 76%. He further suggested that since half of the population lives in rural areas, fixed broadband would be much harder and less economical to establish than wireless. He noted that 72% of population is covered by 3G and 65.5% is covered by 4G networks. The representative from Kazakhstan described the national information superhighway project, as part of which every rail and road project will have fiber optic cables laid next to them, so that by 2020 every populated area with 50 people or more will have access to broadband Internet and phone.
45. A representative from Azerbaijan shared with the participants that the ICT policy does not have a DRR component in Azerbaijan. He brought to the attention of the participants that the Government of Azerbaijan has been striving to increase ICT adoption, through affordable Internet, and the recent launch of Azerbaijan's own satellites. He further stated they attend ITU World events every year, and the government pays particular attention to WSIS implementation with socioeconomic applications, such as e-education and other e-services, including utilization and promotion.
46. As a conclusion, Ms. Atsuko Okuda presented the discussion summaries, outcomes and follow-up recommendations prepared by ITU. The recommended follow-up actions by ITU included: building regional capacity of the SPECA countries on the WSIS and SDG processes; building awareness on the enabling role of ICTs in sustainable development and programming of future UNDAF priorities in SPECA countries; utilising the excellent case examples of the WSIS Prize winners and Champions from the region while developing National Country Plans; replication of best practices showcased by the WSIS Prize winners; contributing as the regional formal submission to the WSIS Forum 2017 Open Consultation Process by bringing the regional trends, and challenges and opportunities to the global dialogue on the WSIS implementation. Finally, ITU invited participants to the WSIS Forum 2017 that will be held from 12-16 June in Geneva for contributing to the global discussion on WSIS and SDGs.
47. Mr. Viliam Sarian proposed the establishment of a specialized research center for the SPECA subregion to study ICT technologies for monitoring, forecasting and ensuing

safety of people during natural and man-made disasters. He explained that there is a lot of emphasis on what needs to be done before an ES and after, but little work is done on what should be done during the disasters. He further suggested that during emergencies people tend to forget instructions and make mistakes. Mr. Sarian noted that current development level of ICT and its adoption would enable low cost and fast deployment of personalized lifesaving management systems through technologies developed by his Institute. Hence, the proposed center would be established on the basis of the scientific and academic center FSUE NIIR of the Russian Federation, would incorporate academic institutions of the SPECA subregion, and would aim to research monitoring systems; systems preventing accidents; individualized disaster management systems during ES; adapting e-health systems to emergencies; ensuring compatibility and integration with existing systems; piloting systems, etc.

48. Ms. Atsuko Okuda concluded the workshop and thanked the participants for active participation, sharing good practices and lively discussions which paved the way for the SPECA session as well as for the future events by ESCAP and ECE in the subregion.
49. Workshop attendees extended their appreciation to ESCAP, including SONCA, UNECE and CESDRR, for their excellent organization and substantive preparation of the regional workshop.

Annex 1

PROGRAMME

Regional Workshop on

“Resilient ICT Connectivity for the Knowledge Economy, SDGs and the WSIS Goals”

20-22 September 2016

Almaty, Kazakhstan

DAY 1 Tuesday, 20 September 2016	
08:30 – 9:00	Registration of participants
9.00-9:30	<p>Opening of the meeting Facilitated by Ms. Atsuko Okuda, Chief, Information and Communications Technology and Development Section (IDS), ESCAP</p> <p>Opening remarks by</p> <ul style="list-style-type: none">• Mr. Arslan Dandybayev, Head of the Representative Office, Ministry of Foreign Affairs, Almaty, Kazakhstan• Mr. Nikolay Pomoshchnikov, OIC of the ESCAP Subregional Office for North and Central Asia (SONCA)• Mr. Christopher Athey, UNECE Secretary to the SPECA WG on KBD• Mr. Valery Petrov, Director of the Center for Emergency Situations and Disaster Risk Reduction (CESDRR)• Introduction of participants• Introduction to the objectives of the meeting (ESCAP)
SESSION I: ICT Connectivity for enhanced e-resilience Moderator: UNECE	
09:30– 10:30	<p>This session will present a regional and subregional overview on ICT development, with focus on connectivity as a basis for resilient, knowledge based economy and achievement of SDGs. The session will examine what the ESCAP analysis found and how resilient ICT connectivity can be promoted.</p> <ul style="list-style-type: none">• Ms. Atsuko Okuda, Chief, Information and Communications Technology and Development Section (IDS), ESCAP, on overview of ICT Connectivity• Mr. Alexey Kravchenko, Associate Economic Officer, IDS, ESCAP, on ICT connectivity among SPECA countries <p>Q&A</p>

