SPECA Working Group on Innovation and Technology for Sustainable Development

(webinar)

SPECA participating countries: Afghanistan, Azerbaijan, Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, and Uzbekistan

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SURVEY ON E-RESILIENCE READINESS RESULTS

The Perception Based Survey on E-resilience Readiness is aimed to sense the overall trends and opinions of the respondents on 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 questionnaire of Survey is comprised of 31 questions with multiple choice answers ranging from "-2" to "2", where "- 2" indicates the lowest level of national capacity, "0" is neutral or "I don't know", and "2" indicates the highest level of opinion.

14 responses were received from representatives of SPECA participating countries: 2 from Afghanistan, 1 from Azerbaijan, 1 from Kazakhstan, 2 from Kyrgyzstan, 3 from Tajikistan, 1 from Turkmenistan, and 2 from Uzbekistan and 2 from representatives of International organizations.

Based on the Survey results' analysis the following policy recommendations can be brought to the attention of the national policy makers:

- deepen and extend collaboration at the regional level and scale up broadband Internet capacities for effective use of technological innovation, especially in the fight against COVID-19 and its spread.
- expand investments in next generation infrastructure networks, recognizing the benefits, including the cost-effectiveness of co-deployment of fibre-optic cables along passive infrastructure networks.
- recognize bandwidth demand surges during crises, notably COVID-19 lockdowns, place severe pressure on network capacity and recommends that the secretariat develop an e-resilience tool and index that support Governments' assess the capacity of digital infrastructure and digital systems to handle the crises of the future.
- continue strengthening institutional and human capacities on digital technologies for development
- continue knowledge-sharing and capacity building on effective ICT policies and practices to respond to COVID19.

1. ICT network infrastructure resilience (questions #1 - 9)

In general, SPECA countries consider the level of broadband Internet access rather insufficient, from the perspective to leverage ICT for minimization of disruptions (Question **#1**). The average scores were 0,33/-1/ -2 for Tajikistan, Turkmenistan and Afghanistan respectively.

NB: We can compare these results with the official "Telecommunications Infrastructure Index", considering dynamics from year 2018 to the latest available data of year 2020, which suggest the following improvements, in numbers: 0.2254(2018) to 0,3496(2020) for Tajikistan, 0.3011(2018) to 0,3555(2020) for Turkmenistan and 0.1138(2018) to 0,1762 (2020) for Afghanistan. This can demonstrate that in spite of the definite progress made by countries in Telecom infrastructure expansion, it's still not enough to meet the requirements of citizens especially under extraordinary conditions, like for example lockdown during COVID-19

Nevertheless, most of the participants demonstrated the confidence in their country plans to adapt its ICT infrastructure in a post-pandemic era (Question **#8**). This has shown an average score 0,71.

In all participating countries the e-resilience seems still to have room for improvement, although the majority of respondents noted some efforts made by their countries to establish measures to promote network resilience, e.g. by facilitating emergency access to relevant ICT resources (Question **#5**). The average score was 0,57 with the highest average estimates made by Azerbaijan (2) and Kyrgyzstan (1,5), and lowest by Kazakhstan (-1) and Afghanistan (-0,5)

The average score of 0,21 (according to responses to question **#6**) demonstrates that measures to ensure continuity plans on connectivity (e.g. contingency planning, emergency measures, and drills and backups) are not widely established or known in all countries concerned, with a little bit higher response marks (both = 1) from Uzbekistan and Azerbaijan.

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 actually experienced disaster and those that have not.

2. ICT for societal resilience (questions #10 - 18)

The highest scores was given by all SPECA countries in a response to Question **#12** (0,857) and Question **#18** (0,857).

The average values of responses to Question **#10** demonstrated the diffusion among citizens of the SPECA countries of reliable broadband Internet access from home as 0,5:-1 for Kazakhstan, Afghanistan and Turkmenistan, 0,67 for Tajikistan, 1 for Azerbaijan and Uzbekistan and 2 for Kyrgyzstan.

NB: According to ITU statistics, in Kazakhstan, Kyrgyzstan, Afghanistan and Azerbaijan respectively 84,38%, 18,76% , 4,8% and 77,4% of households were estimated to have Internet access at home in 2017.

The Question **#12** has been answered positively by majority of respondents, with Afghanistan less optimistic than others (-1,5). This result can be interpreted as a confirmation of personal readiness of people to benefit from digital opportunities in different situations, including difficult ones.

All countries noted, with average score 0,07, 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 yet effective enough.

At the same time, according to Question **#13** average score 0,5, to some extent ICT is utilized in most countries for infectious disease outbreaks preparedness by supporting digital tools, developing content services and promoting digital skills across the population.

