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Towards a New Social Contract: Reducing Inequalities through Digital Public Goods and Youth Collaboration for the Sustainable Development Goals (SDGs)

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Background

For many decades, the General Assembly has been mindful of the difficulties and opportunities presented by technological change. In 2015, the Addis Ababa Agenda for Action 69/313 and the 2030 Agenda for Sustainable Development established the Technology Facilitation Mechanism to support the Sustainable Development Goals (SDGs). Later resolutions 72/242 and 73/17, specifically address rapid technological change and its impact on the SDGs. Additionally, the World Programme of Action for Youth (WPAY) highlights information communication technologies as a priority area and lists specific action items such as providing training to promote the use of information and communications technology and protecting youth from its detrimental elements.

The spread of information and communications technology and global interconnectedness can accelerate human progress, bridge the digital divide and develop knowledge societies, as does scientific and technological innovation across diverse areas. However, there are also negative consequences, including labour displacement, concerns about privacy and respect for human rights, and the possibility that harnessing technologies to advance towards achieving one of the SDGs could negatively affect other goals and targets.

Numerous problems are exacerbated by the digital divide. The possibility that improvements in digital technology would benefit the already connected while increasing inequality within and across countries must be addressed through effective policies that achieve the shared objective of leaving no one behind. The COVID-19 epidemic has exacerbated pre-existing digital divides and technical inequality.

Inequality, in multiple forms, has been a defining dynamic of the early twenty-first century even before the COVID-19 pandemic, and increased inequality both between and within countries continues to drive instability. This has impacted many vulnerable and marginalized groups, especially young people, who often face multiple dimensions of inequality.

As the world moves towards increased use of digital technologies and Information and Communications Technologies (ICT) infrastructure during the COVID-19 pandemic, and a significant portion of this move could become a normality, inequalities in this sector will accelerate if issues of access and governance are not addressed. However, new innovations in digital technologies and ICT infrastructure, if designed with inclusive policies and processes, offer both an opportunity to create a better future for young people and envision a new social contract.

For youth, drivers of inequality go beyond economic inequality to include inequalities in education, health and public service access, social protection systems, and access to technologies empowered by the internet. According to a 2019 International Labour Organization (ILO) report, "Nearly 4 billion people,

including 2 out of 3 children – have no or inadequate social protection to start with, leaving them dangerously exposed to poverty, food insecurity and shocks".[1] This is an important issue, as a lack of social protection leaves people vulnerable to ill-health, poverty, inequality and social exclusion throughout their lifecycle, creating an obstacle to inclusive social development, and especially impacts the futures of young people.

There are approximately 1.8 billion people alive today between the ages of 10 to 24, with a majority of young people[2] living in urban areas of developing countries[3]. Many young people in these countries bear the brunt of the world's pre-existing inequalities, which often compound each other, and impede social mobility. These pre-existing inequalities include unequal access to digital technologies and ICT infrastructure. As of 2020, "..93 per cent of the world's population live within physical reach of mobile broadband or Internet services. However, only 53.6 per cent of the world's population now use the Internet, leaving an estimated 3.6 billion without access."[4]

In addition, promoting access by itself does not immediately guarantee a reduction of inequalities. Indeed, the proliferation of digital technologies without inclusive policies and governance can be a driver of inequalities as represented by the rural and urban divide within countries. This can further contribute to low social mobility and uneven development that impacts many vulnerable and excluded groups.

Thus, if evenly distributed and well designed, internet connectivity and new technologies can drive future development; create more inclusive societies by redefining social protection systems; bring new opportunities to young and marginalized people; and enhance the quality of life for those who have access to them.[5] Therefore, a new form of technological transfer and innovation may need to be considered. To drive this change, the United Nations Secretary-General's Roadmap for Digital Cooperation gives a series of recommendations for international digital cooperation, stressing an inclusive digital economy and society, while utilizing new technologies to accelerate the Sustainable Development Goals (SDGs) and reduce inequalities.

