

**UNITED NATIONS
ECONOMIC AND SOCIAL COMMISSION FOR ASIA AND THE PACIFIC**

Annex 3

**E-resilience for Pandemic Recovery:
Intercountry Consultations in Preparation for CICTSTI (webinar)**

3 July 2020

SURVEY A ON E-RESILIENCE READINESS

The Perception Based Survey on E-resilience Readiness is aimed to sense the overall trends and opinions of the respondents on the perceptions of the operational capacity of their countries to prevent, respond, and recover from public health disasters through ICT infrastructure resilience, and applicability of ICT for societal resilience.

The Survey A is structured in four sections, with 10 questions covering aspects of the (i) ICT network infrastructure resilience, (ii) 9 questions covering ICT application for the societal resilience, (iii) 7 questions covering policy aspects of e-resilience of networks, and (iv) 5 questions covering institutional aspects of collaboration. The overview of responses to Survey A of total 31 questions (see below) offering multiple choice answers ranging from “-2” to “2”, where “- 2” indicates the lowest scoring of national capacity, “0” is a neutral/reserved answer, which may mean “I don’t know”, and “2” indicates the highest scoring of the statement by the respondent are represented in the Figure and the narrative text of four sections herewith.

In total 23 responses (covering 8, 7, 8 responses from Mongolia, Kazakhstan and Kyrgyzstan, respectively) were received from representatives of three targeted countries, participants and policymakers, invited to the above-mentioned webinar of ESCAP on 3 July, 2020.

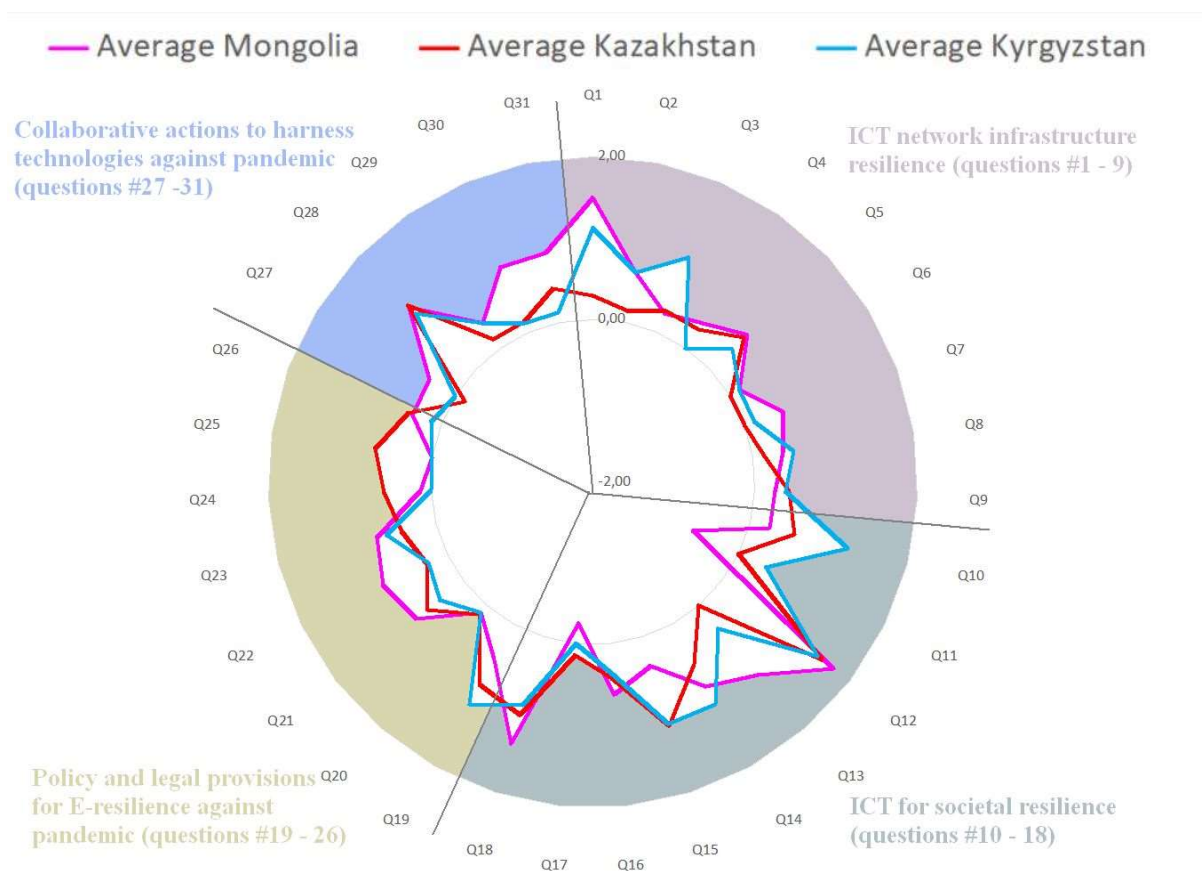
Key Messages and Recommendations for the Way Forward:

