IGF 2023
Policy Network on Meaningful Access

Meaningful Access to Include and Connect

PNMA Output Report
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Executive Summary

The Policy Network on Meaningful Access (PNMA) is a type of intersessional activity under IGF created to establish an expert-led framework network on broad Internet governance topics, making room for in-depth multistakeholder efforts. It aims to formulate impact-driven, concrete, and actionable policy recommendations on how to achieve meaningful and universal Internet access aligned with the Global Digital Compact objectives; the Secretary-General's Roadmap for Digital Cooperation and the Sustainable Development Goals.

Its work has been focused on agreed three overarching thematic streams: Connectivity (Infrastructure & Business Models), Digital Inclusion through a citizen-centric approach (accessibility & multilingualism: local services and contents in local languages based on local needs and resources), and Capacity Development (technical skills training). Since 2022, the PNMA has actively contributed within and outside IGF communities to identify a certain number of good practices and policy solutions towards meaningful access, and retain them as possible models to be applied in other regions of the world. Stakeholders from different groups joined this enterprise: government, international organisations, academia, private actors, non-profits, and local or language-based communities. In this aspect, it is important to note that the PNMA builds upon the efforts of the late Best Practices Forum on Local Content (BPFLC), which started the identification of such relevant solutions.

The PNMA 2022 Output Report features a collation of selected cases for each of the above-mentioned focus areas. During the 2023 Process, the PNMA expanded its analysis of said experiences with implementation and problem-solving of the issues previously raised. By building a repository, the network could explore reasons on why practices have or have not expanded, why digital divides persist, and which structural issues repeat themselves in different scenarios. Throughout the online monthly deliberations and the plenary discussion held in Kyoto, the community shared examples of how we are working towards better local content and languages online, improved meaningful connectivity, and the use of non-Latin alphabets, amongst other areas. Being the 18th IGF hosted by a country which uses an example of said alphabet, the PNMA had a unique opportunity to explore the topic and delve into the realm of International Domain Names (IDN).

The 2023 PNMA Process was supported by a follow-up survey for monitoring the implementation and scaling of the featured 2022 cases along the last year; a review of the key policy issues raised in the 2022 output report; and a new selection of good practices recommended by the community. Additionally, the policy network encouraged conversations about the intersessional work and ways of collaboration and advocacy with other IGF areas (e.g., Dynamic Coalitions and National and Regional Initiatives), the Leadership Panel, and institutional partners. Among these last, in 2023 cooperation has been renewed with IGOs such as the Internet Corporation for Assigned Names and Numbers (ICANN); the International Federal of Library Associations (IFLA); the International Telecommunications Union (ITU), and the World Intellectual Property Organization (WIPO). Finally, the 2023 PNMA cycle aims to open a multistakeholder public debate under these actions to influence policy change and the upcoming Global Digital Compact (GDC), in addition to the WSIS+20 and IGF+20 processes.

List of Acronyms

AAU	Association of African Universities
ABC	Accessible Books Consortium
AE	Encyclopaedia
AU	African Union
AFNOG	Africa Network Operators Group
AFTLD	Africa Top Level Domains Organisation
APC	Association for Progressive Communications
AUC	African Union Commission
CIDP	Creative Industries in Developing Countries – WIPO
CN	Community Network
COW	Community Owned Wireless
DACD	Development Agenda Coordination Division
DCAD	Dynamic Coalition of Accessibility and Disability
DCCG	Dynamic Coalitions Coordination Group
DDHT	Dynamic Coalition of Data Driven Health Technologies
DNS	Domain Name System
DNSSEC	DNS Security Extensions
DSO	Digital Switch-Over
DTT	Digital Terrestrial Television
DTTB	Digital Terrestrial Television Broadcasting
EAI	Email Address Internationalisation
EMF	Electromagnetic Field
ESCAP	UN Economic and Social Commission for Asia and the Pacific
EU	European Union
FIAPF	International Federation of Film Producers' Associations
GARM	The Global Alliance for Responsible Media
GDC	Global Digital Compact of the UN
GDIP	Global Digital Inclusion Partnership
GNI	Gross national income
GoS	Grade of Service
ICANN	Internet Corporation for Assigned Names and Numbers
IDN	Internationalised Domain Names
IFLA	International Federal of Library Associations
IG	Internet Governance
IGF	Internet Governance Forum
IIG	International Internet Gateway
IMRS	ICANN Managed Root Server
IP	Intellectual Property
IS3C	Dynamic Coalition on Internet Standards, Security and Safety Coalition
ISOC	Internet Society
ISP	Internet Service Provider
ITU	International Telecommunications Union
LDCs	Least Developed Countries
LEO	Low Earth Orbit connectivity
NSRC	Network Startup Resource Center
NTTN	Nationwide Telecommunication Transmission Network
NRI	National and Regional IGF Initiatives
NUPEF	Núcleo de Pesquisas, Estudos e Formação

OAS	Organization of American States
PNG	Papua New Guinea
PNMA	Policy Network on Meaningful Access
PRIDA	Policy and Regulation Initiative for Digital Africa
SIDS	Small Island Developing States
SIG	School of Internet Governance
SME	Small and Medium Enterprises
SMS4DC	Spectrum Management System for Developing Countries
TCEs	Traditional Cultural Expressions
TK	Traditional Knowledge
UA	Universal Acceptance
UASG	Universal Acceptance Steering Group
UGC	User Generated Content
USAF	Universal Service and Access Funding
WAN	World Association of Newspapers
WCAG	Web Content Accessibility Guidelines
WIPO	World Intellectual Property Organization
WRC	World Radiocommunication Conference

1. Introduction

About meaningful access

The concept of **meaningful access** has emerged in response to a growing body of evidence that even when people have connectivity, they might not have fully benefited from it. How one gets connected to the Internet is an equally important challenge to the experience that a person will have once they are online, even more so to the community/country they live in. While access to infrastructure is critical, without this access being inclusive, useful, sustainable and affordable, linked to human capacity development and relevant content that can make it so, the impact connectivity could have will not achieve its positive potential. Many of the access efforts, unfortunately, are only focusing on bringing connections to final users (i.e., consumers), without taking into consideration the potential of the Internet to create, communicate and produce content and services locally and in local languages (i.e., citizens), and what it will take to realise this.

About the Internet Governance Forum (IGF)

The Internet Governance Forum (IGF) is a global arena, convened by the United Nations'[1], where governments, civil society, the Internet technical community, academia, the private sector, and independent experts exchange information and share best practices around Internet governance and policy issues.[2] It brings together different stakeholder groups as equals, working as a facilitator of a common understanding of the Internet opportunities and threats.

In 2023, the eighteenth annual meeting of the IGF will explore the overarching theme "The Internet We Want - Empowering All People". This is a hybrid event hosted by the Government of Japan taking place between 08 and 12 December, in Kyoto, and online.

About the Policy Network on Meaningful Access (PNMA)

The Policy Network on Meaningful Access (PNMA) is a type of intersessional activity under IGF created to establish an expert-led framework network on broad Internet governance topics that create spaces for in-depth multistakeholder efforts. It aims to identify best practices and successful solutions applied in other places to formulate impact-driven, concrete, and actionable policy recommendations on how to achieve meaningful and universal Internet access aligned with the UN Secretary-General's Roadmap for Digital Cooperation and the Sustainable Development Goals. The PNMA foundations are grounded on:

- the IGF mandate at paragraph 72 of Tunis Agenda, for the exchange of information and engagement of stakeholders - in particular from developing countries - as well as capacity development in Internet governance;
- paragraph 93(e) from the United Nations Secretary-General's Roadmap for Digital Cooperation as it envisages a strengthened IGF with a view to making it more responsive and relevant to digital issues, and streamline priority areas (global connectivity, digital inclusion, capacity building);
- Our Common Agenda First Commitment ("Leave no one behind") and Seventh Commitment ("Improve digital cooperation"); and

[1] The resolution adopted by the UN General Assembly on 16 December 2015 (70/125), "Outcome document of the high-level meeting of the General Assembly on the overall review of the implementation of the outcomes of the World Summit on the Information Society", extended the mandate of the IGF as set out in paragraphs 72 to 78 of the Tunis Agenda.

[2] IGF website: http://www.intgovforum.org. The IGF is one of the key outcomes of the World Summit for the Information Society (WSIS).

- the Global Digital Compact (GDC) future engagements.

The Policy Network officially started its activities in June 2021, and it has successfully built a network of experts - its Multistakeholder Working Group (MWG); arranged connections with ongoing relevant discussions and actions in other fora; and built a repository of good practices. As decided during its foundation, the MWG "agreed to explore concrete actions the members of the PNMA could support so that [our] main outcome is not only a set of recommendations"[3]. The network is preceded by several previous discussions: BPFs Local Content and Access & Gender; the Proposal about Sustainable and Affordable Internet and the Connecting and Enabling the Next Billion (CENB) 4 Phases; Dynamic Coalitions (DCs) and NRIs, to name a few.

The 2021 PNMA cycle set the foundations for building a firmer, more impactful process and stronger, long-term cooperation networks. In 2022, the PNMA MWG focused its work on three overarching thematic workstreams: Connectivity (Infrastructure & Business Models), Digital Inclusion through a citizen-centric approach (accessibility & multilingualism: local services and content in local languages based on local needs and resources) and Capacity Development (technical skills training), with attention to the highlighted goals and proposed outcomes.

During the last year's intersessional activities, the policy network has actively contributed within and outside IGF communities to identify a certain number of good practices and policy solutions, and retain them as possible models to be exported or applied to other regions of the world. Stakeholders from different groups joined this enterprise: government, international organisations, Internet technical community, academia, private actors, and non-profits. The PNMA 2022 Output Report features a collation of selected cases for each of the focus areas. Additionally, one section of the document is devoted to recommendations around meaningful access and its expansion.

The PNMA continued developing this experience for 2023, assisting with the implementation of solutions for the issues previously raised. Its community wishes to open a multistakeholder public debate under these actions to influence policy change and the upcoming Global Digital Compact (GDC), in addition to the WSIS+20 and IGF+20 processes.

[3] Statement of IGF 2021 PNMA Multistakeholder Working Group.

2. The 2023 PNMA Process

Goals

1. Actively promote the good practices that have been identified by the Policy Network across all the stakeholder groups and through the Digital Cooperation initiative, with the assistance of the Leadership Panel and the IGF Secretariat;
    a. *Sub-goal:* focus the PNMA's work on project implementation lessons and policy/regulatory conditions via a multisectoral approach and under the lens of intersectionality, scalability, and localisation.;

2. By expanding the reach of the policy network, open a permanent dialogue between the PNMA community and institutional regional and global partners - such as the European Union (EU), the African Union (AU) and the International Telecommunication Union (ITU), to promote regional initiatives and encourage projects' replication and scaling;
    a. *Sub-goal:* monitor implementation and promotion of collaborative efforts with local actors, with a special attention to amplifying the voices of least advantaged groups in the public debate on meaningful access (Youth, NRIs, Women, LGBTQIA+, Indigenous people, People with Disabilities);

3. Bring all the achievements and solutions identified through the PNMA activities into the future GDC Initiative, and effectively contribute to the roadmap leading to the Summit of the Future 2024, and the WSIS+20 and IGF+20 processes.

Priorities

The above referred goals demonstrate there is much to push forward in the realm of meaningful access. For the 2023 process, the PNMA has decided to prioritise the activities listed below. As an incremental work undertaking, the current efforts add up to the actions taken during 2022 and provide a solid foundation for follow-ups and reviews in the coming yearly processes.

- **Priority 1:** in close communication with the **IGF Leadership Panel**, **bring all the achievements and solutions identified through the PNMA activities into the future Digital Compact Initiative**, and effectively contribute to the roadmap leading to the Summit of the Future 2024 and the WSIS+20 and IGF+20 processes. The contribution will **actively promote good practices**, to be presented on a multisectoral approach following the three focus areas for PNMA analysis and under the lens of intersectionality, scalability, and localisation - with attention to lessons drawn from **project implementation lessons and policy/regulatory conditions** that enabled said achievements. Additionally, the benchmarks and good practices will **continue to be monitored for implementation and scaling**, in their region of origin and, eventually, in other regions inspired by the same process.

- **Priority 2: Amplify the voices of groups that are marginalised** from the public debate on meaningful access (e.g., Youth, NRIs, Women, LGBTQIA+, Indigenous people, People with Disabilities, and minors - through better cooperation with the DC on Child Protection) by

actively listening to them and having these groups lead on what their challenges are, and possible solutions to be developed.

- **Priority 3:** Under the guidance and assistance of the IGF Secretariat, and through a close cooperation with the Leadership Panel, open a **permanent dialogue between the PNMA community and institutional regional and global partners** (such as the EU, the AU, and the Organization of American States - OAS), in order to involve them directly in the PNMA activities and to encourage regional projects' replication and adaptation in other regions and countries, with active participation of local actors. The PNMA webpage will function as a repository of identified good practices, with expected yearly updates as a result of every new PNMA process.

Focus areas

Building upon last year's process, the 2023 PNMA chose the following focus areas:

- Connectivity (infrastructure and business models, analysed within the framework of the Roadmap for Digital Cooperation)
- Digital Inclusion (accessibility and multilingualism), with special attention to local content in local languages, helping the digital transition of existing experiences
- Capacity Development (technical skills training)

Work plan and methodology

As stated in the IGF 2021 messages, the PNMA's efforts are not directed at "producing a unique definition, but [aim] to identify, map and understand the properties that those in the field identified as key"[4] to meaningful access. Starting from the previous database of stories and case studies collected throughout the last year, the PNMA MWG can shed light on the reasons why known, effective policy solutions currently lack scaling and/or localisation in their implementation. The work plan analyses the above-mentioned focus areas by asking the following questions, which will lead the production of 2023 outputs:

- What has been done so far? Analyse gaps in policy
- What are the main challenges for project scaling? Document loopholes via public debate/consultation
- What are the common features which allow a project to be localised?
- What are the social elements that support meaningful access?
- Is there a tested, multistakeholder business model that can be replicated into one or all of the analysed focus areas?
- How to promote and improve good access and connectivity, so Internet use could produce positive social and economic impact?
- How to promote and improve the quality of connectivity to support civic engagement?

[4] IGF 2021 Report, p 45.

- How could multistakeholder partnerships be strengthened?
- Is there a gap in networking, implementation, or continuity?

The PNMA community plays an important role in highlighting these initiatives and bringing attention to creative solutions derived from marginalised groups. A close relationship within and outside IGF is crucial to ensure that the 2023 process amplifies these groups' experiences, hence our close cooperation with the Leadership Panel and other international organisations.

Outputs

Following the chosen methodology, a few outputs were reached at the end of the 2023 process; these are listed below as end results from the selected priorities presented in the previous subsection.

- ***[All priorities and discussions, including 2023 IGF PNMA session in Kyoto]*** An informative output report that explores the Policy Network's activities in depth and connects it with the appropriate IGF 2023 subtheme - Digital Divides and Inclusion. The production of said manuscript includes the following activities, not exclusively:
  - A follow-up survey with the selected 2022 cases, monitoring their implementation/scaling along the year
  - Follow-up and review of the key policy issues raised in the 2022 output report
  - A report section on intersessional work with Youth IGF, DCs, and/or NRIs
- ***[Priority 1, supported by output report]*** Contributions to the GDC process and to the preparation of the Summit of the Future 2024, starting from the Ministerial Conference 2023
- ***[Priorities 2 and 3]*** Expand the online and public repository for good practices, by opening a second round of the 2022 call for inputs
- ***[All priorities]*** Outreach and engagement activities for promotion of the PNMA agenda
- ***[Priority 3]*** Strengthen the networks and encourage new connections for advancing meaningful connectivity
- ***[Priorities 2 and 3]*** Public debates/consultations on shared experiences and challenges to access

3. Focus Areas

3.1. Exploring Connectivity

3.1.1. The PNMA debate

The PNMA's goal around connectivity is to ensure that all people in the world have access to reliable, accessible, affordable, and secure Internet. The PNMA works to promote the development of infrastructure and services, and to advocate for policies that help people connect to an internet that is useful and empowering. The PNMA also works to ensure that all people in the world have access to the digital tools and resources they need to participate in the digital economy.

