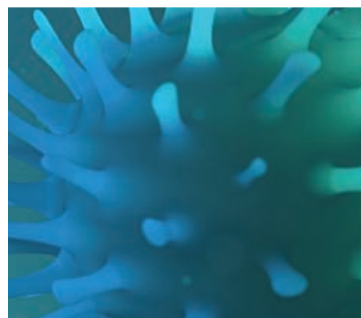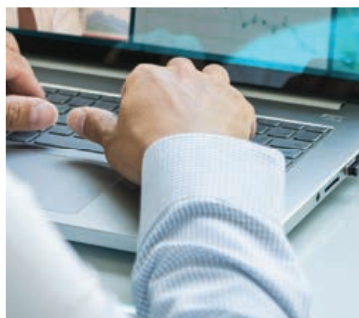# Guide to develop a telecommunications/ ICT contingency plan for a pandemic response

Guide to develop a telecommunications/ ICT contingency plan for a pandemic response

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The Covid-19 crisis has demonstrated the essential role of connectivity worldwide and the importance of having telecommunications and ICT in place for coordination mechanisms to respond to it. The response has demonstrated the strategic importance of a robust, resilient, and secure telecommunications/ICT infrastructure to social welfare and the global economy. This pandemic is the biggest global health crisis in decades. Since the first cases were reported in December 2019, the measures taken to mitigate the spread of the virus through isolation and social distancing have caused unprecedented economic disruption. In response, all government agencies and stakeholders involved in disaster risk management, including government decision-makers and the community in general should deploy coordination mechanisms and protocols to help aid the response.

Telecommunications/ICT are a key tool to coordinate and inform stakeholders and society. This document presents a set of proposals for effective telecommunications/ICT contingency planning and response. These proposals are based on the principal recommendations outlined in the *ITU Guidelines for national emergency telecommunication plans*.[1]

A national emergency telecommunication plan is a comprehensive document that includes not only the regulatory frameworks for disaster risk management, but also all the activities and actions that need to be developed and implemented through a multi-stakeholder approach, in each of the phases of the disaster management cycle in the telecommunications/ICT sector and beyond.

The recommendations presented in this document are aligned with:

- the Digital Development Joint Action Plan and Call for Action;[2]
- the guidance offered by the Broadband Commission through its Agenda for Action for Faster and Better Recovery amid the Covid-19 pandemic;[3]
- the GSMA Eleven Regulatory Recommendations to Sustain Connectivity During the COVID-19 Crisis;[4]
- the ITU First Overview of Key Initiatives in Response to the Covid-19 pandemic.[5]

The Agenda for Action for Faster and Better Recovery provides a repository of tangible strategies for immediate and medium-term actions, based on three pillars: resilient connectivity, affordable access, and safe use of online services for informed and educated societies, while the ITU First Overview of Key Initiatives in Response to the Covid-19 pandemic summarizes short and long-term commercial and regulatory initiatives implemented in different countries.

[1] https://www.itu.int/en/ITU-D/Emergency-Telecommunications/Documents/2020/NETP-guidelines.pdf
[2] ITU, GSMA, World Bank and World Economic Forum. (April 2020). Digital Development Joint Action Plan and Call for Action Covid-19 Crisis Response.
[3] Broadband Commission for Sustainable Development. COVID-19 CRISIS. Retrieved from: https://www.broadbandcommission.org/COVID19/Pages/default.aspx
[4] https://www.gsma.com/newsroom/blog/eleven-regulatory-recommendations-to-sustain-connectivity-during-the-covid-19-crisis/
[5] International Telecommunication Union (May 2020), First Overview of Key Initiatives in Response to Covid-19.

> A contingency plan implies establishing operational procedures in relation to the use of telecommunications/ICT resources and capacity in response to a particular hazard affecting a vulnerable area, as well as making decisions in advance about the management of roles and responsibilities of each of the organizations involved in the process and for the expected use of the entire range of available technical and logistical telecommunications/ICT responses.

Unlike other disasters that may cause severe devastation to telecommunications/ICT infrastructure, the Covid-19 pandemic has caused an increase in data traffic on both wired and wireless networks due to higher online communications demand during the confinement, for example, students taking classes online, employees working remotely from home, and people undertaking daily activities via the Internet.