Based on the analysis of the Survey A response results in the following recommendations for the attention of the national policymakers could be derived for the way forward.

- Deepen and extend collaboration at the regional level to scale up broadband Internet capacities for effective use of technological innovation, especially in the fight against COVID-19 and to stop its spreading.
- Expand investments in next generation infrastructure networks, by recognizing the benefits and opportunities, including the cost-effectiveness of co-deployment of fibre-optic cables along passive infrastructure networks.
- Recognize bandwidth demand surges during the crises, notably the COVID-19 lockdowns place severe pressure on network capacity. In this regard, the outcomes of the Survey A recommend that the secretariat should develop an e-resilience tool and index to support Governments’ assessments of the ability of digital infrastructure and digital systems to handle the crises of the future and the decision making processes.
- Continue strengthening institutional and human capacities on digital technologies for development and practicing of a new normal that supports resilience of the whole society approach.
- Continue knowledge-sharing and capacity building on effective ICT policies and practices to respond to COVID19.

THE RADAR OF RESPONSES TO SURVEY A: E-RESILIENCE READINESS

Figure: The Radar of the Perception-Based Responses on E-Resilience Readiness in three RECI project target countries: Kazakhstan (red), Kyrgyzstan (blue), Mongolia (violet), given by invited participants of the webinar on 3 July 2020 on “E-resilience readiness for pandemic recovery”, ref at: <https://www.unescap.org/events/e-resilience-pandemic-recovery-intercountry-consultations-preparation-cictsti>



OVERVIEW OF THE RESPONSES BY THREE COUNTRIES

1. ICT network infrastructure resilience (overview of the responses to questions #1 - 9)

NB: the official “Telecommunications Infrastructure Index” (here, TII) of the latest available data of year 2018, suggest the following TII: 0.3602, 0.3418, and 0.5723 for Mongolia, Kyrgyzstan and Kazakhstan, respectively.

NB: According to ITU statistics, in Kazakhstan, Kyrgyzstan and Mongolia respectively 84,85%, 21,1% and 22,99% of households were estimated to have Internet access at home in 2017.

Mongolia and Kyrgyzstan (1,5 and 1,125 respectively) in general consider the level of broadband Internet access sufficient, from the perspective to leverage ICT for minimization of disruptions (Question #1).

Respondents from Kyrgyzstan has noted some potential in ICT infrastructure compatibility for co-deployment projects with road transport and energy infrastructure (0,625 and 1 respectively), while Mongolia stated potential (0,63) with road transport (Question #2 and #3).

In all three countries the e-resilience of infrastructure readiness have a room for improvement, such as the measures to promote network resilience, measures to ensure continuity plans on connectivity (e.g. contingency planning, emergency measures, and drills and backups) including utilization of ICT in establishing response plans and mechanisms, regular testing for emergency preparedness (according to responses to questions #5,#6 and #7) are not widely established or known in all countries concerned, with a little bit higher response marks from Mongolia.

NB: In the year 2012 Taiwan Institute of Economic Research (TIER) supported by the Asian Disaster Reduction Center (ADRC) conducted regional survey focused on private sector of APEC economies preparedness to disasters (including Pandemic / Epidemic). Of all respondents, 13% indicated that their companies had a business continuity plan (BCP) and 8% are in the process of developing one. 32% reported no BCP and 47% - did not know anything about BCPs.

