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Submissions from entities in the United Nations system, international organizations and other stakeholders on their efforts in 2021 to implement the outcomes of the WSIS

Submission by

Internet Society

This submission was prepared as an input to the report of the UN Secretary-General on "Progress made in the implementation of and follow-up to the outcomes of the World Summit on the Information Society at the regional and international levels" (to the 25th session of the CSTD), in response to the request by the Economic and Social Council, in its resolution 2006/46, to the UN Secretary-General to inform the Commission on Science and Technology for Development on the implementation of the outcomes of the WSIS as part of his annual reporting to the Commission.

Internet
Society

Internet Society's contribution to the CSTD Annual Report of WSIS Outcomes 2021

1. Executive summary

The Internet Society (ISOC), a global non-profit organization with a mission to support an open, globally connected, trustworthy, and secure Internet, has remained active in supporting the World Summit on the Information Society (WSIS) recommendations, commitments, and targets which remain as important and relevant as when they were adopted, despite the rapid evolution of ICTs. They provide us with the solid foundation we need to contribute to the UN Sustainable Development Goals (SDGs). As nations around the world continue to deal with the COVID-19 global health pandemic for a second year, the Internet has played an increasingly important role. On the other hand, the global health crisis has indicated that many hurdles remain to be overcome for the millions that are still offline in order to realize the benefits of the Internet and digital technologies and that a shift in approach is needed to move us beyond the status quo.

To overcome the persistent digital divide, which keeps half of the world's population unconnected, digitally illiterate, and unable to participate in the digital economy as the other half, a coordinated multistakeholder effort based on global cooperation is required: to establish proportionate and flexible policy and regulatory measures that enable complementary connectivity solutions for remote and rural areas of the world; to increase security and trustworthiness online, while protecting users' privacy, and preserving the critical properties of the Internet; and to counter the rising trend in Internet shutdowns by national authorities for largely political, non-technical reasons.

New divides around emerging technologies such as Artificial Intelligence, and the "Internet of Things," may emerge if the WSIS stakeholder community of government and the private sector fails to consider new and innovative approaches. This would imperil the success of the United Nations' 2030 Sustainable Development Agenda. As a result, the role of digital technologies and the Internet in resetting the 2030 goals and

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targets must be prioritized in existing regional and national COVID-19 recovery strategies.

2. Overview of Trends and Experiences

i. COVID 19 Pandemic

The Internet's layered architecture, which includes a common protocol, a global routing system, and a global framework that allows for permission-less innovation, has demonstrated its importance and durability during the current COVID-19 pandemic. Core infrastructure providers have been able to absorb traffic demand across the global system, and cloud providers have enough computing, storage, and bandwidth capacity to allow online learning and remote conferencing tool providers to scale up their regional and global systems. However, gaps in the progressive roll-out of digital infrastructure including serious strain on global supply chains for essential pieces of digital tools such as semiconductors worldwide mean that populations in underserved and unserved regions, as well as island communities, are being left behind.

ii. Internet shutdowns

The Internet Society encourages governments everywhere to support policies and decisions that build a strong, and resilient Internet which enables citizens to access information and communicate online without hindrance and interruption. The trend in Internet shutdowns — which has continued in 2021 — remains a major concern. ISOC believes that deliberate disruptions to Internet access harm societies, economies and the global Internet infrastructure and monitors network connectivity which is essential to the operations of businesses in nearly every sector. Continuous and uninterrupted Internet access is quickly becoming just as important as electricity. Internet shutdowns constitute a major risk for many businesses and investors, including those building infrastructure and/or developing services.

iv. Content Regulation

The positive vision of the ever-connected society has been undermined to some extent by growing concerns that online social media greatly amplify the impacts of disinformation, radicalization, hate speech, and other forms of harmful content while efforts to restrict access to content online are imprecise and frequently result in other

types of unintended consequences. Furthermore, governments have continued to scrutinize the market dominance of large online platforms in 2021.

The commerce-based social media platforms are no longer simply "the pipe" for delivering online information and data; for many online, they are the gatekeepers in the online world, and questions have arisen about how effective the self-regulation model can be in safeguarding the interests of users and whether there needs to be more investment in education and digital literacy.