Connectivity is not just about having a mobile connection, but it is about having a connection that is accessible to all, affordable, available, and also meets the new standard of meaningful connectivity.

Meaningful connectivity is a global concept embraced by international and regionally recognized bodies including the ITU, the UN Broadband Commission on Sustainable Development, the World Bank, as well as the UN Economic and Social Commission for Asia and the Pacific (ESCAP), and governments around the world. It encompasses a new standard that measures connectivity according to four dimensions, which should be met to ensure that everyone has Internet access that is useful and equitable.

Meaningful Connectivity seeks to raise the bar for Internet access by setting the following minimum thresholds for Internet access:

- Regular Internet use
- An appropriate device, i.e., access to a smartphone
- Enough data, which is translated as an account without bandwidth caps broadband connection at home or a place of work or study

The UN Broadband Commission uses a “1 for 2” threshold for affordable Internet, which posits that mobile data is affordable in a country if one gigabyte can be purchased for less than 2% of the country’s monthly GNI per capita. Nonetheless, there are several organisations in the sector that believe such a definition should have additional requirements. The Global Digital Inclusion Partnership (GDIP), for instance, considers that a minimum high speed connection of 4G is required for meaningful connectivity - and the threshold for affordable data should be five gigabytes per month instead. According to the organisation, the parameter above was adopted in 2014 and does not reflect anymore the reality of meaningful access experienced in a post-Covid scenario. Additionally, some regions rely more on low Earth orbit connections than 4G; hence, it is important to keep in mind that ensuring meaningful connectivity is a must and it could be reached with different solutions.

A fast and reliable connection supports applications like streaming videos online, in addition to web browsing. Meaningful connectivity means that all users, including those in rural areas, have access to sufficient network transmission connectivity and speed, sufficient data utilisation caps at reasonable prices, and the ability to connect as frequently as needed to incorporate advanced ICTs in their lives.

Meaningful Connectivity provides a way to guide the gradual implementation of policy actions and the regular review of broadband policy targets, ensuring easy measuring and the ability to track

progress over time on meeting the Meaningful Connectivity goals. It does this by providing easy to measure outputs and statistical data. However, since this is not yet a globally agreed standard, there are no industry requirements on observing its thresholds. International organisations, technical community, civil society, and coalitions as the PNMA can push this agenda with governments, which then can mandate industrial adaptations.

The primary requirement for connectivity is to ensure that advanced telecom networks and services are universal: accessible and available in all geographic areas and for all communities. In many areas, lack of reliable electricity is an issue which should not preclude the set-up or operation of networks in rural areas. Solutions such as low power devices, solar alternatives, mini grids, off-grids should be investigated. Governments can encourage far more efficient infrastructure development through policy and regulatory frameworks that: encourage joint-project development (e.g., joint electrification and connectivity projects), market liberalisation, and promote infrastructure sharing. Network technologies evolve rapidly, with new standards, wider options, and more efficient systems constantly being introduced and upgraded. “Dig once policies” should be encouraged as they aim to coordinate civil works between and among different government agencies, development organisations - in some cases, local authorities, and utility companies to increase the amount of fibre being laid, reducing the cost of network build-out. ICT Regulators should develop regulations to streamline authorisations, licensing, and permits including rights-of-way, to increase more efficient network deployment and interconnection.

Governments should take steps to identify connectivity gaps, incentivize network deployment, and allow innovative middle-mile and last-mile connectivity solutions, including low-earth orbit (LEO) satellite networks, and municipal and community networks. Particular attention can be paid to covering “black spots” where mobile signals are absent or inadequate. Permissions for the deployment of new technologies that hold the promise of boosting connectivity should not be unduly delayed.

Access to ICT networks, services, and connectivity will have little or no value to potential users if the users are unable to afford or own modern, multipurpose digital devices, which connect to, and utilise those networks and services. Today’s “smart” digital devices are an essential piece of the broadband ICT ecosystem and serve as a lifeline and vital tool for people in virtually all facets of society.

The highest-end, most sophisticated devices can be exorbitantly expensive for average citizens and small businesses and entrepreneurs, but there are many advanced device options available, which perform most of the necessary functions, for much lower cost. Still, even these devices, from basic smartphones to tablets and laptops, can be beyond the budget of reach of many consumers and organisations, especially for people living in remote or rural areas and for local health clinics in these areas. In addition, not all tasks can be completed on smart devices, and so the possibility to access laptops and other devices - including for shared-use - should not be overlooked.

Moreover, there are significant disparities in access to and utilisation of ICTs for certain segments of society. In particular, women and persons with disabilities tend to be significantly less likely to own a phone, access the Internet and on-line services, and integrate ICT functions in their daily lives. Persons with disabilities also generally face significant barriers to ICT access and use. Other

marginalised groups, including the elderly, and those who cannot speak or read, should be given equal access to ICTs in today's modern digital world. Governments can increase access and promote technology awareness through focused data collection, consultations and engagements, targeted universal service and access (USAF) funding, strategic broadband plan initiatives, and other programs.

Including libraries in the conversation is crucial when we talk about meaningful connectivity. Libraries have a long-standing history of providing public and free access to the Internet. Beyond just access, libraries have the possibility of offering meaningful connectivity as they may broaden the network of connectivity across a certain community, particularly to underserved groups of people. Libraries must be recognized as key actors playing an essential role in the access to ICT ecosystem, especially for low-income and vulnerable users who often lack the financial means or basic digital skills to afford their own private connection. Additionally, libraries often contribute to the development of digital skills, which can help advance personal, professional or educational development: they can provide free access to equipment, digital skills training, and access to relevant content which otherwise may be held behind paywalls.

To set this goal in motion, governments should support libraries and their potential to expand meaningful connectivity. Libraries should be considered and included in national broadband planning processes as stakeholders in consultations, as key institutions to include within targets of connectivity, and as priority opportunities for investment.

3.1.2. 2023 Connectivity Good Practices: PNMA selected stories

During the 2023 Process, the policy network engaged within and outside its community on discussions about new ideas, successes and challenges to improve connectivity. The practices below were introduced to the network during this year and the PNMA highlights them as recommended models and policies to improve this area of meaningful access.

The cases are now also part of the PNMA Repository and the network welcomes yearly status updates on their implementation and/or scaling. Some of them were presented during the 2023 PNMA Plenary Session in Kyoto, Japan, as indicated.

Case C01:	Papua New Guinea's Digital Strategy
Presented at the 2023 PNMA Plenary Session:	**Yes**
Location:	Papua New Guinea
Funding:	Government Funding Plus support for several international advisers funded by the Economic Social Infrastructure Program administered by DT Global and funded by the Australian Department of Foreign Aid and Trade
Responsible institutions / partners / people:	Department of ICT, Secretary Steven Matainaho
What is the problem?	• How to get people in our rural communities to have the means to access government goods and services through mobile phones without the expense and wasted time of travel and queues? • Currently much of the country does not have connectivity to the Internet and it is very difficult to close the connectivity and digital gap without access. Affordable, accessible, and reliable infrastructure is the foundation to achieve an inclusive digital transformation. • How do we get private sector companies to drive down the price of Internet access, expand coverage to the millions that remain unconnected, and build the inclusive foundation for a robust digital economy? • How does PNG build an inclusive and strong digital economy when most of the nation does not have access to the Internet? • What policies and incentives do we need to encourage operators and other providers to make connectivity affordable, especially those in remote rural areas? • How do we incentivise operators to invest the needed infrastructure in the country? • What actions are needed to build an inclusive community and leave no one behind, with a particular focus on women, indigenous groups and persons with disabilities? These marginalised groups tend to be significantly less likely to own a phone, access the Internet and on-line services, and integrate ICT functions in their daily lives. • How do we overcome the lack of digital readiness and cultural challenges to transform the country into a strong digital economy? The same is true with overcoming entrenched legacy policies and regulatory frameworks which are siloed and do not work in a digital economy. Our Vision is to transform the nation to become a fully modern, prosperous, and integrated digital/information age economy and society. This will mean that all citizens will have the ability to access and utilise advanced, high-quality information and communication technology (ICT) services, devices, applications, and resources. Access to ICT networks, services, and connectivity has little or no value if people are unable to afford or own modern, multipurpose digital devices, which connect to, and use those networks and services. This policy aims to ensure that appropriate and fully functional devices can be made affordable to all who need them, via a combination of programs, partnerships, incentives, and other mechanisms.
Which were the actions taken to address the problem(s)?	• Developed Several Key Digital Economy Policies. • Passed Digital Transformation Policy 2020 • Passed Cybersecurity Policy 2021 • Passed Digital Government Legislation 2022 • Passed a Digital Government five-year plan and worked to implement the plan to build the needed connectivity infrastructure to implement the plan • Revised UAS Policy 2023, currently in front of the NEC • Developed the First National Broadband Plan to meet Connectivity. Infrastructure, Digital Government and other goals. • Developed Data Governance and Data Protection Policy 2023 • Worked to get funding for the ICT sector in the Government's Medium Term Development

	Plan. Previously ICT sector was not captured in the Government's 5-year plan to Department worked and collaborated with National Planning and other Ministries to get the sector included into the Government's 5-year plans so Digital Government can be funded • Developed a Media Policy to create standards for the media to help eliminate mis-information and dis-information in the media. • Conducted a series of workshops on the new policies in each of the 5 regions of the country to educate the public about digital economy and digital government policies • Brought in IT officers (Digital Transformation Officers) into the capital for several days of training so they can train colleagues in their provinces • Working with the local and regional offices to train and educate them about the new polices. • Worked with our stakeholders to gain their comments and suggestions for improvement on policies.
Results / Impact / Lessons learned (what worked / remaining challenges)	Results: • Passed several policies and laws, and working to pass other key digital economy policies that underpin any digital transformation • Trained and made aware many stakeholders, agencies, and others about the new policies and the strategies for going forward. • Worked to involve stakeholders into the policy process while policies are still in draft form so we can gather their input and feedback allowing them to take ownership of the policies which will help their implementation. • Breaking down the transformation process into manageable units, and aligning them with core principles, allows for synergy and scale and binding factor for enabling seamless progress, are effective collaboration and coordination Many lessons were learned: • Developing a strategic roadmap for addressing and rectifying technological, cultural and policy/regulatory issues is paramount for progress and advancement. • Collaborating and coordinating with other agencies and with all stakeholders, government, private sector, and civil society is key • Take a bird's-eye view of the shifting landscape, understanding the guiding principles of each component, and devising strategies to navigate failures. The small growths that define success, and collaboration and coordination that allow for a shifting culture to seamlessly complement adoption • Breaking down the transformation process into manageable units, and aligning them with core principles, allows for synergy and scale and binding factors for enabling seamless progress, are effective collaboration and coordination. Remaining Challenges: • How to implement the plan and strategy in a country where readiness and aversion to change is at different levels? Also, when certain agencies are fixated on legacy policies and entrenched regulatory frameworks that do not work in today's economy?

Case C02:	Gigabit Libraries Network
Presented at the 2023 PNMA Plenary Session:	**Yes**
Location:	Sausalito, California, USA
Funding:	IFLA, ISOC, Partnership for Public Access, ITDRC, Adaptrum, Broadband Breakfast, Washington D.C. ISOC chapter
Responsible institutions / partners / people:	Digital Village, IFLA, Partnership for Public Access, Internet Society
What is the problem?	Despite the technological developments that have taken place during the last decades. Many international organizations, bodies and agencies report an increasing expansion of the digital divide that may worsen inequality around access to information and resources. Bridging the digital divide is a key factor in achieving the Sustainable Development Goals of the United Nations as the access to information resources and the means of communication supports health and education as much as cultural and economic development. With nearly half of humanity remaining on the wrong side of an ever-widening digital divide, three main barriers to adoption persist: availability, affordability and usability. The GLN attempts to tackle these issues by facilitating connectivity and access to information in remote areas with the use of innovative technologies such as the TV Whitespace spectrum and others.
Which were the actions taken to address the problem(s)?	**Gigabit Libraries Network (GLN):** An open collaboration of innovative libraries cooperating as a distributed testbed and showcase environment for high performance applications and equipment in the service of educational, civic and cultural objectives. **LEO Libraries:** An initiative that marries potentially game-changing low earth orbit (LEO) satellite internet access with the myriad public services of libraries (see next case) **Community SecondNets:** an alternative network infrastructure which utilizes wide area TV Whitespace spectrum, are deployed to create Wi-Fi MESH intranets independent of the public infrastructure providing direct links between libraries, schools, clinics and other second responders. **Libraries WhiteSpace Pilot:** Project examines how integrating unlicensed open wireless communication technologies can benefit library users by combining the near universal compatibility of Wi-Fi with the range and penetrating capabilities of WhiteSpace devices. **Fiber to the Library:** DVA initiative to assure next-generation Internet connectivity into every U.S. community through the nation's 16,500 public libraries. FTTL has served as a guiding concept and spearhead for national buildout of broadband under the National Broadband Plan.
Results / Impact / Lessons learned (what worked / remaining challenges)	These projects have helped establish libraries as natural community technology hubs, as show case environments for emerging tech, as demo sites for community awareness, as responders in disasters and as the "human face" of e-government. The technology pilot projects have also made the case for use of appropriate tech to match the challenge. Do not lead with a technology. Analyse, test, refine, commit.
2023 Follow-up available	
Has the problem been solved?	Partially. Outcomes have varied by project. Detailed reports on various wireless technologies can be found at https://gigabitlibrariesnetwork.wildapricot.org/SecondNets-Consortium Success key has been found in thorough planning, flexibility and most important, partnerships.
Did any new problems emerge during implementation?	The pandemic disrupted plans and ability of some partners to participate

2022 solutions still work to tackle the problem? New solutions needed to be developed?	The most recent trial is in using new era satellite systems in low earth orbit. The technology has proven extraordinarily effective and simple to set up and operate. The remaining problem is one of expense. These early-stage systems, ideal for rural libraries, remain too expensive for many to adopt. However, the leading provider, Starlink, has begun to adjust pricing to fit national economic levels with greatly reduced rates. Very promising!
Was the solution scaled or localized to other regions? If so, please share examples	California, Kansas, Colorado, Mississippi, Illinois, and New Hampshire
New milestones:	Scaling this solution to other areas not just in the US but also in other regions in the world. Particularly in underserved communities who need it most.
New challenges:	Marking the advent of a new era in satellite communications over the next few years, thousands of new satellites are planned to be launched into low Earth orbit (LEO), medium Earth orbit (MEO), and into geosynchronous orbit (GEO)
Next steps:	What are the opportunities and challenges for this emergent satellite-based ecosystem? How can they work together to help us bring connectivity into every community, everywhere? And what are the policy issues that must be addressed both internationally and within nations?