Responses demonstrated substantial differences in terms of the level of BCP development and awareness between respondents that have experienced disaster and those that have not.

2. ICT for societal resilience (overview of the responses questions #10 - 18)

The average values of responses to Question #10 demonstrated the diffusion among citizens of the three countries of reliable broadband Internet access from home as 0,57/ 1,25/ 0,25 for Kazakhstan, Kyrgyzstan, Mongolia, respectively.

The highest score given by respondents of the three countries is an average score ranging 1,75 / 1,57 / 1,5 for Mongolia, Kazakhstan, Kyrgyzstan, respectively, ref to the Question #12 concerns the respondents own experience of using on-line services and applications during period of social distancing.

The Question #18 has been answered positively by majority of respondents, with Kyrgyzstan a little bit less optimistic than others. The average scores were given 1,38 / 1 / 0,875 by respondents from Mongolia, Kazakhstan, Kyrgyzstan, respectively. This result can be interpreted as a confirmation of the personal readiness of people to benefit from digital opportunities in different situations, including difficult ones.

All countries noted that utilization of ICT for facilitation of access to essential health services through, for example, e-health, telemedicine, and big data (Question #17) are not effective enough. At the same time, according to the Question #13, responses in Mongolia: ICT is utilized for infectious disease outbreaks preparedness by supporting digital tools, developing content services, and promoting digital skills across the population.

NB: E-Government Development Index (EGDI) assesses e-government development at the national level. As a composite indicator, the EGDI is used to measure the readiness and capacity of national institutions to use ICTs to deliver public services. Kazakhstan, Kyrgyzstan, Mongolia, respectively had EGDI values of 0.7597, 0.5835, 0.5824 in 2018, with all three countries on the list of Top 10 countries for e-government (among LDCs).

NB: Online Service Index (OSI) for Kazakhstan, Kyrgyzstan and Mongolia respectively have 0.8681, 0.6458, 0.5972 in 2018. OSI – is composite indicator measuring the use of ICTs by governments in delivering public services at the national level. OSI assesses the national online presence of all 193 United Nations Member States and contains number of features related to online service delivery, including whole-of-government approaches, open government data, e-participation, multi-channel service delivery, mobile services, usage up- take, digital divide as well as innovative partnerships through the use of ICTs. OSI is a part of E-Government Development Index (EGDI).

3. Policy and legal provisions for E-resilience against pandemic (questions #19 – 26)

The answers to questions in this section, in general, revealed the lack of investments in next generation infrastructure networks and lack of effective policies and institutional capacity to implement innovative technologies for expansion of digital infrastructure and digital systems to handle the crises of the future.

According to the Question #20 respondents from all three countries consider insufficient the investments in early warning and accessibility of financing mechanisms for the prevention, detection, and control of infectious disease outbreaks based on ICT.

The Question #22 shows the participants perception that a competitive environment in the broadband access market hasn't been yet developed in all three countries and all countries lack the institutions (organizations or inter-ministerial working group) to coordinate innovative ICT projects for implementation, e.g. ICT infrastructure co-deployment (the Question #23)

However, there are some initiatives aimed to improve the existing regulations and hamper the development of broadband access in the countries. For example, as per the Question #19, Kyrgyzstan is currently implementing the state programs of development of broadband access infrastructure (average score 1,125) and Kazakhstan responded to the Question #25 on the availability of the digital economic strategy in the country (Score 0,71).

4. Collaborative actions to harness technologies against pandemic (questions #27 -31)

Respondents of Kazakhstan questioned the effectiveness of the communities, health-care facilities, and points of entry in your country report and communicate to prevent and detect infectious disease outbreaks, with average rate -0.14 (the Question #27). All respondents rated the level of the coordination between state authorized institutions and independent bodies involved in the regulation of broadband access as insufficient, this is according to reply to the Question #30 with average rates of responses 0,88 / 0,14/ 0,125 by Mongolian, Kazakhstani and Kyrgyzstani policymakers, respectively.

Meanwhile, the majority respondents of all countries positively rated their country's readiness to collaborate with other countries during emergency and ICT infrastructure-sharing experience (the Question #28).