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

NB: EGDI – composite indicator which assesses e-government development at the national level. It is a composite index based on the weighted average of three normalized indices. One-third is derived from a Telecommunications Infrastructure Index (TII) based on data provided by the International Telecommunications Union (ITU), one-third from a Human Capital Index (HCI) based on data provided by the United Nations Educational, Scientific and Cultural Organization (UNESCO), and one-third from the Online Service Index (OSI) based on data collected from an independent survey questionnaire, conducted by UNDESA, which assesses the national online presence of all 193 United Nations Member States.

Afghanistan, Azerbaijan, Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, and Uzbekistan respectively had EGDI values of 0.2585 , 0.6574, 0.7597, 0.5835, 0.422, 0.3652 and 0.6207 in 2018.

The answers to questions in this chapter, in general, reveal lack of investments in early warning systems based on ICT (Question **#20).**

Question **#22** shows the participants from all SPECA countries perception that a competitive environment in the broadband access market hasn't been yet developed (average score 0,14) 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 (Question **#23)**

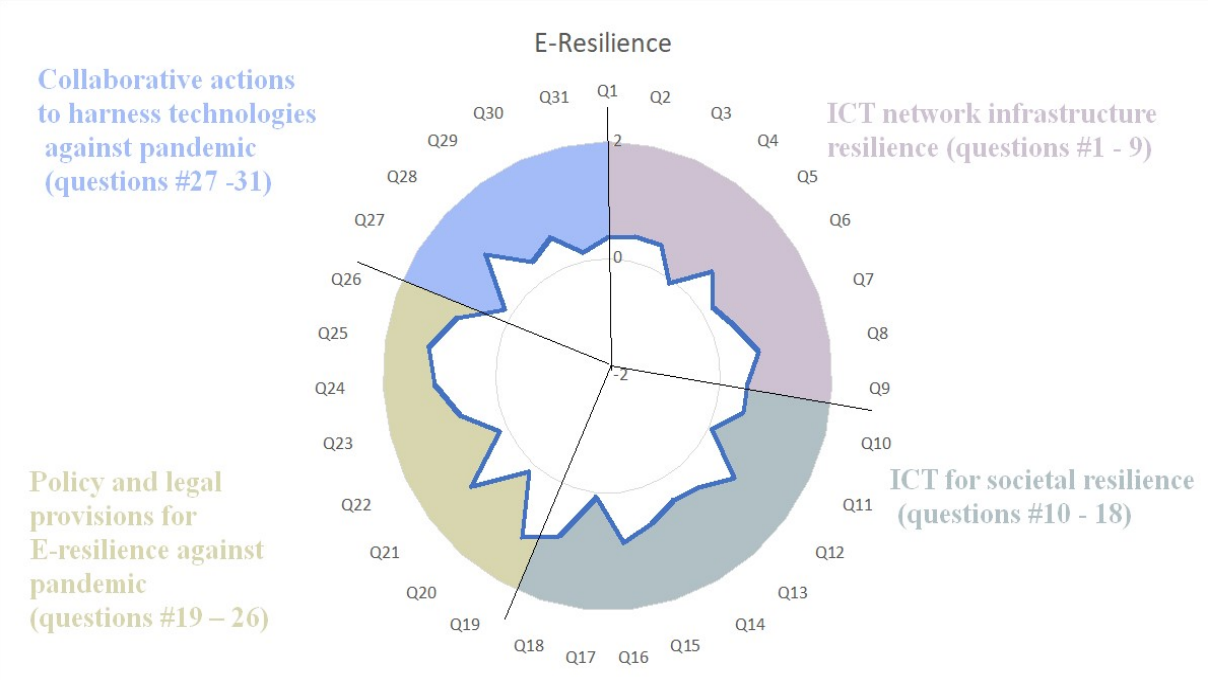
However the majority of participants marked positively the questions Question **#19** and Question **#25,** confirming the availability of the state programs of development of broadband access infrastructure and digital economic strategy aimed to improve the existing regulations and hamper the development of broadband access in the countries.

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

All the respondents questioned effectiveness of interactions of the communities, health-care facilities, and points of entry in the countries for the purpose to prevent and detect infectious disease outbreaks (Question **#27)**, with slightly more positive average numbers of Kyrgyzstan (1), Azerbaijan (1) Uzbekistan (1,5).

All the respondents rated as insufficient the level of stimulation of public-private partnership (PPP) in the development of broadband access, according to Question **#31.**

Meanwhile, the majority respondents of all countries positively rated their country's readiness (average score 1) to collaborate with other countries during emergency and ICT infrastructure-sharing experience (Question **#28**).



List of Questions

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?