This document therefore focuses on telecommunications/ICT service delivery and business continuity in the specific context of a pandemic such as Covid-19 and outlines a set of actions that countries can take to prepare for, anticipate and be ready to promptly respond and ensure network continuity and service delivery for future health related emergencies. Telecommunications/ICT services include fixed, mobile, satellite, terrestrial, WiFi and any other technology enabling broadband and broadcasting services.

1. Legislation and regulation to improve telecommunications/ICT capacity for emergency response

Policy decisions, decrees, and regulations for the use of telecommunications/ICT for emergency response are issued at the highest level, typically by the national government, including declarations of a national state of emergency providing extraordinary powers to issue specific emergency provisions on telecommunications/ICT, and decrees and/or resolutions with specific provisions on telecommunications/ICT and contingency plans. These and other legal and regulatory responses provide an institutional and inter-institutional framework for the actions of government and civil society in the face of any emergency, including medical crises such as the Covid-19 pandemic.

Response efforts are a collective responsibility, therefore, a multi-stakeholder approach, which involves the participation of public and private sectors and civil society through a multisectoral and interdisciplinary framework, should be implemented.

Telecommunications/ICT facilitate coordination between key agencies during an emergency response and are critical when disseminating relevant information to inform the public of actions that should be taken during an emergency. This requires a variety of government agencies and private sector entities to coordinate, including but not limited to:

- key ministries of central government such as telecommunications/ICT, health, foreign affairs, education;
- state/provincial authorities and public safety officials;
- telecommunications/ICT operators (fixed, mobile, broadcasting, satellite, etc.);

- local communities, citizen-led groups and civil society organizations;
- relief organizations, hospitals and health organizations;
- non-government organizations (NGOs);
- countries at the global or regional level within a framework of bilateral agreements or cooperation treaties;
- international organizations and aid agencies;
- mobile industry trade organizations and associations.

The emergency management process normally takes place under the leadership or at the request of central government, which defines the goals, roles, authorities, responsibilities, and procedures for all relevant stakeholders. Under such national legislation and/or national disaster risk management plans, all sectoral authorities are responsible for the development of a specific set of telecommunications/ICT policies to support and complement the implementation of a comprehensive national approach.

Under these conditions, specific rules should be designed to establish, develop, or improve national telecommunications/ICT interoperability, guarantee the availability of networks, and maintain the quality of service offered to all users. For example, service providers offering wired and wireless services may need to be provided with the means to increase capacity and expand their networks, e.g., temporary spectrum licences or agile expedition of permits to respond to the increase in traffic, including from users working from home or students attending school remotely. Telecommunications/ICT capabilities should also be boosted or expanded to include suburban, rural and remote areas with poor or no service coverage and to support increased demand for online activities such as teleworking and online education that have seen large spikes in use during the recent Covid-19 pandemic.

In addition, non-terrestrial wireless solutions such as satellite networks, which are essential to provide backhauling services (including making additional capacity available when needed) or direct broadband communications services, including voice, data, and video, should be included in the plans. Not least, satellite systems also enable secure and reliable networks for incident command and control vehicles, which are typically deployed during emergency situations, including pandemics such as Covid-19.

All those involved in disaster management, including telecommunications/ICT stakeholders, should establish a clear strategy and a robust process for the use of telecommunication services during an emergency, based on the legal, policy, and regulatory framework in place. For example, priority should be placed on communications for first responders, hospitals and incident response during the emergency, as well as on the communication of critical information to the public.

Effective legislation and regulation implemented in response to emergencies, such as the Covid-19 pandemic, will address multisectoral coordination. This includes coordination between the different ministries and telecommunication entities, for example:

- Ministry of Health and high-level government officials, including the heads of government, to provide information disseminated through mobile providers by sending SMS or multimedia messages to the entire population, as well as through radio and television broadcasting by providing breaking news on new developments, etc.
- Ministry of Education to coordinate online education solutions with telecommunications/ ICT providers so that all students who are unable to attend school/college can still have access to education and applications and follow online classes.