The Digital Services Act (DSA) and Digital Markets Act (DMA) in Europe are intended to address the behavior of large online platforms, and it is expected that this new legislation will have a significant impact on how they operate and develop their relationships with regulators.

Legal proposals to address illegal, harmful, and abusive online content are being developed at the national level, for example, in the United Kingdom, where the Online Safety Bill is currently being debated in the national parliament with cross-party support. ISOC joins other private sector and civil society stakeholders in engaging national and regional policymakers to (a) ensure that regulatory interventions are proportionate and do not constrain innovation nor inhibit freedom of expression, and (b) to strengthen the processes of governance and oversight so that they are transparent, open, and inclusive, and that they consider the perspectives of all relevant stakeholders.

<ins>ISOC's role in promoting innovative policies through its project-based programmes</ins>
ISOC offers extensive project-based experience and expertise regarding connectivity, inclusivity and capacity-building in unserved and under-served regions. With reference to the WSIS Action lines, ISOC's project-based priority areas of focus accordingly are as follows:

WSIS Action Line C1: Governance and promotion of ICTs for development
- Contributing to the multistakeholder processes for implementing the recommended proposals of the UN Secretary-General's Roadmap for Digital Cooperation through building on existing mechanisms and processes.

- Strengthening the U.N. Internet Governance Forum (IGF) so that it is more inclusively multistakeholder and enhancing its effectiveness in informing global, national and regional policymakers and decision-takers through delivering concrete outcomes.

WSIS Action Line C2: Information and Communication Infrastructure
- Sustaining the single interoperable and open global Internet that keeps networks fully operational and opposing non-technical Internet shutdowns.
- Facilitating the establishment of regional and national Internet Exchange Points (IXPs) which enhance local opportunities, multilingualism and cultural diversity while also lowering access and usage costs.

WSIS Action Lines C3: Access to information and knowledge and C4: Capacity building
- Supporting the facilitation of free flow of data across borders.
- Establishing complementary and holistic access solutions in underserved and unserved remote areas such as community networks by promoting local partnerships and securing the support of governments.
- Developing local capacity building initiatives, promoting growth of interdisciplinary skills and competences, and promoting more agile policy-making to foster an enabling regulatory environment.
- Identification of and support for innovative uses of funding, and use of new and already established funding mechanisms (e.g. universal service funds) for community networks and other complementary access solutions.

WSIS Action Line C5: Building confidence and security in the use of ICTs
- Mapping effective forms of digital governance, policies, and mechanisms.
- Measuring Internet resilience and identifying solutions for gaps and points of weakness.
- Reducing global routing threats through implementing globally accepted routing security norms.

Ongoing and future initiatives under Internet Society's Strategic Action Plan
ISOC's actions under its 2021 Strategic Action Plan for growing the Internet and strengthening its resilience consistent with the WSIS objectives are based around the following complementary project-based building blocks:

- Building community networks
- Support Innovative funding mechanisms for Internet infrastructure
- Promote change and agility in enabling access policies and regulations
- Fostering infrastructure and technical communities
- Measuring Internet resilience
- Securing global routing
- Internet impact assessments of decisions by governments and business
- Capacity building at the regional, national and local levels
- Research collaboration

3. i. Community-based initiatives

Nearly half of the world still lacks access to the Internet. While growth in access is slowing down in some places, established service providers are proving unable to reach people in areas using traditional business models. Community networks provide access to people who need it the most in underserved and hard-to-reach areas and locations. They also serve a) to encourage new policy and regulatory change consistent with local conditions; and b) to provide incentives for new business and investment models tailored to the needs of individual communities.

ISOC believes, therefore, that local communities are best placed to identify their connectivity needs and has supported community networks initiatives in all regions. It is important that communities are able to work with relevant stakeholder to shape the roll-out of digital infrastructure. This may require changes in regulation, policy, financial models and mechanisms in order to achieve successful outcomes that create increased possibilities for improving their lives and livelihoods due to their newfound or significantly improved Internet access.