Case C03:	LEO Libraries
Presented at the 2023 PNMA Plenary Session:	**Yes**
Location:	Montana, New Mexico US, and Nigeria
Funding:	Within the US, the Institute for Museum and Library Services. Within Nigeria, provision for free by Starlink for 2 years
Responsible institutions / partners / people:	Gigabit Libraries Network, State Libraries of Montana and New Mexico, African Library and Information Associations and Institutions
What is the problem?	While libraries have a proven potential to support wider meaningful access goals through combining connectivity with an offer of devices, content and skills support, this is all dependent on having adequate connectivity themselves in the first place. This is not always the case, with libraries in remote and rural areas often not sufficiently connected to be able to meet what are often significant needs. Using alternative connectivity technologies offers an exciting option to overcome the challenge of distance. - Is it a Rural / Urban setting? Rural, and in the case of New Mexico, on First Nations land. - Is there a gender focus? Not explicitly, but it is generally seen that women tend to make more use of libraries than men - What were the services provided, subsidies used, anything else worth sharing? Primarily, the offer is about unlocking the pre-existing potential of libraries to support meaningful access to and engagement with knowledge. Through this, there is the possibility in particular for children to do homework, and for adults to access benefits and other support.
Which were the actions taken to address the problem(s)?	The primary work, led by the Gigabit Libraries Network, was to engage Starlink in order to open up the possibilities for libraries to access enterprise licences and through this provide access to users. Following this, the need was to ensure that the libraries could access and set up the relevant equipment, and then integrate this into the existing offer.
Results / Impact / Lessons learned (what worked / remaining challenges)	- Results: so far, four libraries have been connected in the United States, and plans are to connect five at least in Nigeria. - Impact: the programme is still underway, but it appears that there has already been a significant uptick in use of libraries, and positive anecdotal evidence from users of much strengthened ability to participate in learning. - Lessons learned (what worked / remaining challenges): the model appears to work, at least at the scale of smaller rural and local libraries (where the need is greatest anyway). As it expands, it will be welcome to see how well this type of access scales, as well as to monitor to what extent it also motivates people to purchase home connectivity as well.

3.1.3. 2022 Connectivity Good Practices: updates on implementation

This subsection aims to showcase the development, successes and challenges faced by the good practices identified in the 2022 output report. The focal point of each case was directly contacted by the PNMA team to provide additional information via the standardised form as seen on Annex I.

The original surveyed cases are now collated into the PNMA Repository. The projects below provided updates on their 2023 activities, and these can be explored in detail on Annex III.

- Contribution of SMEs Business Associations to Develop Meaningful Connectivity, by Telecom Operators Association of Georgia
- Alternative model for closing the connectivity gap in rural areas of developing countries based on multi-stakeholder initiatives for development, by Peruvian Government and Pontificia Universidad Católica del Perú

3.1.4. Preliminary conclusions

Some of the PNMA's preliminary conclusions around this debate are:

- Collaborative multi-stakeholder action is needed too people in urban, rural, remote, un- and under-served communities.
- New and creative policy and regulatory practices are needed to connect the unconnected, from "dig once policies", to more updated USAF programs, faster licensing, permitting, and authorizations, and by allowing in new entrants like muni- and community networks.
- Connectivity projects take several years to implement, and mapping progress year-on-year is critical.
- Governments working hand-in-hand with a range of stakeholders will find more locally sustainable middle and last-mile connectivity options.
- There is no one-sized solution for all communities.
- Human networks are sharing data to bring innovation and new ideas to bridge the digital divide.
- Libraries and other anchor institutions are critical ways to provide meaningful access as well as to introduce digital literacy and skills programs.

3.2. Exploring Digital Inclusion

3.2.1. The PNMA debate

According to the National Digital Inclusion Alliance, the multifaceted topic of digital inclusion encompasses all activities necessary to ensure that all persons have meaningful access to the Internet - be it in socioeconomic terms, or in culturally, literacy ones.

The PNMA has continuously stressed that one important element of digital inclusion concerns creating the conditions for the sustainable generation of cultural products that are relevant to local Internet users in terms of both content and languages. Cultural entrepreneurs often struggle to achieve economic viability, with the attendant risk that the offer of audiovisual creations made in local languages and addressing - or dramatising - local/regional social concerns or socio-cultural trends, may fail and dwindle. It is a documented fact that the availability of socio-culturally and linguistically relevant audiovisual content is a powerful driver of demand for both Internet connectivity and usage by citizens. It also plays a part in maintaining languages that may otherwise fall into disuse or become extinct. Therefore, incentives and public-private partnerships that support such a sustainable offer of content need to be considered as inseparable from other concerns, such as infrastructure deployment and improvements in connectivity, requiring joined-up measures. Meaningful Digital Inclusion particularly relies on ensuring that Internet content reflects the lives, cultures and needs of the smaller and less-empowered communities whose rights, languages and traditions may otherwise be in danger. Private sector enterprises such as Ehtiopia's habeshaview (see case study in Annex I) help perform this important role in the deployment of meaningful access and digital inclusion.

A similarly important topic within the realm of digital inclusion and local content is the existence of news sources directly connected to communities, representing their interests and reflecting their needs. Non-profit journalism is viewed by many as one answer to the financing crisis of quality journalism that has been intensifying since the early 2000s, when private news organisations were not able to adjust their business models to digital realities and the ad-business was captured by the big platforms which profit from advertising sales and misinformation.

In response to the dangers to democracy that arise when private news organisations are dying, leaving news-deserts, in Germany, the organisation Forum Gemeinnütziger Journalismus lobbies for the government to change the law in order to include journalism in the list of items that are formally recognised as a charitable cause. Changing the tax law would not save the crisis of journalism - but non-profit journalism can offer diversity and a third pillar as watchman in news ecosystems, occupying an equal space as public and private media do. By classifying their cause as charitable, non-profit news organisations can access revenue streams that are much harder to access for private media, e.g., membership models, donations, foundation support, but also public funding (through firewall organisations).

In this model, the creation of local content is closely linked to digital distribution, because it is often at the local level that the market fails to cover the need for quality journalism. Hence, policymakers worldwide can foster local content and democracy by easing the preconditions for non-profit

journalism to arise. Similar organisations as the German forum are also found in the US[5], UK, and Canada. The PNMA has not found any similar movement in the Global South.

3.2.2. 2023 Digital Inclusion Good Practices: PNMA selected stories

During the 2023 PNMA Plenary Session in Kyoto, Japan, an interesting good practice on local content production was brought in by the International Federation of Film Producers' Associations – FIAPF. Savannah Moon Productions is a female-led creative enterprise dedicated to making local content relevant to people in Uganda. Strategically, in order for companies to produce content in a non-vehicular language, they would need to fulfil a social utility function. Savannah Moon was founded by two sisters who have left potentially lucrative careers as engineers to devote themselves to audiovisual content – and who are very committed to dramatising and reflecting issues experienced by women in their country and in their region. This demonstrates that there needs to be a climate that enables small and medium enterprises to position themselves at the forefront of cultural development.

Savannah Moon founders believe that there is no meaningful access without a meaningful local audiovisual production capability, which, actually, is not only incidental to what internet content can deliver but it is central to it. The economic sustainability of their activities needs to be factored into the systemic equation on local productions when looking at the accessibility, affordability and the meaningful access components. It is indeed challenging to be sustainable out of local films and TV/streaming content: there are difficulties in finding financing partners who prepared to take the risk, and in finding media outlets that would pay a fair price for the licensing.

The enterprise is increasingly producing content to the online market, therefore Savannah Moon's future as a business is largely dependent on the progress in the roll-out of a broadband infrastructure that can support competing streaming or pay-per-view services. Currently, Internet in Uganda is unreliable and not of good quality – sadly, due to connectivity issues, the Plenary participants could not listen the founders' first-hand experience on the field. Additionally, data in the country is very expensive: it is common to use 7 out of an 8Gb package to watch two Netflix episodes. Better connection and cheaper data are not only an aim in itself but a precondition for local creative businesses to survive and play their part in providing culturally relevant and meaningful content in local languages. This is an economic activity that creates high-end jobs: it needs to be acknowledged as such and people need to be able to make a living from it, along with duly copyright protection.

In addition to the Ugandan challenges, the policy network engaged within and outside its community on discussions about new ideas, successes and challenges to improve digital inclusion. During the 2023 Process, the practice below was introduced to the community; the PNMA equally highlights it as recommended model to improve this area of meaningful access. It is now also part of the PNMA Repository and the network welcomes yearly status updates on its implementation and/or scaling. More examples can be found in Chapter 4 – Collaboration Streams, which showcases IGO initiatives.

[5] Institute for Nonprofit News: https://inn.org

Case DI01:	Finnish National eBook Platform
Presented at the 2023 PNMA Plenary Session:	**No**
Location:	Finland (national)
Funding:	2 years of national government funding as set up costs, with the intention that this is then taken on by local governments
Responsible institutions / partners / people:	National Library of Finland, City of Helsinki, conference of library directors
What is the problem?	eBooks offer a powerful tool for bringing new and more diverse voices to the public, allowing people across the population to access materials that are relevant to them, their experiences and their needs. However, in Finland, there was no centralised support for the development of an eBook offer in libraries, meaning that the level of access varied strongly from one region and town to another. This led, in effect, to different levels of possibility to benefit from what the internet can bring in terms of access to information and the fulfilment of cultural rights. - Is it a Rural / Urban setting? Libraries in rural areas tended to have a smaller (or no) offer, and so while the programme is national, it will tend to benefit people in rural areas more. - Is there a gender focus? Not explicitly, but libraries tend to be more used by women. - What were the services provided, subsidies used, anything else worth sharing? The programme is still in development, but the goal is to develop a platform that libraires across the country can use, and then choose which content is best suited to the needs and interests of their users. It is a good example of combining a new digital service with the pre-existing library network.
Which were the actions taken to address the problem(s)?	The creation of a new platform, and efforts to negotiate with publishers in order to include content. Unfortunately, some publishers have tended to resist here, meaning that those people who rely on libraries to access eBooks over the internet are left out.
Results / Impact / Lessons learned (what worked / remaining challenges)	- Results and Impact: this project is still underway. - Lessons learned (what worked / remaining challenges): an early conclusion is that it is important to ensure that copyright laws cannot be used by publishers to deny libraries the possibility to lend eBooks, guided only by their professional judgement.

3.2.3. 2022 Digital Inclusion Good Practices: updates on implementation

This subsection aims to showcase the development, successes and challenges faced by the good practices identified in the 2022 output report. The focal point of each case was directly contacted by the PNMA team to provide additional information via the standardised form as seen on Annex I.

The original surveyed cases are now collated into the PNMA Repository. The projects below provided updates on their 2023 activities, and these can be explored in detail on Annex III.

- Are We Together, by Pollicy
- Graúna and Caburé Projects, by Instituto NUPEF
- WWW as a web of our Webs, by Janastu and APC
- Streaming platform of African movies in Ethiopia, by Habeshaview Technology & Multimedia
- Digital Africa, by ICANN

3.2.4. Preliminary conclusions

Some of the PNMA's preliminary conclusions around this debate are:

- Collaborative multi-stakeholder action is needed to bridge the digital gap in urban, rural, remote, un- and under-served communities.
- Initiatives need to be led by the target communities, and the voices of those who will benefit from these initiatives have to be in the conversation. Best practices from other Open Solutions – Open Access, Open Data - can be useful for ensuring the interoperability of repositories and increased sharing of knowledge through OER.
- Purpose-driven content means culturally-relevant content; it needs incentives and funding to be sustainable, from production to distribution.
- Gender digital inclusion needs to consider the offline intersectionalities that are translated into the online space, simply giving access is not enough.
- Persons with disabilities, the illiterate, and minority languages cannot be left behind.

3.3. Exploring Capacity Development

3.3.1. The PNMA debate

In order to benefit from all that is offered by meaningful access, people need exposure to the Internet, and training to learn how to use and benefit from it. Capacity Development introduces people (youth, persons with disabilities, students, workforce, and the elderly) to information, opportunity, training, choice, and empowerment.

We need a localised multistakeholder approach to capacity development for it to be relevant, useful, and sustainable. Throughout its existence, the PNMA has praised such activities on the topic from different partners, such as:

- the African Union Commission (AUC),
- the International Telecommunications Union (ITU),
- European Union,
- African Union member-states,
- African universities,
- APC,
- community networks (such as those built by Rhizomatica),
- schools of Internet Governance,
- a trained community network of technical experts and colleagues who can train the trainers.

3.3.2. 2023 Capacity Development Good Practices: PNMA selected stories

During the 2023 Process, the policy network engaged within and outside its community on discussions about new ideas, successes and challenges to improve capacity development. The practices below were introduced to the network during this year by the community participating to the intersessional work, and the PNMA highlights them as recommended models and policies to improve this area of meaningful access.

The cases are now also part of the PNMA Repository and the network welcomes yearly status updates on their implementation and/or scaling. Some of them were presented during the 2023 PNMA Plenary Session in Kyoto, Japan, as indicated.

Case CD01:	Tech Savvy Libraries
Presented at the 2023 PNMA Plenary Session:	**Yes**
Location:	Uganda (various locations)
Funding:	Uganda Communications Commission, Enabel, private sector (Absa Bank Uganda, Airtel Uganda, MTN Foundation)
Responsible institutions / partners / people:	Uganda Communications Commission, Electronic Information for Libraries, National Library of Uganda (NLU), Maendoleo Foundation, Peer 2 Peer University
What is the problem?	While many libraries in Uganda are now connected, it is important to match this with efforts to build the skills of librarians and other library and information workers to realise the full potential of connectivity to deliver development outcomes - including both skills in using the internet, but also roles in outreach to communities as a whole, in order to address the challenges faced by vulnerable women and youth. Particular challenges include low or under-employment and poor school performance.
Which were the actions taken to address the problem(s)?	Since 2014, IFLA has partnered with the NLU to build the capacity of public librarians in Uganda to use ICT in innovative services, and especially to offer ICT training in their communities. Building on a programme of training librarians in how to train people to use computers and make the most of them to improve their lives, the librarians carried out an outreach campaign, focused on women and youth but also open to others. They then designed classes and support programmes tailored to the community needs. In 2021 we expanded our work in Uganda with grant funding from the Wehubit Programme implemented by the Belgian development agency, Enabel, which is ending in the middle of 2023. The "Digital skills and inclusion through libraries in Uganda" project built digital literacy and training skills of 50 librarians and volunteers at 27 public and community libraries, enabling them to provide ICT training in their communities. The project is implemented in partnership with NLU, Maendeleo Foundation and Peer 2 Peer University.
Results / Impact / Lessons learned (what worked / remaining challenges)	• Over 14,000 persons took part in courses. • Over 1,000 women and youth were connected to useful free online courses, including covering entrepreneurial, technical, craft-making and other skills. • Interestingly, there has also been a lot of take-up among health workers, local government officials, officials, police, market stall holders, teachers and students. • Participants have reported success in getting jobs, developing businesses, completing school, and being better able to support families and communities in general. • Energetic library outreach campaigns have attracted thousands of vulnerable women and unemployed youth, many of whom had never used a computer before. In addition, people from different walks of life - health workers, local government officials, police, market stallholders, teachers and students – are all queuing up to enroll.
2023 Follow-up available	
Has the problem been solved?	The training is improving lives in communities across the country, as people apply their new skills to start small businesses, study and complete school projects, and find new jobs. Watch 'Now I have a job!' with testimonies about how library ICT training is changing lives (EIFL, YouTube, 6 min).
Did any new problems emerge during implementation?	N/A