- Telecommunications/ICT providers can connect hospitals, health institutions, food collection and distribution sites, and relief organizations, among others, in remote underserved and/or unconnected regions to coordinate specific response activities.

Finally, multi-technology solutions should be considered within relevant legislative and regulatory frameworks for the preparedness and response phases. While keeping in mind the various types of communications actors in a given country, the emergency response should include the broadest range of technology possible, such as radio communication (VHF, HF, UHF), mobile, satellite and broadcasting technologies, especially those that can be installed in remote rural areas with no pre-existing connectivity. For example, satellite providers can, in a matter of days, provide broadcasting and broadband services in rural areas enabling communities to receive updates on new developments and on actions that need to be undertaken.

Big data analytics can also help address the challenges of epidemics by facilitating analysis of cell phone mobility and social media data, as well as conducting large-scale simulations, among many other applications.[6]

2.   Telecommunications/ICT management elements for effective preparedness and response to pandemic emergencies such as the COVID-19 pandemic and other future health crises

Telecommunications/ICT tools are key to critical information exchange among those involved in preparedness and response activities. It is relevant to consider the operational continuity of telecommunications/ICT, as well as to understand the communication channels and the types of information that should be shared.

In the case of this emergency, where infrastructure has not been damaged, but many people are confined to their place of residence while working/studying/etc., it is important to:

- evaluate the capacity of the different telecommunications/ICT networks and service providers;
- evaluate the demand increase in traffic and analyse if the network can handle such increase;
- ensure backup or diverse/redundant means of telecommunication in place in case of outages;
- map those areas where connectivity is poor or lacking.

Regarding the information to be provided to the general public, it is important to coordinate diverse elements, such as:

- Who is responsible for the communication that is being delivered?
- What type of information is being communicated?
- Who is communicating?
- What are the communication channels being utilized?
- Who has priority to communicate?
- How can social media be used as a tool for collecting data and sharing information while respecting privacy?

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[6]   ITU, GSMA, World Bank and World Economic Forum. (April 2020). Digital Development Joint Action Plan and Call for Action Covid-19 Crisis Response.

- Are vulnerable groups, including women, elderly people and people with specific needs, being considered when communicating relevant information about the emergency?
- How should misinformation be addressed?
- How can online safety measures be implemented to address possible related cybercrime?

The answers to these questions will help to guide decision makers as they undertake specific actions to respond to the emergency. The following section describes different telecommunications/ICT initiatives that key government agencies at a country level can undertake to effectively prepare for and be ready to respond to the present health crisis and future emergencies.

3. Provisions to be considered by regulators and governments for preparedness and response for future crises

The following list of provisions come from the ITU Guidelines for national emergency telecommunication plans, as well as the initiatives that regulators and governments have implemented worldwide.

Countries should internally analyse and decide whether these provisions are in line with their national needs, telecommunications/ICT services and networks and regulatory frameworks, and tailor them to prepare and respond efficiently to specific needs of the emergency.

Type of Initiative	Lead Agency	Measures
Temporary regulations / measures	Sector ministries / regulatory authority	Temporary decrease of taxes and fees. For example, reducing the tariff, freezing universal service fund payments, or reducing the value added taxes that may apply to certain services.
		Ensure availability of critical amount of satellite terminals (phones, broadband global area networks, dishes and modems), and associated spectrum in case other ICT networks are overloaded or destroyed.
		Grant temporary spectrum assignments on a national or regional basis to allow for multiple types of applications and services, fixed and mobile, from narrowband voice services to broadband-intensive applications within allocated bands.
		Grant telecommunications/ICT service licences or approvals necessary to support emergency telecommunications/ICT efforts on an expedited/temporary basis.
		Exempt operators from obligations to provide in-store customer service.
		Expedite permits for infrastructure deployment in order to expand network coverage and increase telecommunications/ICT services.
		Make sure blanket licensing is available to allow ubiquitous deployment rapidly without site by site registration/surveys/applications.
		Relax notification requirements, such as tariff notification requirements or filing requirements for telecommunications/ICT critical equipment. Regulatory authorities can recognize foreign type approvals to expedite the process by utilizing the guidelines of the ITU Telecommunication Standardization Sector (ITU-T).
		Suspend certain services that may require customer visits to provider stores (e.g. number portability).
		Promote infrastructure sharing and roaming.
		Enable operators to relieve network capacity constraints and keep networks running and operational by flexible management of different types of network traffic to address network congestion and enable access to content and applications related to health services, emergency care, official, labour and educational information.
		Internet video streaming platforms could offer their content in a standard format (not in high definition) in order to lower network capacity constraints and keep networks running smoothly.
		Mobile service providers could expand their commercial service offers for private, self-employed, and small business customers at no additional cost.