This policy brief will provide an overview of the problem of digital inequality and will introduce the concept of digital public goods as a solution for reducing this. Issues regarding the governance of digital public goods will be discussed, and recommendations will be presented in relation to the creation, adoption and governance of digital public goods (DPGs), and the need for greater stakeholder involvement in these processes, particularly youth engagement.

Body

Section 0: Introducing the definition of Digital Public Goods
The term digital public goods comprises the open-sourced technological goods and services that are made available to all members of society to benefit from, including young people, and are committed to revitalizing the SDGs. Digital public goods offer a unique opportunity to transform social protection systems and reduce inequalities in low- and middle-income countries through empowering digital public

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[1] ILO 2019, World Social Protection Report 2017-19: Universal social protection to achieve the Sustainable Development Goals.
[2] Note: YCIG considers that youth group is composed by people among 18 to 35 years old
[3] Oxfam Briefing Paper, "Youth and Inequality. Time to support youth as agents of their own feature" 12 August 2016. Available at https://www-cdn.oxfam.org/s3fs-public/file_attachments/bp-youth-inequality-global-120816-en_0.pdf
[4] https://www.un.org/en/content/digital-cooperation-roadmap/assets/pdf/Roadmap_for_Digital_Cooperation_EN.pdf
[5] 2020 World Social Report https://www.un.org/development/desa/dspd/world-social-report/2020-2.html

services, social enterprises, and young people as co-designers. Successful implementation of open and inclusive digital public goods pushes us towards a new social contract and the fulfillment of the SDGs. In this sense, the robust human rights and governance frameworks are central to the implementation of the digital public goods in order to enhance trust in technology and data use, while ensuring inclusion.[6]

Section 1: Understanding inequalities

Digital inequality has defined the internet and technology from its very inception. In this section of the policy paper, we will explore the different forms and variants of digital inequality – past, present and future. We will discuss the intersection between the gender divide and the digital divide, and elaborate on the specific challenges faced by young people. This represents an alignment with the discussion later in this paper on digital public goods and the governance thereof – as the impetus for the creation of DPGs arises out of the need to resolve inequality.

What is digital inequality?

In recent years, digital inequality has gradually gained widespread attention and concern across different regions and stakeholders. As global digitization has moved from deep-rooted inequalities dating back decades ago, more modern inequalities, digital inequality, has proven to be a prominent obstacle hindering the reduction and elimination of various types of inequalities in society.

While digital inequality does not have a concrete definition, it typically refers to the socio-economic disparities within the online community, which focuses on the inequalities regarding the use of the online space, rather than the inequality of Internet access. In this regard, it is important to see how the concept of digital divide has been evolving and has expanded into several fields since it was discussed in the mid-1990s. Since the beginning of the 21st century, there has been a paradigm shift with respect to the understanding of the digital divide from users' access to ICT means to users' capability to handle these means. During the period of 1990-1995, the discussion on the concept of the digital divide was focused on users' unequal skills and knowledge of handling ICT devices. This gap was introduced as the second layer of the digital divide.[7] After 2005, usage of digital devices was also added to the discussion, the focus being on whether or not the usage of computers and the Internet has brought any positive changes in the everyday life of the users.[8]

The digital divide (in terms of Internet access) is gradually shrinking with the passive and active means to use technology, but it is now evolving into digital inequality. DiMaggio and Hargittai, in their study of internet use and inequality state that the digital divide is 'the inequality between the "haves" and "have-nots" differentiated by dichotomous measures of access to or use of new technologies', while digital inequality is 'by which we refer not just to differences in access, but also to inequality among persons with formal access to the Internet'.[9] Therefore, digital divide refers to the divide between the two groups of people that have and do not have Internet access, while digital inequality recognizes the gradual

[6] Roadmap for Digital Cooperation https://www.un.org/en/content/digital-cooperation-roadmap/assets/pdf/Roadmap_for_Digital_Cooperation_EN.pdf