2022 solutions still work to tackle the problem? New solutions needed to be developed?	The chosen solutions still prove effective today so no new solutions have been developed or adapted to the project
Was the solution scaled or localized to other regions?	In April 2023 we welcomed the news that the Uganda Communications Commission (UCC) will be equipping 10 more public and community libraries with technology packages comprising 10 computers each, plus wireless internet, a printer, a scanner and a photocopier in 2023.
New milestones:	The libraries that will receive computers from the UCC in 2023 are: • Center For Youth Driven Development Initiatives (CFYDDI) Community Library-Gayaza • Florence Nightingale Community Library-Apac • Kitengesa Community Library • Marko Lukoya Community Library-Mukono • Mubende Public Library • Nagongera Public Library and Resource centre-Tororo • Nyaka Aids Foundation Kanungu • Nyarushaje Community Library • Pakwach Public Library • Uganda Development Services Community Library-Kamuli
New challenges:	Adapting and installing the equipment to be received at the above-mentioned libraries. Also ensuring dissemination of the programme to attract youth and people who may be interested in joining
Next steps:	Assess possibilities for scaling it in other African regions
Quote:	"When this community programme came, I started going to the public library to use the new facilities and for computer training. Thanks to this training I obtained a job at Noyo City TV" - Nassaazi M.Joanita (Digital skills trainee at Kawempe Youth Centre Community Library)

Case CD02:	**Small businesses in Uganda flourish thanks to digital skills training by local libraries**
Presented at the 2023 PNMA Plenary Session:	**No**
Location:	Uganda, various locations (Eastern Uganda)
Funding:	The project is funded by Belgium through the Wehubit Programme implemented by the Belgian development agency, Enabel.
Responsible institutions / partners / people:	Electronic Information for Libraries (EIFL), National Library of Uganda, Maendoleo Foundation, Peer 2 Peer University
What is the problem?	A lack of digital skills was identified as one of the most significant barriers to Internet adoption and use by people in Uganda. Many Ugandans still lack the skills to use the Internet and perform basic money transfer and payment functions. This not only leaves many excluded, but it also leaves people more vulnerable to safety and security risks. More advanced digital skills are also crucial to accelerate inclusive digital growth, for example for the use or development of digital solutions by small and micro-enterprises and start-ups. - Is it a Rural / Urban setting? Mixed - Is there a gender focus? There has been a particular focus on women, as well as youth, as beneficiaries. - What were the services provided, subsidies used, anything else worth sharing? The programme focuses on helping beneficiaries to connect with online resources in order to launch or develop businesses. Crucially, the work is about connecting people who would not otherwise have been able to make the most of available skills and materials.
Which were the actions taken to address the problem(s)?	The programme focuses on helping beneficiaries to connect with online resources in order to launch or develop businesses. Crucially, the work is about connecting people who would not otherwise have been able to make the most of available skills and materials. Since 2021, the "Digital skills@your local library" project has worked with a network of 27 public and community libraries in Uganda to provide digital skills to young people and women. 50 librarians and volunteers have been trained to teach vital digital and mobile literacy skills in their communities. Across Uganda, over 15,000 members of the community have benefited from training to date. They can draw on digital tools to become trainers themselves. This has included a focus on digital and mobile literacy, as well as the development of programmes that are responsive to needs. These activities take place both in libraries and in other community centres, including workplaces and beyond. Whilst many classes are held in library buildings, librarians also go out into the community, visiting workplaces such as garages and shops to demonstrate, using mobile devices, how the internet can provide skills to help entrepreneurs, including mechanics, marketing or communications skills.
Results / Impact / Lessons learned (what worked / remaining challenges)	- Results: over 15,000 members of the community have benefitted, in particular women and young people, but also others from across society. There are strong stories of people who have been able to develop their business, using the internet to develop new business offers, to become more productive, and to offer new services that support, for example, schools. This proved particularly useful during COVID, allowing people to keep on working. - Impact: there are strong stories of people who have been able to develop their business, using the internet to develop new business offers, to become more productive, and to offer new services that support, for example, schools. This proved particularly useful during COVID, allowing people to keep on working. • Success story 01: In the small town of Bugiri, Eastern Uganda, Juliana Awor is growing her tree nursery business thanks to a tin of seeds, a thirst for knowledge and the help of her local library. After enrolling in digital and mobile literacy training, offered by Bugiri Public Library, Juliana learnt how to research tree species and the

	process of tree cultivation. Using her newly acquired digital skills, Juliana used the internet to learn about Eucalyptus, a fast-growing tree cultivated in Uganda for fuel, timber and use for telegraph poles. Eucalyptus has a high market demand and slowly Juliana's business has grown. She started by raising 50,000 Ugandan Shillings (12 EUROS) from friends and family to purchase her first tin of seeds. Juliana's business is growing, and she supplies over 5,000 seedlings each growing season, providing a good income to support her family. Stories such as Juliana's are replicated across Uganda, as public and community libraries provide local entrepreneurs and small businesses with access to ICT tools and the support they need to succeed in earning a good income to support their families. • Success story 02: In Nakaseke, librarian Peter Balaba and volunteer David Tuhairwe have been visiting their local high street, meeting entrepreneurs and introducing new technology tools and digital resources useful for their businesses. Thanks to David and Peter, Carol Wanyenze's ice cream shop now uses new recipes from the internet to make ice-cream for their happy customers. At Yiga Bookshop, Jackson Lubega was able to help his father's business through the COVID-19 pandemic following skills training with Peter and David at the library in Nakaseke. - Lessons learned: (what worked / remaining challenges): while they do already offer connectivity and a strong awareness of local needs, libraries on their own cannot do everything, but with support to develop skills and outreach, can have a significant impact.
2023 Follow-up available	
Has the problem been solved?	Partially. More funding would allow it to expand to other areas or regions.
Did any new problems emerge during implementation?	While the programme does already offer connectivity and a strong awareness of local needs, libraries on their own cannot do everything, but with support to develop skills and outreach, can have a significant impact.
2022 solutions still work to tackle the problem? New solutions needed to be developed?	Current solutions seem to be effective when tackling the issue but follow up processes and additional funding are essential if new solutions were to be developed.
Was the solution scaled or localised to other regions? If so, please share examples	Bugiri (initially), then to Nakaseke, Nayarushanje.
New milestones:	Obtaining external support to make the programme scalable.
New challenges:	Ensure follow up processes with the community and obtain a diverse source of funding.
Next steps:	N/A
Quote:	"The digital skills training provided by the library enabled me to set up a business that can support my children and allowed me to manage my own enterprise. I want to encourage other people to learn these important skills, it is a golden opportunity for our future." - Juliana, Burigi Public Library "The most inspiring for me was desktop publishing. Now, I have introduced computer and printing services to the bookshop. We have bought a computer and I design school badges, stamps and exercise books – we are planning to buy a colour printer to print exams and posters in bulk." - Jackson Lubega, Yiga Bookshop

Case CD03:	**The Glass Room Project: Misinformation edition**
Presented at the 2023 PNMA Plenary Session:	**No**
Location:	Italy, Germany, Spain, France, Sweden, Slovenia, Lithuania, Ukraine
Funding:	European Union
Responsible institutions / partners / people:	Tactical Tech, IFLA, Save the Children Italy
What is the problem?	Amid escalating crises and the spread of misinformation, digital technologies play an increasing role in the way people get informed, form opinions and find solutions to situations like war, climate crises, and political polarisation. Many are still unaware of the relationship between digital technologies and people's responses to crises. This realisation drove our mission to engage people in exploring this crucial topic. There is a lot of optimism surrounding digital technologies but less focus on their potential for civil society and the risks that could arise. Digital skills and technology can be an empowering force, but more action needs to be done to navigate and keep up with the constant developments.
Which were the actions taken to address the problem(s)?	We hear a lot about misinformation, disinformation and conspiracy theories these days. But what makes a piece of information reliable or unreliable? Is something "misinformation" if it simply presents an opinion we do not agree with? And what role do new technologies and social media platforms play in how misinformation spreads and the impact it has on our culture, politics and society? The exhibition explores what misinformation is, why it is shared and how it spreads. One can find out how we, the individual users, can take part in it through our many clicks, likes and shares. Visitors learn about the business models, design practices and habits that create an environment where misinformation can spread or go viral. Additionally, they understand how misinformation becomes normalised, and how the decisions made by the gatekeepers of technologies can influence our behaviours and opinions. The Glass Room Misinformation Edition, originally launched in 2020 and updated in 2022, explores how social media and the web have changed the way we read information and react to it. We present new types of influencers, the new and old tactics they use, and the role we the users and consumers play in the way information flows and changes within that flow. We also examine the relationship between personal data, targeting and our opinions, views and behaviours, as well as the business models behind it. The exhibition consists of 9 posters available in 3 formats; 8 video animations accessible via screenings or QR scans; and 4 interactive app games which help visitors engage with the themes. Its newest edition is available in three different in-person versions as well as a digital one. The materials can be downloaded to facilitate the campaign outreach: • Poster: ideal for gallery spaces, libraries, and conferences (75x75cm, 150x75cm) • Easyprint: low-cost, accessible design printed on A3 and A4 sheets of paper, ideal to be hosted in classrooms • Outdoor: large banners printed on PVC to be mounted on metal fencing and displayed in open-air events (340x173cm) • Data Detox Kit: reveals different ways misinformation disguises itself and gives the user practical tips on how to find verifiable information on the internet. Anyone can host workshops using the resources to help engage communities in questioning its engagement with technology.
Results / Impact / Lessons learned (what worked / remaining	So far, there have been over 471 Glass Room events across 61 countries all around the world, reaching over 352,000 people – with many more planned in 2023. When someone hosts a Glass Room Community Edition event, they join a global conversation on data and privacy. During

challenges)	the week of the exhibition, some libraries organised several virtual workshops accompanying the events; nearly a hundred people attended each of these. Feedback from participants suggested that some things they heard and saw during these events – for example around covert advertising – were completely new to them, something they have never considered before. Participants also mentioned that it was an important realisation for them – understanding just how strongly social media and the web are affecting their daily lives. Overall, the interest from visitors and their feedback have once again shown that it is important to speak about information, misinformation, digital design tricks. People should get reliable information, and the library is a good source. This experience has only confirmed the fact that libraries are ready to be actively involved in raising public competences in the field of media and information literacy. A very useful and proven solution in these circumstances was to organise a combined exhibition – matching a physical with a virtual exhibition. It was also helpful that the format of the physical exhibition was flexible and easily adaptable to different rooms.
2023 Follow-up available	
Has the problem been solved?	The results have been very positive so far
Did any new problems emerge during implementation?	Covid-19 issues, unfortunately, limited the number of people at physical events. Our solution was to apply the same rules as for wider library visits – limiting group sizes and instructing visitors to wear masks.
2022 solutions still work to tackle the problem? New solutions needed to be developed?	Yes, it is much easier to expand on these solutions in 2023
Was the solution scaled or localised to other regions? If so, please share examples	Yes, in the above-mentioned countries, but also in other projects with a similar focus, again in collaboration with Tactical Tech.
New milestones:	Expanding exhibition to other countries and libraries
New challenges:	N/A
Next steps:	Kickstarting new projects on Digital Literacy and Digital and Green Transitions

3.3.3. 2022 Capacity Development Good Practices: updates on implementation

This subsection aims to showcase the development, successes and challenges faced by the good practices identified in the 2022 output report. The focal point of each case was directly contacted by the PNMA team to provide additional information via the standardised form as seen on Annex I.

The original surveyed cases are now collated into the PNMA Repository. The projects below provided updates on their 2023 activities, and these can be explored in detail on Annex III.

- Policy and Regulation Initiative for Digital Africa - PRIDA, by AUC
- Techio Comunitario and National Schools of Community Networks, by Rhizomatica and APC

3.3.4. Preliminary conclusions

Some of the PNMA's preliminary conclusions around this debate are:

- Coordinated capacity development activities have trained, taught, empowered, and made more people aware of the importance of meaningful connectivity and how they can participate in multistakeholder mechanisms that improve daily lives.
- Capacity development is a horizontal enabler of meaningful connectivity.
- Notable success cases include Africa and Latin America, each with localised tailored solutions
    - For Africa, these include curriculum development in multiple languages, and more national and regional SIGs taking place ("train the trainer" approach) - with attention to youth and women.
    - Many more national and regional SIGs have been held.
    - 29 training sessions have been held using the PRIDA platform, with an average of 50 trainees per session (ca. 1,500 trained people across the continent).
    - In Latin America, the training programmes for technical promoters in broadcasting and telecommunications address not only technical issues, but the social and economic implications of technologies, regulation, and sustainability.
    - Scaling this project is possible given the methodology used for its design and implementation.

4. Collaboration Streams

Throughout the online monthly deliberations and the plenary discussion held in Kyoto, the PNMA community shared examples of how we are working towards better local content and languages online, improved meaningful connectivity, and the use of non-Latin alphabets, amongst other areas. Additionally, the policy network encouraged conversations about the intersessional work and ways of collaboration with other IGF processes (e.g., Dynamic Coalitions and National and Regional IGF Initiatives), the Leadership Panel, and institutional partners such as the Internet Corporation for Assigned Names and Numbers (ICANN); International Federal of Library Associations (IFLA); International Telecommunications Union (ITU); and World Intellectual Property Organization (WIPO). The PNMA community wishes to open a multistakeholder public debate under these actions to influence policy change and the upcoming Global Digital Compact (GDC), in addition to the WSIS+20 and IGF+20 processes. This report section summarises said conversations and sheds light on ways of collaboration moving forward.

4.1. IGF Leadership Panel

The PNMA agrees the following areas are of utmost importance for the advancement of meaningful access and therefore should be supported by the Leadership Panel networking and advocacy:

- Actively promote the good practices that have been identified by the Policy Network in the 3 areas (Connectivity, Digital Inclusion and Capacity Building) across all the stakeholder groups and through the Digital Cooperation initiative.

- Promote the good practices identified in this document through IGF's institutional partners (such as the EU, the AU, the OAS and others), in order to favour their replication and adaptation in other countries or regions.

- In the continuous efforts that the Leadership Panel will have to do in order to promote the mandate and the importance of the IGF, we would like very much that the achievements identified throughout our processes (e.g., the PNMA good practices) would be included and taken into consideration for outreach and cooperative development.

4.2. Global Digital Compact

The PNMA reports the following statements as the network's contribution to the Global Digital Compact process, and welcomes further conversations towards the WSIS+20 process:

- Mechanisms for stakeholder input and feedback must be transparent. Previous mechanisms, like the deep dive sessions, were limited in transparency and accessibility by not making recordings available, for example. In addition, it should not only be incumbent upon stakeholders to identify opportunities for participation. The UN Technology Envoy and the

co-facilitators must proactively engage with multistakeholder fora to collect input and feedback on the GDC - for example, by taking advantage of the UN IGF and its national and regional initiatives as convening spaces for all segments of the multistakeholder community. This should include allowing stakeholder contributions to UN GDC meetings, including any further deep dives. The IGF's multistakeholder Policy Network on Meaningful Access stands ready to advise on best practice for delivering meaningful connectivity, given the network's extensive research on this topic over the past several years, drawing on expertise from civil society, the technical community, the private sector and governments alike.

- The implementation of an agreed GDC should be open, transparent and multistakeholder in its design and delivery. Regarding connectivity, a wide range of stakeholders including civil society, the private sector, the technical community, researchers and academia and governments all have valuable expertise to share when it comes to improving digital connectivity and delivering meaningful access. As such, all these stakeholders must be included in implementation, monitoring and evaluation of the GDC's connectivity initiatives. Such a mechanism could take the shape of a multistakeholder working group tasked with each of these three tenets, with the IGF serving a coordinating role to convene these groups.