10:30 – 11:00	Coffee break
11:00 – 12:00	<ul style="list-style-type: none"> • Ms. Shaina Hasan and Mr. Jeremy Marand, IDS ESCAP via Skype • Mr. Alofsat Aliyev, Head of Division, Institute of Information Technologies, Azerbaijan National Academy of Sciences, on E-resilience for Information Society and Knowledge based Development <p>Q&A</p>
12:00 – 13:00	Lunch break
SESSION II: Disaster Risk Reduction Through the Use of ICT Moderator: CESDRR	
13:00 – 14:30	<p>This session adds to the meeting the topic of resilience in expanding ICT connectivity and promoting knowledge-based development among the SPECA countries. When a natural disaster strikes, it disrupts business and government operations, and affects small and medium sized enterprises disproportionately. In this context, the use of ICT for disaster risk reduction (DRR) has gained significant attention in recent years. This session will examine the framework of ICT use for DRR and some tools which could be considered by SPECA countries.</p> <ul style="list-style-type: none"> • Mr. Puji PUJIONO, Regional Adviser on Disaster Risk Reduction, ESCAP • Mr. Viliam Sarian, Moscow Institute of Physics and Technology (State University) and the Moscow Technical University of Communications and Informatics • Ms. Chinara Berbaeva, Head of DRR Department, CESDRR <p>Q&A</p>
14:30 – 15:00	Coffee break
15:00 – 16:00	<ul style="list-style-type: none"> • Mr. Bill Ho, “ICT and Risk Governance” Department Head, IT and Communication Department, ADPC • Mr. Anar Aghayev, Chief Officer, Captain of the Department of Statistics and Information Technologies, Ministry of Emergency Situations, Azerbaijan, on ICT usage in disaster response <p>Q&A</p>
16:00 – 16:15	Summary of the discussions

DAY 2 Wednesday, 21 September 2016	
SESSION III: Knowledge-based Economy, WSIS and SDGs Moderator: Ms. Gabrielle Iglesias, APCICT, ESCAP	
09:00 – 10:15	Based on the previous sessions on ICT connectivity and resilience, this session

	<p>focuses on how they help develop knowledge-based economy among the SPECA countries. The session will also place the discussion in a larger context of how resilient ICT and accelerated knowledge-based economy will help achieve the World Summit on the Information Society (WSIS) and Sustainable Development Goals (SDG) in the subregion.</p> <ul style="list-style-type: none"> • Mr. Christopher Athey, UNECE Secretary to the SPECA TWG on KBD • Mr. Vlastimil Samek, UNIC • Mr. Muhammad Arif Sargana, Pakistan Telecom Authority – WSIS statistics and Digital Financial Services <p>Q&A</p>
10:15 – 10:45	Coffee break
10:45 – 12:00	<ul style="list-style-type: none"> • Ms. Gitanjali Sah, International Telecommunication Union (ITU) • WSIS Prize winners from Central Asia <ul style="list-style-type: none"> ○ Ms. Iryna Politova, Chief, Research & Development Department, Odessa National Academy of Telecommunications n.a. A.S. Popov, Ukraine ○ Ms. Janna Barakova, Institute of Electronics and Telecommunications, Kyrgyzstan ○ Ms. Natalia Ovsyanko, Academy of Public Administration, Belarus ○ Mr. Yerkin Berkeshev, Head of Information technology Department of Ministry of Finance and Ms. Malika Kurmangaliyeva, senior specialist of State register department of JSC “Information accounting center”, Kazakhstan <p>Q&A</p>
12:00 – 13:00	Lunch break
<p style="text-align: center;">SESSION IV: ICT Capacity Development in DRR and Women’s Entrepreneurship Moderator; Ms. Gitanjali Shah, ITU</p>	
13:00 – 15:00	<p>ICT capacity development is an integral part of promoting ICT for development, e-resilience and knowledge based economy. APCICT will introduce their training modules (localized in Russian) on ICT and DRR. In addition, APCICT will present their Women and ICT Frontier Initiative (WIFI) flagship programme to promote women’s entrepreneurship in Asia and the Pacific through enhancing capabilities of women entrepreneurs in ICT and entrepreneurship as a key component of region’s knowledge based economy.</p> <ul style="list-style-type: none"> • Ms. Hyeun-Suk Rhee Asian and Pacific Training Centre for Information and Communication Technology for Development via Skype • Dr. Karabek Uzakbaev, Central-Asian Institute for Applied Geosciences (CAIAG), Kyrgyzstan • Ms. Gabrielle Iglesias (APCICT) <p>Q&A</p>

15:00 – 15:30	Coffee break
SESSION V: Discussion and country statements	
15:30 – 16:30	<ul style="list-style-type: none"> • Country statements Q&A

DAY 3 Thursday, 22 September 2016	
SESSION VI: AP-IS as a way forward: DRR, Connectivity and Knowledge-based Development Moderator: Almaty City	
09:00 – 10:15	<p>This final session will summarize the salient discussion points shared during the previous days and discuss the concrete way forward. In view of the upcoming Committee on Information and Communications Technology, Science, Technology and Innovation, scheduled from 5-7 October 2016 in Bangkok, the session will update the meeting participants on the main Committee agenda items, including the Asia-Pacific Information Superhighway (AP-IS) Master Plan and Regional Cooperation Framework Document.</p> <ul style="list-style-type: none"> • Ms. Atsuko Okuda, IDS, ESCAP, on the overview of the Committee on Information and Communications Technology, Science, Technology and Innovation • Mr. Alexey Kravchenko, Associate Economic Affairs Officer, IDS, ESCAP Q&A
10:15 – 10:45	Coffee break
10:45 – 11:30	Closing of the session: Summary of the discussions and closing remarks
11:30 – 13:00	Lunch break

Annex 2

LIST OF PARTICIPANTS

Regional Workshop on

“Resilient ICT Connectivity for the Knowledge Economy, SDGs and the WSIS Goals”

20-22 September 2016

Almaty, Kazakhstan

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