[7] The Digital Divide: Current and Future Research Directions (2005), Sanjeev Dewan, Frederick Riggins, Doi: 10.17705/1jais.00074, https://aisel.aisnet.org/jais/vol6/iss12/13/ ; Second-Level Digital Divide: Differences in People's Online Skills (2002), E. Hargittai, https://www.semanticscholar.org/paper/Second-Level-Digital-Divide%3A-Differences-in-Online-Hargittai/a81e652c2f8cc6d91f025f9d5d2d86667984d5fd

[8] Conceptual evolution of the digital divide: A systematic review of the literature over a period of five years (2010-2015), Bhanu Bhakta Acharya http://worldofmedia.ru/CONCEPTUAL%20EVOLUTION%20OF%20THE%20DIGITAL%20DIVIDE.pdf

[9] From the 'Digital Divide' to 'Digital Inequality': Studying Internet Use as Penetration Increases (2001), DiMaggio and Hargittai, https://culturalpolicy.princeton.edu/sites/culturalpolicy/files/wp15_dimaggio_hargittai.pdf

elimination of digital divide, and hence refers to the differences in the types of Internet access for different groups of people.

Such differences could be classified into five main forms of digital inequality, including technical means, the autonomy of use, skills, social support, and the purpose of use. More research is required in each form of digital inequality to further enhance the understanding and analysis of the situation of digital inequality in different regions, thereby reforming current frameworks and guidelines available for reducing inequality and promoting the best access for the Internet. Moreover, van Dijk (2012)[10] creates a theory on inequality to explain the different factors involved. The following figure shows an easy representation of the concepts:
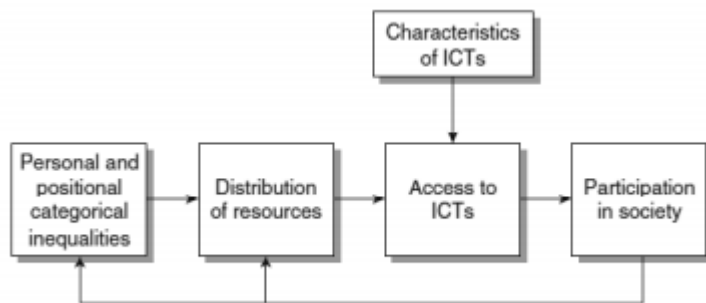
Van Dick summarizes the core argument in these 5 statements:
1. Categorical inequalities in society produce an unequal distribution of resources.
2. An unequal distribution of resources causes unequal access to digital technologies.
3. Unequal access to digital technologies also depends on the characteristics of these technologies.
4. Unequal access to digital technologies brings about unequal participation in society.
5. Unequal participation in society reinforces categorical inequalities and unequal distribution of resources.

How is the digital divide related to the gender divide?

The digital divide is a phenomenon that surpasses geographic and technological barriers. As society is structured around a patriarchal approach to development and participation in the global economy, the inequality of opportunities between men and women also reflects on the conditions of Internet access, with women being approximately 50 per cent less likely to use the Internet when compared to men.[11] Over half of the total global female population is still not using the internet (52 per cent) compared to 42 per cent of all men (ITU, 2019). There is also a direct correlation between the rates of gender-based inequality in access and the development level of countries, with nations with a lower level of economic development presenting higher inequalities between males and females accessing the Internet.[12] There are several reasons that explain these figures, but all of them have a deep connection with structural gender inequality. Factors such as online violence against women, gaps in digital skills, and exclusion of

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[10] The Evolution of the Digital Divide: The Digital Divide turns to Inequality of Skills and Usage. Digital Enlightenment Yearbook 2012. J. Bus et. al (Eds) Doi: 10.3233/978-1-61499-057-4-57
https://www.utwente.nl/en/bms/vandijk/news/The%20Evolution%20of%20the%20Digital%20Divide/Evolution%20of%20the%20Digital%20Divide%20Digital%20Enlightment%20Yearbook%202012.pdf For more information, please see "The Deepening Divide" from the same author.
[11] World Wide Web Foundation, http://webfoundation.org/about/research/womens-rights-online-2015/
[12] Article 19 Comment to the Open Consultation of the International Internet-Related Public Policy Issues (CWG-Internet) 26 January 2018
https://www.itu.int/en/Lists/consultationOct2017/Attachments/55/ARTICLE%2019%20CWG-Internet%20Open%20Consultation%20Submission%20Bridging%20the%20Gender%20Digital%20Divide.pdf

women from the public and economic life, play a major role in defining the relationship between women and the Internet.