- Governments should raise awareness of opportunities to contribute to the GDC (for example, the deep dive sessions earlier this year) so that members of the multistakeholder community are aware of opportunities to participate. This could be at national or regional IGFs, or through other outreach, such as the UK's Multistakeholder Advisory Group on Internet Governance. However, governments should also proactively engage with the multistakeholder community on the GDC. This should include attending the annual UN IGF to understand what the multistakeholder community wants to see out of the GDC, including on meaningful access, and delivering consultations on GDC proposals within their own countries, to gather a wide range of views on the Compact proposals (including the proposals in the Secretary General's Policy Brief). In this vein, the GDC should recognise in particular the role of the private sector and the technical community in the future of digital innovation.

- The GDC is an opportunity to deliver a positive agenda on development and the outcome must focus on meaningful access and connectivity. The GDC should embed the critical role of digital development in the SDGs and be an input into the review of the SDGs. It should not just be an initiative focused on mitigating risks posed by technologies, but also one which promotes the huge potential for social and economic development that digital technologies bring to people and communities across the world.

- Due to its unique composition, that includes the private sector, civil society, academia and the technical community, the IGF can play a crucial role in empowering stakeholders to contribute to the Compact, including by raising the messages on meaningful access that emerge at the 2023 IGF. The IGF's sounding board proposal should be implemented to ensure the multistakeholder community has a meaningful opportunity to shape the Compact, including by drawing on expertise from private businesses and local communities on what is needed to deliver meaningful access.

- In this sense the IGF needs to its intersessional works at value, since they are very distinctive from any other GDC contribution, by putting the NRIs, DCs, PNs and BPFs permanent activities at the centre of the action.

4.3. Dynamic Coalitions (DCs)

The DCs are grouped together and have monthly coordination group calls. The DC Coordination Group (DCCG) has two co-chairs and is assisted by Celine Bal from the IGF Secretariat. The DCCG holds monthly meetings that are open to all. Each DC is invited to volunteer one or two of its members to join these regular monthly meetings. Other DC members are also invited to attend. The DCCG communicates regularly via its mailing list.

The DCs were very active in participating in the open MAG sessions and gave presentations on a variety of topics. The DCs worked with one another on a variety of topics relating to the IGF sessions. Several mini sessions were held, and this was a good example of how DCs work and collaborate together to respond to topics.

Many of the DCs collaborate with other DCs on specific topics of interest, inviting them to be speakers at events. Some of these are the Dynamic Coalition of Accessibility and Disability (DCAD), Dynamic Coalition of Data Driven Health Technologies (DDHT), and the Dynamic Coalition on Internet Standards, Security and Safety Coalition (IS3C). All three of these DCs bring together key stakeholders from the technical community, civil society, policymakers, regulators, corporate and individual adopters, with the shared goal of making online activity and interaction more secure and safer.

DC members write extensively on related topics sharing their knowledge and insights with the global public through blogs, research papers, presentations and other avenues. All DCs work with other regional or national civil society groups to get their information out to end-users. Several are active in other civil society groups, such as ISOC, APC, and other non-profit groups. All three are actively seeking out interesting speakers for our IGF-related events. Additionally, DC members are active in their own geographical spheres through NRI, ICANN, ISOC, and other groups sharing DC values and engaging and learning with others.

DCAD works closely with the Secretariat, the DCCG, and the NRIs in ensuring that websites, material, sessions, power point slides, applications, and reports comply with Web Content Accessibility Guidelines (WCAG) to guarantee equal access for all users. They work to raise awareness about the impact of digital exclusion on people with disabilities and advocate for policies that bridge the digital divide within the IGF, the MAG, the NRIs and other places to ensure that the internet is available to all. They also are working to ensure that all online content is accessible and to educate people on the importance of using Alt Descriptions, captioning, and audio descriptions for online captions. DCAD advocates for policies that enforce inclusivity in the digital space, encouraging companies and organisations to prioritise accessibility and usability. They also seek to create opportunities for persons with disabilities to serve at leadership positions, including the

Multistakeholder Advisory Group (MAG) and the Leadership Panel of the Internet Governance Forum (IGF).

The PNMA noted with pleasure that the question of meaningful access was at the centre of the preoccupation of some DC's and welcomes the participation of DCs in its network and wishes to strengthen the continued collaboration in areas such as digital inclusion and accessibility.

4.4. National and Regional IGF Initiatives (NRIs) and other PNMA-relevant IGF debates

The NRIs are an important component of the PNMA community as they have direct access to what is happening on the field when it comes to meaningful access. Hence, the policy network welcomes their attendance in the deliberation meetings and leans on their advice to set up the yearly processes and plenary sessions. NRIs are invited to assign focal points to the PNMA meetings, in order to be informed of the community actions - active participants are listed in the PNMA webpage.

Given the intersessional nature of the work performed, it is important that NRIs discuss the focus areas led by the PNMA within their own networks too. In 2023, one example of connecting the dots with the rest of the IGF community came from a NRI collaborative session on bridging the digital divides - more details are available in the Annex IV.[6]

Important contributions to the debate on meaningful access also emerged from sessions and other IGF initiatives focusing on specific aspects of the issue. Within this year's programme, the PNMA highlights Workshop WS #297 - "Digital Inclusion Through a Multilingual Internet", which focused on how to improve meaningful access through the expansion of the languages used over the Internet. "*Universal acceptance is key to digital inclusion and is needed for a fully multilingual internet*", says the description of the workshop, mentioning as supporting facts that almost 60% of the today's Internet's content is in English, while there are around 7,000 languages in the world. Hence, internationalized domain names and universal acceptance are "foundational for meaningful Internet access for the next billion users". Many ideas and valuable interesting experiences to the policy network were announced in this session[7], linked below.

Another fundamental contribution was given by the Workshop WS #165 – "Beyond universality: the meaningful connectivity imperative", in which a detailed picture of Brazilian initiatives to promote meaningful connectivity were presented, with additional contributions from the European Commission and the ITU. Starting from the 2023 process, the PNMA started to monitor the IGF sessions in order to establish these connections and learn from peers. The policy network will continue to do so, by expanding the community, gathering good practices, and partnering for better outputs.

[6] NRIs (National & Regional IGF Initiatives) Collaborative Session on Digital Inclusion Overcoming barriers to bridge digital divides: https://www.intgovforum.org/en/content/nris-overcoming-barriers-to-bridge-digital-divides Report on Annex IV.

[7] Report DIG Watch: Digital Inclusion Through a Multilingual Internet: https://dig.watch/event/internet-governance-forum-2023/digital-inclusion-through-a-multilingual-internet-igf-2023-ws-297#knowledge-graph-of-debate

4.5. International Telecommunications Union (ITU)

For 2023, the PNMA acknowledges two projects conducted by the ITU which have great potential of enhancing meaningful connectivity and digital inclusion in different regions with the help of accurate and up to date statistics. ITU not only promotes best practices and policies to implement the meaningful access across the least developed countries (LDC), but has also, for the past two years, supported this action through the collection of data related to it. In close cooperation with the UN Tech Envoy, a specific set of data to measure meaningful access has been identified and is now regularly collected throughout the regions that are left behind. This set of data is publicly available on the ITU website and is provided to all interested policymakers, in order to support their decision-making process.

The policy network will be on the lookout for their successes and scaling, and their application in efficient policy making decisions.

4.5.1. Universal and Meaningful Connectivity (UMC)

Depriving vast swaths of humanity from the possibilities offered by the Internet is costly, deepens inequalities, and undermines development. Over the past 30 years, the number of Internet users surged from a few million to 5.3 billion. Yet the potential of the Internet for social and economic good remains untapped: one third of humanity remains offline, and many users only enjoy basic connectivity. Multiple digital divides persist across and within countries, between men and women, between youth and older persons, between cities and rural areas, between those who enjoy a fibre connection and those who struggle on a spotty 3G connection. Achieving universal and meaningful digital connectivity —the possibility for everyone to enjoy a safe, satisfying, enriching, productive and affordable online experience— is key for enabling digital transformation and meeting the Sustainable Development Goals.

As part of the implementation of the UN Secretary-General's Roadmap for Digital Cooperation, the International Telecommunication Union, the Office of the UN Secretary-General's Envoy on Technology, and their partners have established a set of aspirational targets for 2030 to help prioritise interventions, monitor progress, evaluate policy effectiveness, and galvanize efforts around achieving universal and meaningful connectivity by the end of the decade. Building on this groundwork, ITU and the European Commission (EC) have jointly designed the project "Promoting and measuring universal and meaningful digital connectivity". The project started in May 2023 and will run until 2026, with a total budget of 3 million euros. The project will track and report progress towards the UMC targets through the UMC Dashboard, and will also enhance countries' statistical capacity to measure multiple aspects of UMC in more timely, accurate and granular level. It will identify good practices and policy recommendations to accelerate progress towards UMC.

4.5.2. Digitally empowering Small Island Developing States (SIDS) across the Pacific Islands

The UN team in Micronesia has launched a new joint programme to digitally empower Small Island Developing States (SIDS) across the Pacific Islands, and accelerate progress on the Sustainable Development Goals, in collaboration with national governments. Financed through a USD 3.8 million grant by the UN Joint SDG Fund, the new programme serves as a platform to pool resources, expertise, and networks to provide better access to digital services, spur economic activities and strengthen climate change resilience, amongst other objectives. The programme brings together seven participating UN Organizations led by ITU, including FAO, ILO, UNOPS, UNESCO, UNICEF, and UNODC, under the overall leadership of the UN Resident Coordinator Multi-Country Office Micronesia Jaap van Hierden, who said: "Through this Joint Programme, we are not only leveraging the potential of technology but also nurturing resilience and empowering communities in the Pacific". The project is also implementing the Roam X evaluation tool developed by UNESCO to measure the diversity of the Internet in terms of languages used, of local contents accessible online, and of other qualitative indexes. This approach sets the Micronesia project as one very advanced laboratory to measure meaningful connectivity and access through a holistic approach that includes all aspects of the problem.

4.6. World Intellectual Property Organization (WIPO)

The World Intellectual Property Organization has always seen the discussion on meaningful access as intrinsically linked to the creation and distribution of meaningful content of different natures, such as educational, news reporting, or pure entertainment (as music, videogames and audio-video – AV). Content is meaningful if it is relevant (e.g., in terms of cultural identity), accessible (e.g., in terms of language) and inclusive. The IGO has debated the following good practices with the policy network during its Plenary Session in Kyoto: the first ones are directly connected with digital inclusion, and two more on production and distribution of local meaningful content.

4.6.1. Accessible Book Consortium (ABC)

The Accessible Books Consortium (ABC) is a public-private partnership led by WIPO, counting with organisations that represent visually impaired and people with print disabilities such as the World Blind Union and libraries. ABC's goal is to increase the number of books in accessible formats (such as digital braille, e-pub, audiobooks) and to distribute them to people around the globe who are blind, visually impaired or otherwise print disabled. WIPO acts on this through a variety of lines of work, including capacity building and advocacy for inclusive publishing. It is worth mentioning the most impactful part of the project which is the ABC Global Book Service: an online catalogue of books in accessible formats available at no cost to authorized entities serving people who are print disabled. The Service has over 840,000 titles in 80 languages, available for cross border exchange without the need for clearance formalities. Of the 127 Encyclopaedias (AEs) that have joined the ABC Global

Book Service, 70 are located in developing or least developed countries (LDCs)[8]. Participating AEs delivered nearly 140,000 accessible format copies from the ABC Catalogue to persons with print disabilities in 2022.

4.6.2. Open Access (IGOs Working Group and Wikimedia)

Since 2010, WIPO has led a Working Group formed by over 100 individual members from 25 international organisations (the membership is constantly growing) facilitating the debate and exchange of good practices among IGO publishers moving to open access. WIPO and a few other IGOs have also launched collaborations with Wikimedia, releasing their content through said global platform, boosting accessibility but also the possibility of translating any participant IGO content to local languages and/or adapting it to specific needs.

4.6.3. Traditional knowledge (TK) and traditional cultural expressions (TCEs)

WIPO's work on TK and TCEs of indigenous peoples and local communities has been strengthened. In addition to policy assignments, the organisation leads and supports the implementation of initiatives for improvement of human and technical capacities acting on the field (e.g., mentoring, fellowship programmes, awards, and digitisation projects).

4.6.4. Development Agenda – Creative Industries in Developing Countries (CIPD)

Many parallel initiatives and pilot projects take place under the CIPD Development Agenda umbrella. During the Plenary, WIPO highlighted the importance of a project on the digital market for AV production in Latin America, which is likely to be renewed and expanded. Additionally, the Organisation shared that they have recently released practical tools for specific sectors: one example is tailored at Digital Publishing, assisting small publishers in LDCs to improve their understanding of digital transformation. Another tool is a training one for animation professionals in developing and least developed countries.

[8] 2023 WIPO Annual Report https://www.wipo.int/edocs/mdocs/govbody/en/mvt_a_8/mvt_a_8_inf_1.docx

5. 2023 IGF PNMA Process: Key Messages and Concluding Remarks

The following remarks were summarised at the Plenary Session in Kyoto (Annex V), which marks the end of the 2023 PNMA deliberation cycle. They reflect the community's deliberations, case analyses, and refer to issues for IGF consideration and action. Moving forward, the community will base its follow-up activities and new focus areas taking into account the statements here provided.

On Connectivity:

- Universal and meaningful digital connectivity - the possibility for everyone to enjoy a safe, satisfying, enriching, productive and affordable online experience - is key for enabling digital transformation and achieving the SDGs. Achieving universal and meaningful digital connectivity requires policy makers to embrace the concept, set targets, and include it in national digital strategies and policy plans.
- Good quality data on all aspects of universal and meaningful connectivity are essential to inform and monitor digital policies, highlight to policy makers where the digital divides in a country are, and how severe they are. In the absence of these data, policymakers should request these data from the relevant statistical agencies in the country and fund data collection.
- The full potential of public access to libraries as a way to address the decoupling of progress in extending connectivity and broader social progress needs to be part of internet strategies going forward.
- Private actors identify a shift in the lack of connectivity from coverage gap to usage gap. This means that, recently, there was an improvement in the Internet coverage and the main issue now relies on the meaningful Internet use by those living in regions with coverage.
- All the promises of universalizing Internet access through the 5G have not been materialised yet, and some sectors are already discussing the 6G technology. Additionally, there are other concerns to have in mind: e.g., Internet fees, which may lead to Internet Fragmentation.
- We call governments and intergovernmental agencies to reinforce the relevance of universal and meaningful connectivity as a fundamental enabler of human rights and elaborate on this relevance for the protection, promotion, and enjoyment of civil and political rights, in addition to economic and social development.
- We ask policy makers and governments from around the world to stand against the imposition of direct payment obligations to the benefit of only a handful of telecommunication operators.
- Solving the connectivity gap will take a multistakeholder approach - much like the PNMA itself and the contributions coming from different venues at IGF.
- Current issues are being solved through coalitions tackling regulatory and policy-making arenas, hence partnerships are key.
- Data must be gathered to identify gaps: ITU, ICANN and other international organisations are looking at those solutions.
- Innovative financing approaches need to be made to support and build networks, ccTLDs and Data Centres.