LIST OF QUESTIONS IN SURVEY A: E-RESILIENCE READINESS

1. ICT network infrastructure resilience

1. How would you rate the level of broadband Internet access sufficiency (Mobile and Fixed) in your country from the perspective to leverage ICT for minimization of disruptions, which people are faced with during COVID-19 outbreak?
2. How would you rate your country's ICT infrastructure compatibility for co-deployment projects with road transport infrastructure?
3. How would you rate your country's ICT infrastructure compatibility for co-deployment projects with energy infrastructure.? (Risk Prevention)
4. To which extent your country utilizes ICT for verification, risk assessment, and analysis investigation for the prevention, detection, and control of infectious disease outbreaks? (Risk Prevention)
5. How would you rate your country's efforts to promote network resilience? e.g. by facilitating emergency access to relevant ICT resources, or expediting the approval of new sites and installations and, or allowing voluntary infrastructure sharing when necessary? (Response)
6. To which extent the ICT infrastructure in your country ensures continuity plans on connectivity (e.g. contingency planning, emergency measures, and drills and backups)? (Response)
7. To what extent you agree that your country utilize ICT to establish preparedness and response plans and mechanisms, as well as regular testing for emergency preparedness (Risk Reduction)
8. How would you rate probability that your country plans to change/adapt its ICT infrastructure in a post-pandemic era? (Recovery Phase)
9. What is your level of confidence that your country plans to invest in ICT infrastructure to reduce future risks? (Recovery Phase)

2. ICT for societal resilience

10. How would you rate the diffusion among citizens of your country of reliable broadband Internet access from home.
11. I have access to risk databases, such as GIS (geographic information system), for DRR? (Risk Reduction)
12. How would you rate your own experience of using on-line services and applications during period of social distancing (e.g online banking, shopping, training courses, on-line cinemas, forums etc.)
13. To what extent your country utilizes ICT for infectious disease outbreaks preparedness by supporting digital tools, developing content services and promoting digital skills across the population as a whole? (Risk Reduction)
14. How would you rate ICT utilization in your country for effective emergency risk communications and information sharing across all levels of government, within communities, and between public and private organizations? (Response)
15. How well does your country ensure access to affordable digital services for citizens such as internet access or mobile plans during times of crisis e.g. COVID-19 outbreak? (Response)
16. How well do current policies and strategies in your country support compliance with social distancing principles while providing vital connectivity, e.g. through remote working, on-line official services availability. (Response)
17. How effectively ICT is utilized in your country to facilitate access to essential health services through, for example, e-health, telemedicine and big data. (Response)
18. Do you feel that you have all the necessary digital skills to adapt to an online economy?

3. Policy and legal provisions for E-resilience against pandemic

19. Does your country already have, and currently implement the state programs of development of broadband access infrastructure?
20. Did your country invest in early warning and has accessible financing mechanisms available for the prevention, detection, and control of infectious disease outbreaks based on ICT? (Risk Reduction)
21. To what extent you agree that legislation in your country generally allows and encourages new initiatives on methods to increase affordable broadband access and the efficiency of digital services?
22. To what extent you agree that your country has already developed a competitive environment in the broadband access market.
23. Does your country have institutions (organizations or inter-ministerial working group) to coordinate, select, evaluate and prepare innovative ICT projects for implementation, e.g. ICT infrastructure projects compatible for co-deployment with road transport and energy infrastructure. (Risk Prevention)
24. What is your confidence level that legislation allows for the budgetary and extra-budgetary financing of innovative activities, including international grants, public-private partnership (PPP), etc.
25. Does your country have a digital economic strategy?
26. To what extent you agree that your country promotes network resilience by facilitating emergency access to relevant resources and allowing voluntary infrastructure sharing when necessary.

4. Collaborative actions to harness technologies against pandemic

27. How effectively the communities, health-care facilities, and points of entry in your country report and communicate in order to prevent and detect infectious disease outbreaks. (Response)
28. How would you rate your country's readiness to collaborate with other countries during emergency and ICT infrastructure-sharing experience?
29. To what extent the inter-ministerial working group for ICT infrastructure sharing is set and delivered regularly.
30. How would you rate the level of the coordination mechanism between state authorized institutions and/or independent bodies involved in the regulation of broadband access?
31. How would you rate the level of stimulation of public-private partnership (PPP) in the development of broadband access in your country?