Inequalities: intersections between sexuality, gender identity and race

Inequality can affect young people. This is especially true when we consider specific youth experiences. Being young and LGBT+[13] could mean unequal access to decent work (especially true for gender-diverse people). According to the Institute on Race, Equality and Human Rights, 90 per cent of the population of transvestites and trans women in Brazil are engaged in prostitution due to the lack of job opportunities. 85 per cent of them are black[14]. As sexual workers, they are exposed to violence in the streets mostly during the night.

In the United States of America, the Covenant House reports that among young people experiencing homelessness, LGBT+ youth are at greater risks of high levels of hardship[15]. When it comes to habitation, the vulnerability of young LGBT+ people is still under threat. According to the National Association of Transvestites in Brazil, the average age for being kicked out from their parents' house for transvestites is 13 years old. By consequence, many other rights are at risk, notably access to education. Even when a LGBT+ person has their parents' support, they will often be bullied at school and college.

Access to the internet can provide (1) opportunities for sociability, having less chances of being physically exposed; (2) opportunities for education without being necessarily recognized as a LBGT+ person; and (3) more possibilities to build a career and become economically independent.

Regarding the aspect of digital divide and racism, the report Digital Denied[16] explains that the impact of race and ethnicity along with the demographics of income, education, age, and other factors indicate persistent gaps in home-internet adoption between people of different races and ethnicities. For example, the data in the report demonstrates that Hispanic and Black people have a high demand for internet access, but they do not subscribe to internet access due to the high cost. In addition, this report showed that young people have a very high demand for internet access, even though they tend to have lower incomes. Although the adoption among the young is high, there are still gaps in adoption between people in different race and ethnicity categories in every age group.

(1) Opportunities for sociability through digital goods

There is an opportunity for spaces facilitating LGBT+ sociability, even if they are online. This is relevant for young people who live in small cities, smaller towns or villages and often have few references for other LGBT+ people. The market approach, based on data collection, often means exposure and privacy violations. The gay dating app Grindr, for example, exposed their users' HIV infection status[17]. These types

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[13] In this document, we will use the terms "LGBT+" and "gender diverse people" interchangeably.

[14] Institute on Race, Equality and Human Rights "La situación de violencia contra personas afro-lgbti es invisibilizada y latina" ("The situation of violence against afro-lgbti people is invisible and latino") https://raceandequality.org/english/the-situation-of-violence-against-afro-lgbti-people-is-invisible-and-systematic-in-latin-america-activists-warn-the-iachr/

[15] Convenant House, "LGBTQ Youth and Homelessness" article https://www.covenanthouse.org/homeless-issues/lgbtq-homeless-youth

[16] Digital Divide The Impact of Systemic Racial Discrimination on Home- Internet Adoption S. Derek Turner December 2016 Freepress https://www.freepress.net/sites/default/files/legacy-policy/digital_denied_free_press_report_december_2016.pdf

[17] The Verge, "Grinder exposed its users' HIV statuses to two other companies" Apr 2, 2018, 5:58pm EDT Alessandra Potenza https://www.theverge.com/2018/4/2/17188922/grindr-hiv-status-privacy-data

of apps have been used as weapons against LGBT+ people in countries where being LGBT+ is a crime.[18] The development of open spaces for digital sociability between LGBT+ youth is highly important to ensure that they can grow older while being mentally healthy.