On Digital Inclusion:

- To advance digital inclusion through Open Education Resources (OER), there is a need to move from raising awareness and digital skills literacy to access, re-use, create and share OER to focusing on how to make OER more inclusive to the diverse needs of learners.
- It is important that educational resources developed with public funds should be made available as OER. Investments from government and different stakeholders should be made to ensure the quality of teaching and learning experiences by providing inclusive and accessible OER for all learners.
- It is important to have localised awareness of content to build a knowledge commons, with incentives in place for stakeholders to contribute and use such material.
- Initiatives need to be led by the target communities, and the voices of those who will benefit from these initiatives have to be in the conversation. Best practices from other Open Solutions – Open Access, Open Data - can be useful for ensuring the interoperability of repositories and increased sharing of knowledge through OER.
- Purpose-driven content means culturally-relevant content; it needs incentives and funding to be sustainable, from production to distribution
- There must be strong ccTLDs and cybersecurity matters to ensure gender digital inclusion and combat gender-based violence online.
- It is not only necessary to include youth people online, but also to hear them in a way that is meaningful and can be included in the final decision-making process. Regarding women and gender diverse people, it is necessary to understand that access is not enough, there are variables and intersectionalities in the offline spaces that translate into the online spaces reproducing these inequalities and affectation. Therefore, there must be strong ccTLDs and cybersecurity matters to ensure gender digital inclusion and combat gender-based violence online.
- Accessibility for persons with disabilities is also a share of the work around digital inclusion; divides can only be overcome when the Internet is available to all. On a similar note, inclusion needs to contemplate the illiterate and the diversity of languages online.
- Technology design, development, implementation, and use, as well as the design of policies, must include young people, women, and gender-diverse people at all stages to ensure not only inclusion and representation, but also diversity and real impact in the technologies we want. Again, multistakeholderism is key to addressing the rights of young people, women and gender diverse people online. Only through this can we envision an Internet that is truly inclusive and successful.

On Capacity Development:

- Technical skills are needed to understand emerging technologies and make them address and offer solutions.
- Digital skills are needed to ensure quality services and address cybersecurity challenges. Likewise, thorough statistics are needed to determine skills needed to achieve meaningful access and use.
- Training the trainers with localised information/data and perspectives is critical. Technical capacity support should also benefit from this.
- Finally, a holistic approach on capacity development is key to achieve sustainable meaningful access.

Additionally, the PNMA highlights Vint Cerf's statement on affordability being a key element to ensure meaningful access, shared at the opening of the Plenary Session: "If you can't afford the devices, equipment and services [that] give you access to a meaningful and useful Internet, then you don't get to use it," said Cerf in his speech. "We need to drive costs out in a number of ways, it could be making things less expensive. It could be subsidizing income".

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- The Glass Room: Misinformation Edition https://www.theglassroom.org/en/misinformation-edition/
- The UN Secretary-General's Roadmap for Digital Cooperation https://www.un.org/techenvoy/content/roadmap-digital-cooperation
- UNESCO – Roam X https://www.unesco.org/en/internet-universality-indicators/roam-x
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- WIPO CIDP Pilot Project https://www.wipo.int/meetings/en/doc_details.jsp?doc_id=620344
- WIPO Development Agenda (CIDP) https://www.wipo.int/cooperation/en/technical_assistance/developing-countries.html
- WIPO Traditional Knowledge https://www.wipo.int/tk/en/

Annexes

Annex I – 2022 PNMA Good Practices Updates

- **Connectivity**

2022 selected case	
Case 1:	**Contribution of SMEs Business Associations to Develop Meaningful Connectivity**
Location:	Georgia (isolated remote areas in highlands) - Eastern European Group
Funding:	n/a
Responsible institutions / partners / people:	• Telecom Operators Association of Georgia
What is the problem?	• Lack of connectivity in isolated areas in the Georgian highlands • Micro, Small, and Medium-sized Entities (MSME)s and Community Networks (CNs) have to be regulated minimally and the Government will give the non-regulated areas the last mile ISPs, including in rural areas.
Which were the actions taken to address the problem(s)?	• Usage of SME ISPs resources and lobbying advantages in negotiation to create and plan assistance, training, tech and legal support of the CN

Results / Impact / Lessons learned (what worked / remaining challenges)	• Results:
	  ○ After 2 years: traffic has doubled, there are new users and new settlements, new businesses
	  ○ For the last 7 years: establishment of community network projects with support and mentorship of internet champions (e.g., Jane Coffin, Maarit Palovirta, Massimiliano Stucchi) and trisectoral participation (state, private actors, NGOs)
	• Impact: all local SME businesses are online and are bookable digitally; education and all local state services are accessible online and remotely.
	• Lessons learned: after working with a state and regulatory body the CN model is now part of a public strategy to provide connectivity to remote areas; the state is ready to be a donor to these projects as it was done in the pilot region of Pshav-Khevsureti.

2023 Follow-up	
Has the problem been solved?	A challenge of business model and economics sustainability is a case for almost all CNs, same in Pshavi-Khevsureti network at times (due to heavy snow, lightening, cheap hardware etc). An additional challenge was a dark fibre cable installed two years ago - it changed network performance and sustainability but added a few challenge. To solve funding problems, we raise the monthly fee but for operational expenses we add money from our personal salaries.
Did any new problems emerge during implementation?	On implementation level we did not meet any serious problems just small issues and were solved easily.
2022 solutions still work to tackle the problem? New solutions needed to be developed?	This is a technical network so when you are using solar power and batteries issues are just adding, The network capacity has to be made bigger because of the end-user and network performance data is increasing and demand is rising so challenges are much more than a year ago. The radio network amortization period is not huge so this issues are also rising.

Was the solution scaled or localised to other regions? If so, please share examples	Our experience with solar panels, charge controllers and batteries were shared with SME's of Georgia.
New milestones:	We can say fibre optics operational challenges are related with heavy snow and landslides. This two issues take too much time and money - we mean restoration.
New challenges:	Georgian Parliament started creation of white paper on universal funding so it could be useful for CN funding, but we did not see any draft yet. The middle mile project - open net is almost finished so will be solved first and middle mile challenge and replayed in many areas.
Lessons learned:	Yes, if you are using cheap solar panels and batteries will find after two-three years that you have to buy new ones and installations.
Next steps:	We want to cover other isolated region but looking forward for additional funding at least 40% for all budget.
Another important matter:	ISOC supported project on IXP has started so it will try to connect CNs to the IXP and decrease so called internet connection wholesale expenses.

Case 2:	Alternative model for closing the connectivity gap in rural areas of developing countries based on multi-stakeholder initiatives for development
Location:	Peru, Province of Condorcanqui (Amazonas Region) - Latin American and the Caribbean Group (GRULAC)
Funding:	Spanish Cooperation, on a multi-stakeholder nature - monetary contributions from the Binational Plan, the Regional Government and the Municipality of Condorcanqui; non-monetary contributions from other institutions, including Catholic University of Peru.
Responsible institutions / partners / people:	• Lead: Peruvian Government • Pontificia Universidad Católica del Perú • Several public and private institutions, including the Provincial Municipality, the Regional Government, and universities

What is the problem?	• Connectivity gaps in rural, remote areas of developing countries
	• Specifics:
	  ○ The pilot localities have no broadband internet access services and only two of them have 2G mobile telephone service.
	  ○ Served population is almost entirely made up of natives belonging to the Awajun and Wampis ethnic groups

Which were the actions taken to address the problem(s)?	• Implementation of a series of telecommunications stations that function as repeaters. Between them, two free-band wireless links are established as backhaul. In each locality, wireless links are established from the repeater station to the public institutions; through this network, the highest public entities in the area are able to purchase and share the broadband Internet access service with rural institutions. • The actions are carried out within the framework of the Multi-stakeholder Alliance for the Development of Reliable Digital Territories
Results / Impact / Lessons learned (what worked / remaining challenges)	• Results: integration of two innovative and complementary proposals aimed at bringing mobile telecommunication services (3G/4G) to rural communities • Impact: improved essential services such as health, education, and governance. 23 public institutions were benefited - including 1 hospital, 10 schools, and 5 primary health care facilities • Lessons learned: it would have been desirable to have a regulatory framework that allows and encourages collaboration between different actors, including different telecommunication companies. The interest of telecommunication operators in securing their customer base means that they are often not receptive to collaborating with other operators. This lack of collaboration makes it difficult to develop new connectivity models where telecommunication services are not available and financial return is perceived as too low.
2023 Follow-up	
Has the problem been solved?	Partially; although local public institutions already have Internet access, the possibility of a mobile operator participating in the project to provide 4G services in these localities is still being coordinated and evaluated.
Did any new problems emerge during implementation?	No new problems have emerged during project implementation.
2022 solutions still work to tackle the problem? New solutions needed to be developed?	Considering that technology evolves very quickly, it is possible to state that, although the solution is still applicable today, PUCP and EHAS are still working to identify potential improvements or new alternative solutions. In this way, LEO satellite systems, for example, could be an option we want to test in the near future.
Was the solution scaled or localised to other regions? If so, please	This initiative is being implemented in other regions of the country. As part of these activities, coordination is underway to replicate the connectivity project in those places.

share examples	
New milestones:	Between June and July, PUCP and EHAS have installed tele-education and telemedicine stations in 10 schools and 5 health facilities, respectively in the Santiago river basin.
New challenges:	The change of authorities in the regional government of Amazonas (via the electoral process) has been a challenge for the continuity of the project because there was a possibility that these new authorities would not continue the collaboration with the Multi-Stakeholder Alliance and the Project. However, after a process of coordination and information sharing, the new authorities have not only continued with the support but are also evaluating financing of the second stage of the project.
Lessons learned:	Unfortunately, the lack of institutional framework in the regional and municipal governments makes it necessary to maintain a permanent and exhaustive coordination and awareness-raising effort with these institutions to ensure the continuity of the policies and activities committed to the project.
Next steps:	To implement telemedicine and tele-education services; to secure the participation of a mobile telephone operator to provide services in the localities benefiting from the Project; and to formalise the approval of the second stage of the project, which includes the construction of 8 additional repeater stations in the same number of rural localities.
Other important matter(s) on the project and not covered above:	As part of the initiative in Condorcanqui, the PUCP has organised the Seventh Workshop of the Multi-stakeholder Alliance with the participation of various entities from the three levels of government. This workshop is a milestone in the process of multi-stakeholder alliances in this territory and was held with the participation of the Regional Government of Amazonas, demonstrating its commitment to the Project.

- **Digital Inclusion**

2022 selected case	
Case 1:	**Are We Together?**
Location:	Uganda – African Region
Funding:	Internet Society Foundation
Responsible institutions / partners / people:	• Pollicy ○ Focal point: Meital Kupfer (in 2023: Bonnita Nyamwire)

What is the problem?	• As Internet access continues to exponentially grow and reach communities that were previously offline, it is necessary to install proper, curated digital spaces to document and preserve languages, share, teach and disseminate material to new or existing speakers, and translate information for marginalised groups.
	• Digital platforms give importance and value to minority groups when the use, production and consumption of digital products and design occur - hence, there is room and opportunity for linguistic empowerment online.
	• Specifics:
	  ○ The project looks at rural areas (farmers who use applications for livelihood purposes) and informal economy workers in urban areas.
	  ○ It sheds light on the unique experiences of women and gender-diverse individuals in how they access and use online spaces in local languages. Intersectionality is key.
	  ○ The project prioritises local content - its white paper is translated into Amharic, Luganda and Swahili. The product of the ethnographic research will be disseminated in multiple languages; the focus groups are being conducted in local languages as by location.

Which were the actions taken to address the problem(s)?	• Individuals and organisations in all sectors touching the digital space should listen and adapt for a more inclusive and diverse language landscape. This includes the following actions:
	  ○ Policymakers and governments: mandate open source code; promote digital education in local languages; Incentivize tech businesses to operate in-country
	  ○ Technology firms: consult indigenous/local groups for feedback; hire people who speak underrepresented languages in their countries of origin; localise software and code so developers in the global South can translate products/services; spend more resources on software and code in non-Latin scripts; focus on content moderation in all countries of operation
	  ○ Civil society: support social media and other digital platforms spearheaded by indigenous groups; continue to conduct research; provide advocacy platforms
	  ○ International actors: sponsor and fund grants to preserve endangered languages online; support local organisations and conduct regional and global advocacy

Results / Impact / Lessons learned (what worked / remaining challenges)	• Results (best example): farmers in rural Uganda can use applications or communicate in their local languages to apply for loans on WhatsApp with relative ease.
	• Desired Impact:
	  ○ Understand/improve the impact of languages on the usability, accessibility, trustworthiness, growth and moderation of digital platforms
	  ○ Generate specific recommendations for technologists and developers to create a more inclusive internet for all. Digital platforms play a critical role in developing countries – beyond entertainment and commerce, they enable livelihood opportunities and enable governments and citizens to better engage with one another. In many developing countries, Big Tech platforms fill gaps in state capacity, and provide essential informational and social infrastructure. It is therefore critical to understand issues around access, usability and safety (domains) across different languages groups on digital platforms.
	• Lessons learned: there are no specific local/regional/national policies or regulations that could help. Research on national language policies in Ethiopia, Tanzania and Uganda has demonstrated fallbacks - e.g., post-independence Tanzania has championed the use of Swahili resulting in 98% of its people speaking some level of it in everyday life; however, dozens of other local languages that are not prioritised are falling into disuse.

2023 Follow-up	
Has the problem been solved?	No, we are continuing with advocacy on local language inclusion on online platforms. Advocacy has been ongoing among government agencies, civil society organisations.
Did any new problems emerge during implementation?	Yes, limited funding to continue with advocacy through workshops and conferences.
2022 solutions still work to tackle the problem? New solutions needed to be developed?	2022 solutions are still working to tackle the problem.
Was the solution scaled or localised to other regions? If so, please share examples	Solutions were localised to countries where the research was conducted. For example, because of limited funds, most of the physical advocacy has been done in Uganda where the Pollicy team is mainly based.
New milestones:	1. Creation of a microsite where resources on this project are shared and have been accessed by over 100 people. 2. We hosted dissemination webinars about the project 3. Data from this project was combined with that from other two projects; one on Future of work and the other on fair conditions for gig economy workers to advocate for a better future of work through workshops with different stakeholders including gig economy workers, linguistic experts, market vendors, influencers, bloggers, online entrepreneurs, e-commerce delivery personnel and students. A report was published by Pollicy from this combined information. 4. Getting to collaborate with the government, specifically the Ministry of ICT, on our projects that focus on the future of work of which Are Together Project is among.
New challenges:	The most challenging policy has been the amended Computer Misuse Act that introduced measures and penalties that seek to control use of social media platforms to share content. This is a challenge as the Future of work moves to largely online platforms but also as we advocate for local language inclusion some content may be interpreted as "hate speech" or offensive because of lack of accurate online translation. The recently launched Digital Transformation Road map for Uganda presents us with an opportunity to scale up advocacy for local language app that can be easily used for communication and access to services.