ISOC's global community of Chapters, individual members and trusted network of partners are well-placed to engage with local communities in evaluating regulatory barriers and the investment requirements for infrastructural challenges with the aim of identifying practicable solutions. For example, the Internet Society Brazil Chapter, supported by grants from the Internet Society Foundation, worked with local partners to support the deployment of three community networks while also

advocating for a supportive policy environment where they can thrive. A second grant allowed them to team up with Instituto Bem-Estar Brazil to help communities navigate the country's telecommunications regulatory environment.

ISOC's experience on the ground in various regions shows what can be achieved through supporting partnerships between residents and local community bodies, and the provision of technical support for staff deployment and training. The Association for Progressive Communications (APC) is a clear example of that. Through direct coordination and mutual support we were able to contribute to several public consultations to regulatory bodies (such as in Brazil, Kenya, Ethiopia), and deploy community networks around the world. Also, in South Asia, ISOC partners with the Digital Empowerment Foundation (DEF) which aims to find solutions to bridge the digital divide and create economic and commercial viability using information and communications technologies. Examples of Community Networks success stories are in Annex I.

ii. Infrastructure Growth and Resilience

The track record of the growing number of regional and local Internet exchange points (IXPs) in developing countries demonstrates how they have helped significantly to drive down transmission costs, to increase dramatically traffic volumes, and to promote the generation of more easily accessible local content in response to the social and economic conditions of the communities which they serve.

In line generally with its support for critical parts of the Internet infrastructure, ISOC has supported local communities in the development, deployment, and maintenance of new IXP infrastructure, and the improvement of the effectiveness of existing IXPs. Where necessary, ISOC policy experts have supported engagement with national policymakers on addressing legacy policies and regulations that have created barriers for these newer approaches that have proved to be so successful in Internet infrastructure development.

Routing security is vital to the stability of the Internet and ISOC is a leading partner in a global initiative called "Mutually Agreed Norms for Routing Security" (MANRS) with the aim of reducing the most common routing threats. MANRS brings together Internet service providers, network operators and Internet exchange points to collaborate in

improving routing security. The MANRS Observatory provides the means for measuring network adherence to agreed actions by the members and provides a key indicator of the state of routing security and resiliency of the Internet.

ISOC's Internet Impact Assessment Toolkit (IIAT) facilitates the assessment of potential impacts on the Internet of new trends, technologies, and regulation. It supports decision-making by governments and businesses by identifying the critical properties of the "Internet Way of Networking" conceptual approach developed by ISOC as they relate to the evolution of the Internet's infrastructure, taking into account networking conditions, proposals for technological development, regulations and technical and policy governance arrangements. The long-term goal of IIAT is to provide an accessible tool for all of the Internet community to assess potential Internet impacts, to support achieving the WSIS vision and the UN Roadmap on Digital Cooperation.

iii. Measuring Internet Resilience

ISOC's work centers on increasing the Internet's reach, reliability, and resilience, as well as ensuring that the Internet remains open, globally connected, secure, and trustworthy. It is important therefore to assess whether efforts to facilitate the smooth functioning of the open globally connected Internet and to deploy new digital technologies, are producing positive results and are generally enhancing online access, resilience, and trust for all users.

There are many existing initiatives collecting data on various facets of the Internet but there has been no single source of data that collates a fully comprehensive global analysis of Internet trends. The Internet Society Pulse initiative launched in 2020 resolves this gap by consolidating trusted third-party data from multiple sources in a single platform which enables policymakers, researchers, network operators, civil society groups and other stakeholders to better understand the health, availability and evolution of the Internet.

A resilient Internet connection is one that maintains an acceptable level of service in the face of faults and challenges to normal operation. Internet Society's Pulse tool (https://pulse.internetsociety.org) tracks resiliency metrics to help support the development of policies and infrastructure to improve Internet resilience at the local, regional and global level. Our initial focus is on tracking Internet resilience in Africa.

iv. Capacity building

The [Internet Society Foundation](#) supports innovative projects across a range of Internet areas primarily through grants to Internet Society chapters worldwide under the Beyond the Net Programme. This includes projects that are building local and regional capacity by the creation of community networks, raising awareness of cybersecurity threats and responses, and best practice in responding effectively to the COVID-19 pandemic. An Emergency Response: COVID-19 grants programme provides funding to innovative projects that are using the Internet to help communities respond and adapt to the challenges created by the COVID-19 pandemic.