It is important to remember that the inclusion of gender diverse people is imperative in order to achieve the 2030 Agenda for Sustainable Development to leave no one behind. This principle is included in the 2018-2021 Strategic Plan of the United Nations Development Programme (UNDP) , as well as the 2016-2021 UNDP HIV, Health and Development Strategy.[19] Also, the working definition of inclusion produced at the Discussion Paper[20] states a core value in our understanding of inclusion: "Access to opportunities and achievements of outcomes for LGBT+ people, as captured in an LGBTI Inclusion Index, as well as human development and other relevant indices, including for those who experience multiple forms of stigma and discrimination. An LGBTI Inclusion Index should measure the extent to which these opportunities and outcomes exist in each country, both universally and with respect to certain groups within a country."

(2) Opportunities for education

Access to the Internet is fundamental to achieving the vision of the future, looking at the SDGs 2030. The Internet as an enhancer of human rights can improve the quality of education in many ways by opening the access to information, knowledge, and providing opportunities for learning and future development.

On a side note, since the outbreak of the COVID-19 pandemic and the social distancing restrictions, the implementation of online learning has been accompanied by the prerequisite of the availability of enabling technologies, including suitable devices and digital infrastructure. The experience has shown us that despite online education having created several difficult challenges, it allowed governments to reflect on existing learning systems and promote more flexible and inclusive ones. Thus, several programs were launched to expand Internet penetration in rural and urban areas, provision of electronic devices for marginalized communities and more. Also, governments in the Latin America and the Caribbean region have adopted measures to protect and ensure connectivity such as availability and affordability of telecommunications services, to enable emergency communication services, to manage traffic to improve network efficiency, and to allow zero rated access to certain applications and websites, as well as measures to protect consumers and safeguard service quality.[21]

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[18] Callum Paton Friday 26 September 2014 16:16 "Grinder urges LGBT community to hide their identities as Egypt persecutes nation's gay community" The independent.https://www.independent.co.uk/news/world/africa/grindr-urges-lgbt-community-hide-their-identities-egypt-persecutes-nation-s-gay-community-9757652.html
  Alternative link; https://web.archive.org/web/20210226193219/https://www.independent.co.uk/news/world/africa/grindr-urges-lgbt-community-hide-their-identities-egypt-persecutes-nation-s-gay-community-9757652.html

[19] UNDP, Strategic Plan 2018-2021, DP/2017/38, http:// undocs.org/DP/2017/38. See also, UNDP, Connecting the Dots: HIV, Health and Development Strategy 2016-2021, www.undp. org/content/undp/en/home/librarypage/hiv-aids/hiv--healthand-development-strategy-2016-2021.html.

[20] PNUD, UNDP, Measuring LGBTI Inclusion: Increasing Access to Data and Building the Evidence Base, Discussion Paper, September 2016.

[21] Special Report COVID 19 N°7. "Universalizing access to digital technologies to address the consequences of COVID-19". 26 August 2020. https://repositorio.cepal.org/bitstream/handle/11362/45939/5/S2000549_en.pdf