Lessons learned:	It is important to involve the government in the work we do; advocacy, awareness raising, etc. This makes it easy for CSOs to penetrate the targeted community. Secondly, government involvement makes the target community to easily embrace any programs on the project as communities tend to believe in government programs that they focus on their needs and are credible as well as sustainable.
Next steps:	As we move into advocacy, we have been able to collaborate with the government and brought them on board on our projects that focus on the future of work of which the "Are we Together" project belongs to. We hope to widen our scope for advocacy as we leverage on this collaboration.
Other important matter(s) on the project and not covered above:	None

2022 selected case	
Case 2:	**NUPEF Projects**
Location:	Brazil - Latin American and the Caribbean Group (GRULAC)
Funding:	n/a
Responsible institutions / partners / people:	● Instituto NUPEF ○ Focal point: Carlos Afonso, Oona Castro
What is the problem?	● Lack of support for the preservation/rescuing/presence of local languages of original cultures over the Internet
Which were the actions taken to address the problem(s)?	● Graúna Project: enable local access to knowledge packages in local community networks even without a good connection to the Internet. ● Caburé Project: develop online security resources to help NGOs and local communities to protect themselves ● Project actions take into account the concept of meaningful access defended by PNMA.
Results / Impact / Lessons learned (what worked / remaining challenges)	● Results: ongoing projects ● Impact: ongoing projects ● Lessons learned: action is needed at the federal level, beyond the communities' efforts. Given the challenges of growing inequality in Brazil and other countries, a major need is a strategic national public policy of meaningful access which coordinates with local (state, municipalities) actions.
2023 Follow-up	
Has the problem been solved?	No
Did any new problems emerge during implementation?	Several challenges, given the diversity of the indigenous cultures and idioms.
2022 solutions still work to tackle the problem? New solutions needed to be developed?	This is ongoing and also a learning experience for Nupef. Ideally a result would be the community enabled to carry out the further development of the activity.
Was the solution scaled or localised to other regions? If so, please share examples	Too early to tell. A full report will be available at the end of 2023.
New milestones:	-
New challenges:	One major challenge is funding sources for the proper continuity and advancement of the project.
Lessons learned:	-
Next steps:	-

2022 selected case	
Case 3:	**WWW as a web of our Webs**
Location:	India - Asia/Pacific Region
Funding:	● APC and Dweb Camp (figures n/a)
Responsible institutions / partners / people:	● Janastu ○ Focal point: Dinesh T.B. ● Tools development support: ISIF.asia, APC, Development Alternatives, Design Beku, Chiguru Coop
What is the problem?	● Script/text is a barrier to internet access: more than 3 billion people are not comfortable with written text in any script. ● Many are functionally literate, but ○ prefer narratives to be read; ○ prefer listening and prefer watching; ○ their stories need to be shared; ○ are of all ages. ● Specifics: ○ This experience started from a COW (Community Owned Wireless) called COWMesh ○ By observing conversation patterns, one notices there is no content accessibility problem when there is no written text shared.
Which were the actions taken to address the problem(s)?	● Resolve the issue of the written text using hypermedia towards a social semantic web ○ Hypermedia linking and renarration using “Papad”: an open source media sharing and publishing platform. It allows audio and video uploads to a local server and adds tags in the form of text or images to entire or relevant parts (fragments) of files.
Results / Impact / Lessons learned (what worked / remaining challenges)	● Results: ○ For the past several years Janastu has been working on Community Owned Wireless (COW) Mesh Networks in rural areas, with emphasis on distance learning. Recently, additional attention was given to contents circulated on COWs and created by own CNs ○ Focus on the larger number of people who are not "tech savvy" while also being marginalised by the literates. ● Impacts: we hope to direct attention to local content in local languages along with services on community networks. The effect of such interventions will stimulate economic transformation and situate the dialogue into an ecosystem that leads to a cohesive future of remote communities. ● Lessons learned: policies and regulations need to support development of internet technology services that are internet independent
2023 Follow-up	
Has the problem been solved?	No or rather partially addressed
Did any new problems emerge during implementation?	Lack of reciprocation as there is not a concerted effort by many groups to see the need to bring low-literates on board the Web. New "problems" are our realisation that many more do not see a way to handle these problems and seem to sideline it. This is an internet scale problem and related to human rights, meaningful connection to communities who are low-literate, emergence of new problems is natural.
2022 solutions still work to tackle the problem?	Our attempts are to develop hyper-media archives and renarration tools. We have developed a couple of ways to help initiate a dialog on the possibilities to address the

New solutions needed to be developed?	problem. We further developed what we proposed and also have new approaches to demonstrate a future of possible solutions.
Was the solution scaled or localised to other regions? If so, please share examples	We are still striving to make it easy to use due to tech issues. We worked on scalability and localization and platforms are open for use and deployment.
New milestones:	We have gathered a number of local audio-visual narratives, developed a platform for hyper-media archiving and also for renarration which needs further fine tuning. Two platforms are now available online, which can be deployed in community networks. Stories.janastu.org and sweets.janastu.org We are documenting these as reference implementation of a tech-stack for including low-literates.
New challenges:	It is surprisingly tough to motivate young developers to proactively work on these issues. We are yet to see policies which advocate for inclusion of low-literates in meaningful access discussions.
Lessons learned:	It is important to provide R+D support for such inclusion which is otherwise looked up as meaningless activity. We need to bring explicit focus and bring policy and technology people to see the 3 billion who are not able to search or browse search results of the text heavy Web.
Next steps:	Possibly a larger recognition of this need and collective design and application of mindsets. The next step is to bring a federated approach to allow community expressions to bring in hyper links between text documents, media objects and community wide social networks. This would allow a demonstration of how the Internet today can be annotated by communities, thereby making it an internet for tomorrow that includes low-literate people as first-class citizens of the Web.
Other important matter(s) on the project and not covered above:	At a very high level, for the first time in human evolution anyone can easily record a narrative, store and share in time and space. Historically, lack of this possibility can be seen as the reason for powerful institutions of the past. Bible as a book would create an institute of churches, Quran mosques, Vedas and other texts have created a number of Brahmanical institutes, and the status quo continues this. All of them use these to determine power structures where the knowledge of the book will mean higher in community structures. We have an opportunity now because of technology to bring in new senses for community structures. We may have to also regulate a runaway possibility that restructures knowledge as determined by more powerful computationally and resources wise (e.g., chatGPT like AI).

2022 selected case	
Case 4:	**Habeshaview - streaming platform of African movies in Ethiopia**
Location:	East Africa and Ethiopian Diaspora
Funding:	Private investment (figures n/a)
Responsible institutions / partners / people:	● Habeshaview Technology & Multimedia ○ Focal point: Mrs Tigist Kebede, CEO
What is the problem?	● Making and offering local content in local languages that reflects and dramatises local cultural values, aspirations and societal debates remains challenging in many developing countries. As a result, people accessing local Internet services may not always see themselves and their cultures represented in the available content offered, a factor that undermines meaningful access. ● Specifics: ○ Market failure in local audiovisual production: Meeting the production and marketing costs of local audiovisual content is often more difficult in countries where sources of funding such as government subsidies, hypothecated tax, private equity and bank financing are not yet developed or – when they are – are not tailored to the needs of the local audiovisual content production industry. The result is that local market failure for culturally meaningful content production is not always being addressed. The issue is compounded by the difficulty in constituting and protecting audiovisual works as IP assets that can be leveraged to raise certain forms of collateralised debt financing such as are available in some developed markets. ○ Lack of distribution channels, including online services: the content financing challenges are exacerbated by the difficulties involved in generating revenues from the distribution of audiovisual works across the local, regional and global value chains.
Which were the actions taken to address the problem(s)?	● Develop a sustainable local content production and distribution model. The company specialises in bringing curated Ethiopian films, TV series and documentaries to Ethiopian citizens and diasporic populations. ● The company has built without subsidies in a production hub and an online distribution ecosystem based on a sizeable technology investment, at risk. Services offered include live news and entertainment channels with a 'catch-up' service as well as Video on Demand. ● Culturally relevant content is sourced from a variety of studios and producers and made available in multiple local languages within Ethiopia (most of times in the original language it was created in) and subtitles in major languages such as English, French and Arabic. ● Online offer caters for the different purchasing power of the Ethiopian population and foreign users by offering content through different pricing options (e.g., 24-hours 'all-you-can-eat' subscriptions, pay-per-view, and regular monthly access). There is also free content from producers and studios that are motivated to reach a wider audience at home and in the diaspora. ● By creating an opportunity for local audiovisual producers in Ethiopia to monetise the content they make in local languages, Habeshaview contributes to adding a cultural dimension to meaningful access: the curated content reflects Ethiopian users' own cultures, social issues and creative preferences.
Results / Impact / Lessons learned (what worked / remaining challenges)	● By creating an opportunity for local audiovisual producers in Ethiopia to monetise the content they make in local languages, Habeshaview contributes to meaningful access by adding a cultural dimension to it. The curated content reflects Ethiopian users' own values, social issues and creative preferences.

2023 Follow-up	
Has the problem been solved?	It has been partially solved. In May this year, Habeshaview signed a carriage deal with ethio telecom, Ethiopia's leading ISP and launched the first IPTV service in Ethiopia in October 2023. The agreement gives habeshaview's online platform and its diverse offer of news and locally sourced original audiovisual content, potential access to a user base of 72 million out of which over 38 million are smart phone, data and voice package customers. habeshaview's technology also permits access to the platform by subscribers in other countries; depending on its licence agreements with individual local content producers, it will either make the content available globally, or it will apply geofiltering technology, to respect and protect creators' IP according to the terms of their agreements.
Did any new problems emerge during implementation?	Internet suspensions in the context of civil conflicts in Ethiopia have had some slowing down effect in the capability of habeshaview to reach - and attract - new potential subscribers within the country. Additionally, the rising cost of living combined with an adverse economic climate in Habesha's country of establishment has meant an intensification of the challenges in generating new original audiovisual content for the platform, as the already fragile sustainability of producing local content has been further weakened. Widespread illegal use of audiovisual works - sometimes organised on a criminal scale - is further undermining the ability for local creators and producers of content in local languages, to finance new works. Local creators recognise that this is also a cultural challenge and that there is a need for more awareness-raising campaigns about the link between illegal downloads or physical media copying and the challenges experienced by local film and TV industry workers in making a sustainable living, so they may continue to make audiovisual works that communicate or dramatise relevant local socio-cultural or economic themes and preoccupations. Finally, the local content industry suffers from a lack of specialisation and professionalisation, due to insufficient resources available to training and skills' development and the difficulties for film and TV workers to make a sustainable living.
2022 solutions still work to tackle the problem? New solutions needed to be developed?	To a fair degree, habeshaview has had to adapt its 2022 local content generation strategy to meet the challenges of a tougher economic environment. In the current climate, Habesha either finances a new project 100%, controlling the IP on the finished film or series, or it seeks to share the financial risk by attracting co-financing partners in Ethiopia or further afield, to enable the content to be made and rights to split pro rata of Habesha's and partners' relative contributions. habeshaview has also adopted a flexible business model in dealing with local content creators and producers. It will only buy out all rights in cases when it finances the content 100%; in all other cases, it will either request an exclusive licence for its platform for a maximum term of 2 to 3 years, being mindful of the need for content producers to exploit their works in other markets after that initial window, in order to earn additional revenue; or it will offer a straight revenue-share based on a recognition of the value of the producers' work as well as the value-added of being programmed on the habeshaview platform. To address the threat of the content being devalued through piracy and illegal uses, habeshaview has deployed a bespoke Digital Rights Management [DRM] technology, which allows the platform to protect the integrity of the local creators' works and their economic value.
Was the solution scaled or localised to other regions?	habeshaview's business and social responsibility ethos is based on applying a flexible rate card, with offers adapted to the different levels of subscriber purchasing power and available income, based on the firm belief that culture and entertainment - especially of the kind that genuinely reflects and honours local cultures and languages - sits very high in the pyramid of people's needs.

	To illustrate this approach in practice: within Ethiopia, habeshaview offers a low-priced 24h 'all-you-can-eat' subscription that reflects many local consumers' shifting priorities in the allocation of film/video entertainment needs. It also offers a very discounted monthly 'Silver' package with advertising or a monthly 'Gold' package with the same content available ad-free.
New milestones:	1) habeshaview's May 2023 carriage agreement with ethio telecom makes the company the first IPTV service provider to launch in Ethiopia to provide potential access by 72 million ethio telecom's subscribers to this local film/video content platform in local languages - the extended outreach is the single most important factor in the development of habeshaview's platform and its social/cultural impact 2) A flexible rate card that factors in the economic challenges faced by many local subscribers 3) A strategic approach to original new content financing and production, through 100% upfront financing or via co-financing with third parties 4) A business philosophy that considers the importance of helping local creators and producers of content become economically sustainable in the long run. 5) Option to license the habeshaview's state of the art OTT / IPTV platform to third party telcos, network operators and broadcasters generates revenue .
New challenges:	See reply to previous question/questions.
Lessons learned:	There is a need to consider Internet capacity building and measures to boost the economic sustainability of local audiovisual content as inseparable strategic constructs. Meaningful cultural content in local languages drives demand for Internet connection (be they fixed or mobile) the world over. Governments, civil societies and local creative industries need to work in a joined-up way to address local content sustainability as an integral part of the strategy to develop a meaningful Internet for All.
Next steps:	A lot of work remains to be done to promote economically viable local creation and production of content and the role of platforms such as habeshaview is vital in this respect, as they provide alternatives to globally tailored content curated through larger international streaming platforms. Additionally, habeshaview is very committed to develop its presence amongst expatriate Eastern African communities at large and the Ethiopian Diaspora in particular. Emigration too often results in languages and cultural riches being lost amongst the emigrating populations and subsequent generations. Platforms such as habeshaview perform a socially beneficial service by bringing relevant content from the home countries to communities where underlying demand for content that upholds their cultures is strong.
Other important matter(s) on the project and not covered above:	Very significant progress on meaningful access to this - one of the few - local platforms dedicated to culturally relevant local content in local languages (e.g., Amharic, Tigrinya, Oromo) was achieved through the carriage agreement with ethio telecom, the country's leading telco.

Case 5:	ICANN: Coalition for Digital Africa
Presented at the 2023 PNMA Plenary Session:	**Yes - brief updates included in the Plenary Session report / only these updates were received**
Location:	1st Phase: 10 countries; 2nd Phase: 20 countries
Funding:	ICANN - budget n/a
Responsible institutions / partners / people:	• ICANN in partnership with: • Africa Network Operators Group(AFNOG) • Africa Top Level Domains Organization (AFTLD) • Association Of African Universities (AAU) • Internet Society (ISOC) • Network Startup Resource Center (NSRC)
What is the problem?	Internet penetration in Africa grew from 1.2% in 2000 to 43% in 2022. This explosive growth is driven by a digitally savvy, young, and educated urban workforce for whom the adoption and consumption of online services is second nature. ICANN is committed to ensuring that the Internet continues to grow safely in Africa, and in a stable manner, to bring communities, cultures, and economies together. This can only happen by creating an alliance among the various stakeholders who contribute to and influence the Internet ecosystem in Africa. Collaborating with partners across the continent, the Coalition for Digital Africa will be able to accomplish more than each organisation could achieve on its own, thus creating workable responses to regional challenges and ultimately, serving the global public interest.

Which were the actions taken to address the problem(s)?	• Install 2 ICANN Managed Root Server (IMRS) clusters in Africa - one in Kenya, other location to be announced - in order to:
	  o Add crucial capacity to support the anticipated growth in Internet use across Africa.
	  o Diminish the risk of Internet service disruptions and degradation due to cyberattacks.
	  o Support and enhance the overall resilience of the DNS infrastructure in Africa.
	• Prepare email systems and other communication platforms within higher education institutions for Universal Acceptance (UA) and Email Address Internationalisation (EAI) by:
	  o Creating awareness of and developing capacity for UA and EAI within academic institutions.
	  o Providing training so that these institutions can build their email systems, databases, and websites UA-ready.
	  o Offering information to higher education institutions, enabling them to incorporate UA and internationalised domain names into their curricula.
	  o Encouraging higher education and research institutions to participate in the work of the Universal Acceptance Steering Group (UASG).
	• Encourage Domain Name System (DNS) operators, registries, and registrars in selected African countries to implement and deploy DNS Security Extensions (DNSSEC), while working with network operators to turn on DNSSEC validation. This effort will ultimately lead to the development of a DNS resource portal for Africa. Expected follow-ups in:
	  o Overall improved DNSSEC deployment across many ccTLDs in Africa.
	  o Increased uptake of DNSSEC at the second and third levels of domain names.
	  o An online DNS resource portal and library.
	  o More secure and resilient DNS infrastructure in Africa.
	  o Greater percentage of DNSSEC validation among African DNS Operators

	• Increase (or attract) participation and contribution from Africa in multistakeholderism by engaging National IGF active within NRI in terms of Internet policymaking by: o Offering tailored capacity development activities led by industry experts through online courses, hands-on workshops, and webinars. o Making each ccTLD an asset for the development of meaningful connectivity in their respective country. o Assisting ccTLD registries to establish a sustainable environment for the development of the Internet country code. o Assisting governments, regulators, and selected ccTLD registries in the development of partnerships, growth strategies, and network registrars.
Results / Impact / Lessons learned (what worked / remaining challenges)	• Results: the project has just been launched at the Global IGF 2022 in Addis Ababa. Results (some mentioned above) are expected over the next three years. The first concrete achievement should be the installation of a new IMRS cluster server in Kenya, within a few months.