The Foundation also administers a digital skills grant programme, "Strengthening Communities/Improving Lives and Livelihoods" (SCILLS), which aims to expand economic growth, improve health outcomes and supporting communities in increasing digital literacy and skills. The Foundation has provided funding for projects in Bangladesh, Colombia and Senegal.

The Internet Society also offers leadership programmes such as the [IGF Youth Ambassador Program](#) which is designed to equip the next generation of Internet leaders to collaborate and innovate and influence Internet governance within their regions and at the national, regional and global IGFs.

ISOC has also recently launched its [Early Career Fellowship](#) which offers unparalleled access to project management, advocacy and diplomacy know-how, and relevant academic research. This aims to provide the foundations to recipients to implement Internet-related projects that respond to current challenges and new opportunities.

A Mid-Career Fellowship will be launched by ISOC in 2022 with the aim of empowering and equipping established Internet leaders with the knowledge, skills and tools to support and enable innovative, inclusive, holistic and strategic initiatives.

v. Research

The Internet Society Foundation's Research Programme supports global research collaboration that advances understanding of the Internet and digital transformation and its benefits for social and economic well-being. In supporting a diverse and

collaborative group of researchers and research institution, the programme's objectives are:

- to promote novel methodologies that generate solutions to Internet-related challenges.
- to facilitate access to intersectional research that can be applied to decision-making in government and industry.

The current main areas of research include the Internet's contribution to environmental protection, and the expansion of the online economy and its impacts.

3. The way forward

Since the pandemic, demand for Internet access and digital technologies has increased significantly, and this trend is expected to continue for the foreseeable future as the so-called "fourth industrial revolution" continues to transform governance, management, health and social welfare, and economic activity around the world.

The Internet, as the underlying global critical infrastructure, owes its success not only to technology but also to the social and political context in which it operates and continues to evolve for the benefit of the global public. ISOC therefore welcomes increased national and regional prioritization of digital transformation and online inclusion to ensure that no one is left behind, the use of data in an open and secure manner, and the development of their communities' skills, digital literacy, and capacity to absorb such changes.

ISOC welcomes therefore the UN Secretary-General's initiatives under the Digital Cooperation Roadmap to strengthen the existing multistakeholder model of Internet governance—including working with stakeholders to reform the UN Internet Governance Forum so that it is more inclusive, issues-driven, responsive and output-orientated—without creating new structures of frameworks.

ISOC as a global stakeholder entity supports the Secretary-General's policy aim of establishing more effective multi-stakeholder collaboration in addressing the challenges, realizing the opportunities, avoiding Internet policy fragmentation, and mitigating the risks and threats associated with the existing and emerging digital technologies.

ISOC also looks forward to working with stakeholders worldwide in advancing the contribution of digital technologies towards peace and security as envisaged in the Global Digital Compact, and to assisting with the preparation of the digital cooperation track in the proposed Summit of the Future. We encourage inclusive and multistakeholder participation in the preparation.

In the joint pursuit of these goals, ISOC is committed to working with the UN including the Office of the Envoy for Technology, intergovernmental organizations, regional public bodies, individual governments, business and technical communities and civil society.

ANNEX I

Community Networks Success Stories

Community networks are a viable complementary solution to connect more people. This document outlines examples in the Americas and other parts of the world of communities that have successfully deployed and sustained their networks. In several cases, partnerships with the local regulatory bodies, other government agencies and ministries, private telecommunications operators, and civil society organizations were a key factor to enabling community networks.

A community network kept people online in Argentina during the pandemic

The town of El Cuy, Argentina, was digitally isolated from the rest of the country before they set up a community network in 2019. In 2020 they improved their network and were prepared for the pandemic. The improved connectivity helped young people study from home, the elderly to have safer access to health services, and enabled everyone to stay isolated from people diagnosed with COVID-19 in nearby towns. Learn more about their story: https://www.internetsociety.org/blog/2020/04/from-isolation- to-preparedness-and-empowerment-in-rural-argentina/

Maranhão, Brazil

In the northeastern state of Maranhão, Brazil, an Internet connection can mean safety. Located on the fringes of the Amazon region—a vital part of the Earth's ecosystem—communities there live in fear of invader attacks, where trespassers slash and burn forest to make way for illegal mining and cattle and soy plantations. With Internet access, locals can alert authorities. It's an important safety net for the residents and the land itself.