Figure 18 | Latin America and the Caribbean (16 countries):ᵃ telecommunications measures adopted by governments to tackle the effects of COVID-19, by type, 2020
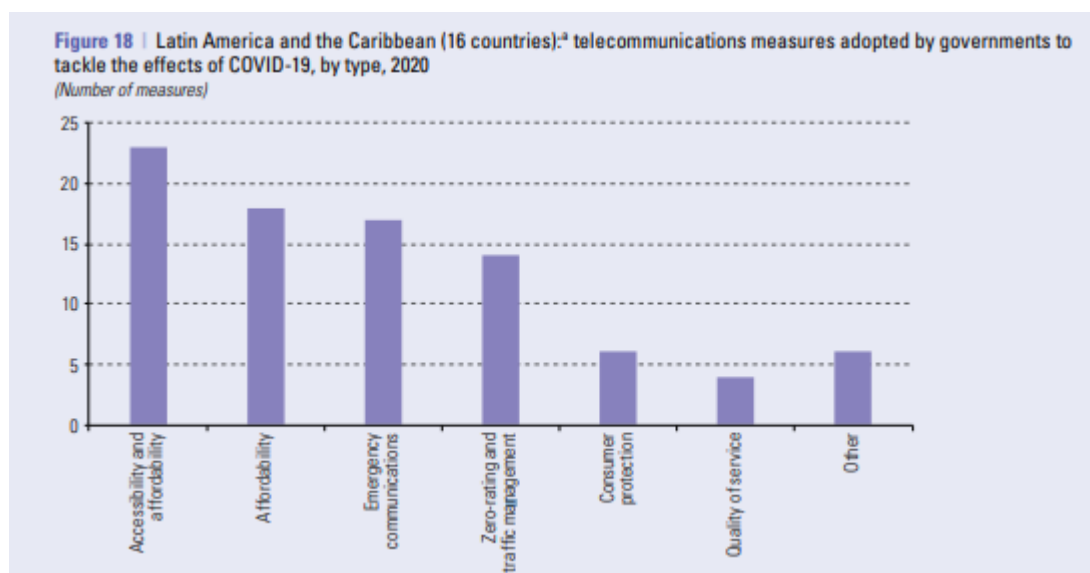*(Number of measures)*

Figure 18, Latin America and the Caribbean (16 countries): telecommunications measures adopted
Countries involved: Argentina, the Bolivarian Republic of Venezuela, Brazil, Chile, Colombia, Costa Rica, Cuba, the Dominican Republic, Ecuador, El Salvador, Guatemala, Mexico, Panama, Paraguay, Peru and the Plurinational State of Bolivia.

Source: Economic Commission for Latin America and the Caribbean (ELAC), on the basis of International Telecommunication Union (ITU), Global Network Resiliency Platform (#REG4COVID), 2020 online https://reg4covid.itu.int/ and Andean Development Corporation (CAF) and other, Las oportunidades de digitalización en América Latina frente al COVID-19, Santiago, 2020

(3) Possibilities of social development

Young people could obtain great benefits from the usage of the Internet, being the most relevant to the upcoming possibilities for their personal and professional growth.

As mentioned previously, it is not only the access to the Internet that matters, but also the skills to use it. Digital literacy is a key component of young people's social development. Van Dijk[22] explains that the phase of digital skills or literacy comprises advanced content related skills like information, communications, content creation and strategic skills. Therefore, people with better access to the Internet and knowledge on how to use it would be able to achieve higher education and occupations. Another aspect he mentions is the "*usage gap*": "people with high education and social class use more informational, educational, work and career enhancing applications and people with low education and social class primarily use applications of entertainment, chat or simple communication and e-shopping".

In this sense, we would like to encourage governments and other stakeholders to become involved in policies that consider the role of digital literacy to close the digital gap, allowing young people and marginalized communities to reach their fullest potential. This could be achieved through different mechanisms[23], such as inter-networking skills to take advantage of the opportunities the Internet brings for providers; governments should examine reduction or elimination of taxes that apply to communications, especially for the impact on the low-income users; among others. Another component

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[22] Closing the Digital Divide: The Role of Digital Technologies on Social Development, Well-Being of All and the Approach of the COVID-19 Pandemic" Proff. Jan A.G.M van Dijk https://www.un.org/development/desa/dspd/wp-content/uploads/sites/22/2020/07/Closing-the-Digital-Divide-by-Jan-A.G.M-van-Dijk-.pdf
[23] The Development Dimension: Internet Access for Development. OECD Published June 16, 2009 https://read.oecd-ilibrary.org/development/internet-access-for-development_9789264056312-en#page4

is the provision of digital literacy programs related to STEM fields, as we will examine in the following section.

What gaps exist for stakeholders?

Stakeholders have different levels of influence when it comes to decision making in the Internet governance ecosystem. The multistakeholder model[24] faces many challenges that relate to inequalities in accessing resources and stakeholders' capacity to influence policy decisions.