- **Capacity Development**

2022 selected case	
Case 1:	**Policy and Regulation Initiative for Digital Africa (PRIDA)**
Location:	Continental project implemented by the African Union Commission
Funding:	• Budget - €10 million (October 2018 - June 2023)
Responsible institutions / partners / people:	• African Union Commission • ITU • European Union • African Union Member States

What is the problem?	• Challenges hindering African participation in global digital policy decisions:
	  ○ Capacity gaps at the technical and policy level
	  ○ Lack of synergies between the national, regional and continental processes
	  ○ Gender gap, rural-urban divide and barriers to youth involvement in the digital space
	  ○ 23 out of the 55 AU member states did not have internet governance (IG) structures as at the end of 2019

Which were the actions taken to address the problem(s)?	• PRIDA is responsible for below actions to build capacity of policy officers, Internet community and diplomats of Member States, strengthening the ability of African stakeholders to actively participate in the global IG processes (policy and technical debates) and develop their negotiation skills
	  ○ Set up a coordinated African roadmap for addressing public policy issues on IG
	  ○ Set up and promote an African Union Academia on Internet Governance to build capacity in IG, especially among youth
	• Development of a strategic plan focused on supporting/creating synergies from national, regional, continental and global initiatives
	• A curriculum was developed to support the 23 African countries in the creation of their national IG structures.

Results / Impact / Lessons learned (what worked / remaining challenges)	• Results:
	  ○ A generic curriculum has been developed and used to support around 29 national and regional SIGs (with localised application), available in English, French and Portuguese
	  ○ 16 countries have been supported to hold their first School of Internet Governance (Botswana, Eswatini, Madagascar, Cape Verde, Comoros, Liberia, Egypt, Mauritania, Morocco, Ethiopia, Guinea Conakry, Seychelles, Central Africa Republic, Djibouti, Lesotho and Somalia).
	  ○ Of these 16 countries, 8 (Lesotho, Somalia, Eswatini, Madagascar, Botswana, Liberia, Cape Verde and Ethiopia) have subsequently been supported to hold their first National IGF.
	  ○ The PRIDA IG course has also been used in Togo, Uganda, Nigeria and at the regional IG schools of West Africa and North Africa
	  ○ In collaboration with UNECA, the PRIDA IG course was used to train 80 UNECA youth volunteers who offered support during the 17th Global IGF in Ethiopia
	  ○ Between 2020-2022, 29 training sessions have been held using the PRIDA platform, with an average of 50 trainees per session (ca. 1,500 trained people across the continent)
	  ○ PRIDA has trained around 100 trainers to replicate the knowledge
	  ○ 30 people across the region have been trained on e-facilitation
	• Impact: for sustainability of the course, PRIDA is collaborating with The Pan African University Institute for Governance, Humanities and Social Sciences (PAUGHSS) to offer it as an elective discipline at the Bachelors or Masters level (pilot expected in the

	first quarter of 2023). ● Lessons learned: ○ In all the training we entail to have gender balance at 50/50; progressively reaching the goal ○ Inclusion of all stakeholders and age diversity are requirements for joining the training - about 50% of the participants are expected to be below 30 years old
2023 Follow-up	
Has the problem been solved?	By the time the project closed in June 2023, there were about 35 Schools of IG held across the continent. 16 out of the 23 Countries that did not have IG structures had been supported to hold their first school of IG and about 1,500 people had been trained. There is still a need for more people to be trained so we are far from addressing the capacity and skills gap.
Did any new problems emerge during implementation?	Yes. Sustainability of the training has not been addressed. There is a demand for the developed customised training, but there is a need to have more volunteers to support the training or a model that will ensure that the materials are being utilised efficiently and effectively.
2022 solutions still work to tackle the problem? New solutions needed to be developed?	Yes, this solution is still very applicable. Re-thinking on sustainability is needed to ensure that more people benefit from the model - it utilises youth across the continent to facilitate the trainings. The courses developed and implemented are still very relevant going forward.
Was the solution scaled or localised to other regions? If so, please share examples	The solution has been used in all the five African regions, at the national and regional levels, in more than 30 Schools of Internet Governance (SIGs). Since it is a generic customised course, it can also be applied in other continents. The course is available in French, English and Portuguese.
New milestones:	The project ended in June 2023.
New challenges:	The implementation was smooth all through.
Lessons learned:	The need to have more volunteers to conduct capacity building activities across the continent.
Next steps:	Continue with capacity building work. Encourage more people to volunteer with capacity building work at varied levels.
Other important matter(s) on the project and not covered above:	N/A

2022 selected case	
Case 2:	**Techio Comunitario and National Schools of Community Networks**
Location:	Mexico, Latin American and the Caribbean Group (GRULAC)
Funding:	n/a
Responsible institutions / partners / people:	● Rhizomatica Communications ● APC
What is the problem?	● Low technical skills (installation, operation and maintenance of CNs) of the indigenous communicators that live in remote areas.
Which were the actions taken to address the problem(s)?	● Design of a comprehensive training programme to address the priority issues stated by indigenous communicators, based on the Participatory Action Research (PAR) methodology, as well as the pedagogies practised in the ways of learning and sharing knowledge that occur in indigenous territories
Results / Impact / Lessons learned (what worked / remaining challenges)	● Result: development of "Techio Comunitario", a training programme for technical promoters in broadcasting and telecommunications from Mexico and Latin America, to address not only technical issues, but the social and economic implications of technologies, regulation, and sustainability. ● Impact: ○ Although the programme cannot be fully replicable because all pedagogical processes must be contextualised, currently, the methodology used in the design and implementation of "Techio Comunitario" is the basis for the development of the National Schools of Community Networks in five countries of the Global South (Brazil, Indonesia, Kenya, Nigeria and South Africa), through the training and mentoring from LocNET, an initiative led by the Association for Progressive Communications (APC) and Rhizomatica. ○ The main contribution of this programme has been the building of an international network of peers who have the knowledge and skills to install, maintain, operate and manage their telecommunications projects. Its replicability does not lie in the curricular structure of the programme, but in the methodology used for its design and implementation.
2023 Follow-up	
Has the problem been solved?	This problem of low technical skills of the indigenous and rural communicators that live in remote areas was partially solved, as this program has their limits in terms of resources. First, in Latin America the Techio Comunitario Program has been developed successfully with the ITU in a hybrid format. A total of 150 students from three generations have graduated from 13 countries of the region (45% are women). That is a significant number in terms also of indirect beneficiaries, that are those members of the communities where those graduates live or work, but still there needs to be a big impulse and continuity of this training program to impact more people and their communities. The main impact also is not in terms of numbers of participants, but in the consolidation of a network of technical promoters that help each other. Second, The National Schools of Community Networks (NSCNs), in Brazil, Nigeria, Kenya, South Africa and Indonesia, completed their cycles divided into three stages: program design, training implementation, and support and mentoring of community projects. At least 21 people from 7 communities graduated from each NSCN, for a total of more than 100 graduates from these schools in the global south. The participatory methodology implemented generated very diverse processes in the five cases and allowed for the direct strengthening of local connectivity solutions through capacity building in rural and indigenous communities. Finally, this process generated a solution to the lack of access to useful resources for the development of community networks. This was done through the CN Learning Repository

	(https://cnlearning.apc.org/), which is in the consolidation phase as a Learning Management System (LMS).
Did any new problems emerge during implementation?	- Training must be accompanied by the mobilisation of resources and support for community projects to become sustainable. - Hybrid and online training strategies must be improved to promote better teaching-learning processes. - There is a need to train trainers in the organisations so that they are capable of developing their own training processes. - The inclusion of women and other genders continues to be a challenge, especially when it comes to technical or managerial issues. - There is a need, particularly in Africa and Asia, for a regional initiative that can generate networks of peers who can undertake alternative connectivity solutions in rural and indigenous contexts.
2022 solutions still work to tackle the problem? New solutions needed to be developed?	The solution has been proven to work since 2016, when the Techio Comunitario program started in Mexico. This solution has suffered improvements and updates in terms of curricula structure, instructor and training resources, and as we mentioned in 2022, the programme cannot be fully replicable because all pedagogical processes must be contextualised, but the methodology used in the design and implementation has been the basis for other important training programs in different regions of the world. A hybrid regional training programme is therefore being developed in Africa in coordination with ITU, based on the one developed in LAC. In the case of the NSCNs, it was possible to implement the Participatory Action Research (PAR) methodology as a strategy for the design of training programs adapted to the needs and ways of learning of the target communities. This led to a series of very diverse training processes that allowed the development of local solutions with significant access that could be sustainable over time. Following the methodology itself, after the completion of these training cycles, an evaluation process is now necessary to understand the improvements to be made to the model generated. With this evaluation carried out, it will be possible to address the requests for replicability of the experience in the three regions where it has been implemented. In relation to the repository, the space has already been generated and is being nurtured to solve the lack of access to materials related to CNs, but it needs to be consolidated as an online learning and networking space to strengthen the movement in the global south.
Was the solution scaled or localised to other regions? If so, please share examples	Due to the visible results of the NSCNs and the training program in LAC, replication processes of the methodology have been generated in other contexts. First, there is a growing interest in the creation of similar programs in countries and regions such as Malawi, Francophone Africa, northern Argentina, Colombia, northern Mexico, Central America, the Philippines, etc. Second, the process for the replicability in Africa of the hybrid training program developed with ITU in LAC has been started. In Q3 and Q4 of 2023 we will be developing a regional mapping and consolidating the collaboration with the ITU after the initiative was approved at the 30th meeting of the Telecommunication Development Advisory Group (TDAG). Finally, due to the demand for an online Learning Management System by several organisations, the CN Learning Repository is being scaled up to become an integral space for training in community networks and local solutions with significant access.
New milestones:	A fourth generation of the LAC training program began in May 2023. A record number of applications was broken, receiving more than 700 and accepting 94 participants. This year's bootcamp will be held in late November in Guatemala. Closing cycles and microgrant program of the National Schools of Community Networks (January to August 2023):

	- Brazil: The community communication movement in the region was strengthened thanks to the installation of six online community radio stations, each with an Internet access point that will provide connectivity to the local population. - Indonesia: Ten community projects were developed to use technology to solve local problems, from improving connectivity to the use of AI for fishing and agriculture. The support organisation is planning the Rural ICT Camp 2023, an annual event where they will link the NSCNs with national and international stakeholders. - Nigeria: Training processes were generated to address the lack of digital literacy in the communities with which they work. Projects were generated, in partnership with other organisations, for the installation of access points supplied with solar energy. - South Africa: This was the first school to complete its activities and, after almost a year of training in community project management, the graduates of the 7 supported communities presented their projects to key stakeholders and potential donors in January 2023. - Kenya: They developed a process of on-site accompaniment to the communities they supported, achieving the consolidation of local projects very close to the needs and lifestyles of the population. They are currently generating materials and courses to replicate the NSCN model in Africa. Progress has been made in the development of a hybrid training programme for ICT network managers in Africa in collaboration with ITU. A contribution to the 30th meeting of the Telecommunication Development Advisory Group (TDAG) was submitted in June 2023 and approved by the countries represented in this group. Subsequently, mapping activities of training initiatives and organisations that could be partners in the process have been developed. The CN Learning Repository has more than 100 materials, mostly in Spanish and English, and has gradually grown stronger through its relationship with training programs and courses. This online learning space was launched in March 2023. Several spaces for reflection and advocacy have been generated in international events, such as: - In September 2023 the session “Capacity-building and an enabling policy and regulatory environment to empower communities” will be developed at Africa Internet Governance Forum 2023. - In March 2023, in collaboration with the ITU Office of Digital Inclusion, the session "Capacity Building and Enabling Environments for Meaningful Access in Indigenous and Rural Communities" was held at the World Summit on the Information Society Forum. - In November 2022 the participation of the representatives of the 5 National schools of Community Networks during IGF in Ethiopia sharing during the panel “Lessons Learned from Capacity Building in the Global South”. - In August 2022 the initiative has been recognised during the las Participatory Design Conference held in August 2022, in Newcastle, UK, and received an award for the outstanding achievement in the area of participatory design of information and communications technologies (ICTs).
New challenges:	The most important advocacy action in 2023 related to the project was the approval at the 30th meeting of the Telecommunication Development Advisory Group (TDAG) of the contribution to the development of a hybrid training programme for Africa. As was previously the case when this same action was developed for Latin America, this action allows ITU to consolidate its position as a key partner in the development of a project of this nature.
Lessons learned:	Communities around the world have generated strategies to address their communication needs and achieve ICT insertion processes in a way that is relevant to their development objectives and ways of life. This has been possible, among other things, thanks to capacity building processes aimed at the people who live in the communities and where methodologies, contents and learning goals are formulated based on the specific contexts of the territories where the training takes place. The sharing of the practical and theoretical learning that has been generated in these processes becomes fundamental to achieve more solid training actions that have repercussions in practice. Therefore, the systematisation of experiences, access to relevant pedagogical resources and

	communities of practice are aspects that ultimately allow the achievement of the proposed objectives of digital inclusion and meaningful access. Being able to make knowledge and pedagogical resources available to indigenous, rural and marginalised urban communities is key to strengthening capacity-building initiatives focused on achieving meaningful access conditions in these territories. This implies a series of elements that an enabling environment should contain and in which certain public policies can facilitate the existence and consolidation of these training experiences.
Next steps:	1. Development of a comprehensive evaluation of the methodology and process developed in the NSCNs and the training program in LAC. 2. Redesign and update of the courses taught in the program in LAC. 3. Generation of materials and/or courses for the replicability of the model in other contexts. 4. Development of the collective design and implementation of a continental hybrid training program in Africa in collaboration with the ITU, based on the PAR methodology. 5. Accompaniment and mentoring in the development of training programs specific to the initiatives that have started their own processes. 6. Scalability of the repository to include an online learning platform in which a first virtual course is taught, as well as linking the space with existing training projects.
Other important matter(s) on the project and not covered above:	The development of such capacity building processes in community contexts, as a basis for the development of alternative connectivity and meaningful access solutions, requires the joint efforts of a wide range of stakeholders. Hence, it is necessary to continue building strategies and learning communities around the development of multi-stakeholder pedagogical processes. In this sense, the process of sharing experiences that can take place in a space such as the PNMA group is key.

Annex II – 2023 PNMA Work Plan

- Link: https://www.intgovforum.org/en/filedepot_download/256/26111

Annex III – PNMA Repository

- Link: https://intgovforum.org/en/content/pnma-repository

Annex IV – 2023 NRI Collaborative Session on Digital Inclusion

- Session Details: https://www.intgovforum.org/en/content/nris-overcoming-barriers-to-bridge-digital-divides
- Summary: https://www.intgovforum.org/en/filedepot_download/256/26721

Annex V – 2023 IGF PNMA Plenary Session

- Session Details: https://www.intgovforum.org/en/content/igf-2023-policy-network-on-meaningful-access-meaningful-access-to-include-and-connect
- Report: https://www.intgovforum.org/en/filedepot_download/256/26722