Type of Initiative	Lead Agency	Measures
Requests made to service providers and operators	Sector ministries / regulatory authority	Fixed service providers could increase network capacity to respond to traffic increase from households due to teleworking, online education and entertainment, among others.
		Wholesale telecommunications/ICT providers could increase network capacity in coordination with end-user telecommunications/ICT providers to respond to traffic increases.
		Service providers could prioritize the connectivity of strategic points, such as hospitals, health centres and food collection centres, as well as key infrastructure related to vital services and commerce.
		Prioritize call routing on both mobile and fixed networks for people engaged in response activities, so as not to delay or prevent critical communications between relevant responding agencies.
		Facilitate satellite connectivity to rural and remote areas by installing broadband terminals in key locations.
		Expansion of plans offered by video content providers with additional content to alleviate and cope with the conditions of isolation and quarantine.
		Waive customer late fees on telecommunications/ICT services.
		Guarantee users a minimum service offering.
Support to customers	Sector ministries / regulatory authority	Provide support to cover the cost and installation of satellite broadband equipment which can be moved to other areas or removed when no longer needed.
		Guarantee universal service plans to the entire population, such as free of charge data and voice services.
		Open Wi-Fi hotspots to the entire population.
		Establish waivers to facilitate dissemination of information to people with disabilities. For example, grant telecommunications/ICT relay service providers temporary waivers to better enable sign language interpreters to work from home.
		Establish official applications and websites related to the crises, such as the Covid-19 pandemic, are available.
		Provide a clear legal pathway for a country's non-nationals and the vulnerable (e.g. refugees) to access connectivity.
		Inform the public about the health emergency through different channels: radio and TV broadcasting, mobile and fixed operators, free emergency numbers, social media, among others.
		Create content-specific websites, micro websites or applications regarding the emergency, ensuring data protection and privacy.

Type of Initiative	Lead Agency	Measures
Disseminating relevant information	Sector ministries / regulatory authority	Develop campaigns to promote the responsible use of communication services in order to avoid network congestion.
		Declare telecommunications/ICT services as essential to facilitate the operation, installation, maintenance, and operation of telecommunications/ICT networks even during mass safety measures such as lockdowns.
		Define functions, responsibilities and contact points, as well as contact details (e.g., e-mail and phone numbers –including for after hours), for each government agency and stakeholder related to telecommunications/ICT emergency services.
Other	National government / sector ministries / regulatory authority	Reinforce the reporting and exchange of information on network traffic and use in order to monitor the continuity of services and network performance.
		Ensure that, where mandated, any measures taken are proportional, taken in consultation with the industry and reflective of market reality e.g. by facilitating public / private sector dialogue.
		Develop an understanding of existing treaties, conventions and other programmes that offer additional tools for use during and after emergency events. This is especially relevant in developing countries, where greater technical and humanitarian assistance may be required

Source: ITU

The provisions summarized in the table above could be implemented by the responsible authorities immediately and/or in the short term in order to respond to the current COVID-19 pandemic and to prepare for other hazards (natural, manmade, health-related, other) that may arise.

The measures seek to increase bandwidth, strengthen resilience and security of networks, and manage congestion. They also seek to connect vital services and ensure the continuity of public services to safeguard the welfare of populations; empower finance, technology, and digital business models to support the most impacted businesses and communities; promote trust, security and safety online; and leverage the power of mobile big data.[7]

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[7]   ITU, GSMA, World Bank and World Economic Forum. (April 2020). Digital Development Joint Action Plan and Call for Action Covid-19 Crisis Response.

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