Instituto Nupef worked with communities in Penalva, Taquaritiua, and Pifeiros to deploy community networks by partnering with the Internet Society and APC. It supported the initial financing, as well as the capacity building needed for the deployment and sustainability of the initiative. Learn how community networks are improving safety for communities in Maranhão:
https://www.isocfoundation.org/story/three-new-community-networks-are-helping-safeguard-communities-in-rural-brazil/

Waimanalo, Hawai'i

An independent nation in the island of Oahu, Hawaii, faced challenges in connectivity for years. Kids relied on nearby fast-food chains to do their homework and people had trouble accessing online services. They addressed these issues by building their own community network. The deployment was a joint effort that involved the community and their participation on the Indigenous Connectivity Summit[1], as well as partnerships with multiple stakeholders, including the State of Hawaii Government, the operator Hawaiian Telecom, and the manufacturer Baicells.

Learn how people in Waimanalo deployed a community network:
https://www.internetsociety.org/issues/community-networks/success-stories/waimanalo/

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[1] Each year, the community-led Indigenous Connectivity Summit brings together Indigenous leaders, community members, community network operators, Internet service providers, researchers and policy makers with a common goal: connecting Indigenous communities to fast, affordable and sustainable Internet.

Murambinda, Zimbabwe
In the town of Murambinda, Zimbabwe, a local entrepreneur started a cyber café with dial up Internet in 2001 to bring connectivity to his community. Since then, it has grown into a community network with the support from organizations such as APC and the Internet Society. Through a partnership with the local regulator, POTRAZ, and the Ministry of ICT and Courier Services, the Murambinda Works Network now connects 80 schools and reaches a 40 kilometers radius. Operating initially on a pilot license, their model supported the introduction of new licensing for the use of the 2.4GHz and 5GHz spectrum in the country, supporting other community networks. Learn how Murambinda Works grew from a cyber café to become a model for community networks in Zimbabwe: https://www.internetsociety.org/issues/community-networks/success- stories/murambinda/

Initiatives supporting community networks

Libraries and Community Networks are closing the digital divide
When the COVID-19 pandemic hit in early 2020, libraries across the world shut down their buildings to limit transmission of the virus. Since then, they are playing a key role in getting local communities online. This has happened in multiple creative ways, from turning bookmobile vans into roaming hot spots delivering Wi-Fi throughout the community, to extending library Wi-Fi access into the parking lot and beyond. Libraries are also proving to be good partners for community networks in providing local content, funding, and other aspects. Find out more: https://www.internetsociety.org/blog/2021/03/libraries-are-bridging-the- digital-divide/

Community networks undertake capacity building to navigate regulatory processes
In Brazil, many communities are faced with a bureaucratic challenge after building their own networks: compliance with Anatel, the local telecommunications regulator. Processes can be complex, and misunderstandings or attempts to dodge it have left many community networks operating irregularly or even illegally. Without the proper permits and licenses, community networks are vulnerable and potentially subject to administrative sanctions that can shut them down. Learning how to navigate through the legislation is key for sustainability.

To address this issue the Internet Society Brazil Chapter joined forces with Instituto Bem-Estar Brasil (IBEB) to develop a course that trains community members on how to navigate Anatel's processes. Find out more: https://www.isocfoundation.org/story/course-guides-brazilian-community- networks-on-how-to-get-legal-recognition/

Community network operators, allies, partners, policymakers, and regulators in Africa discuss how to foster community networks in the region
Since 2016, community network operators, allies, partners, policymakers, and regulators in Africa have gathered for an annual summit with common goals: to learn, network, and share knowledge and experiences about connecting communities to affordable and sustainable Internet.

In 2020, the summit gathered the experiences of several community networks and stakeholders to discuss enabling policies for these networks, community engagement strategies, and financing and sustainability models. It also shared first-hand experiences on how 2 community networks – BOSCO Uganda and Pamoja Net – are operating. Read the summit's final report: https://www.internetsociety.org/resources/doc/2021/reimagining-the-summit-on-community- networks-in-africa-during-the-covid-19-pandemic/