Governments, for instance, tend to hold a significant amount of power due to their jurisdictional authority. Historically, a key challenge in the adoption of multistakeholderism by governments is that of accepting the model as legitimate, given that public authorities tend to see themselves as representatives of their respective populations, even coming from states that maintain questionable democratic processes.

There are, therefore, difficulties on the part of this sector in interpreting the same representativeness and legitimacy coming from the other stakeholders. In this sense, Internet governance has already witnessed several articulations from governments and organizations of a predominantly multilateral nature to bring the formulation of Internet-related policies to the traditional scenario of political discussion between states.[25]

Section 2: Digital Public Goods

Devising policies that incorporate new technologies and align with SDG's implementation will be critical to 'build back better', and increase the global sustainability and resilience needed to weather any future systemic shocks.

In this scenario, the recommendations received from stakeholders to enhance digital cooperation, in addition to the recommendations received from the High-level Panel on Digital Cooperation created the Roadmap for Digital Cooperation. As part of the Roadmap, one of the focus areas is the promotion of digital public goods. By examining the concept of digital public goods on the Roadmap, we will be able to build upon our policy recommendations for this policy paper on the dedicated section:

The roadmap defines digital public goods as: "open-source software, open data, open artificial intelligence models, open standards and open content that adhere to privacy and other applicable international and domestic laws, standards and best practices and do no harm."[26]

Moreover, we should take into consideration the recommendation from the "Age of Digital Interdependence" report[27] while addressing this topic. In this document, the High-level panel on Digital Cooperation remarked on the necessity of the creation of "a broad, multi-stakeholder alliance, involving

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[24] There isn't a universal accepted definition of multistakeholder model. We refer to Markus Krammer's definition (2013), who said that the multistakeholder model "is a vehicle "for policy dialogue where all stakeholders took part on an equal footing" via a process that is open, inclusive and transparent". Quoted at "Exploring Multi-stakeholder Internet Governance" East West Institute John E. Savage, Brown University and Bruce W.McConnell, January 2015. https://www.files.ethz.ch/isn/188305/governance.pdf

[25] IRIS Institute for Research on Internet and Society, "Challenges of Government Engagement in the Internet Governance Forum" 22 of april 2019
https://irisbh.com.br/en/challenges-of-government-engagement-in-the-internet-governance-forum/

[26] Idib UNSG Roadmap for Digital Cooperation

[27] The Age of Digital Interdependence. Report of the UN Secretary's General High-level Panel on Digital Cooperation. June 2019. https://www.un.org/en/pdfs/HLP%20on%20Digital%20Cooperation%20Report%20Executive%20Summary%20-%20ENG.pdf

the UN, create a platform for sharing digital public goods, engaging talent and pooling data sets, in a manner that respects privacy, in areas related to attaining the SDGs."

As with other public goods, digital public goods are made available to all members of society regardless of socio-economic background to benefit from, including young people. They offer a unique opportunity to transform social protection systems and reduce inequalities in low- and middle-income countries through empowering digital public services, social enterprises, and young people as co-designers. The successful implementation of open and inclusive digital public goods pushes us towards a new social contract and the fulfillment of the SDGs, in part by enabling greater digital access to young people, especially those impacted by the digital divide, like women, young girls, and LGBT+ persons.

In the "Age of Digital Interdependence" report, the experts analyzed how the potential pooling of data in areas such as health, agriculture and the environment to enable scientists and thought leaders to use data and artificial intelligence to better understand issues and find new ways to make progress on the SDGs. Such data commons would require criteria for establishing relevance to the SDGs, standards for interoperability, rules on access and safeguards to ensure privacy and security. All of this could be achieved through cooperation of all parties involved.

The Digital Public Goods Alliance became a multi-stakeholder initiative to accelerate the attainment of the SDGs in "low- and middle-income countries by facilitating the discovery, development, use of, and investment in digital public goods".[28] Therefore, the implementation of this DPG Alliance[29] has been an essential input to address this main issue. Currently this Alliance is prototyping digital public goods to scale and localize in many developing countries by addressing key elements of the digital divide such as connectivity, digital identity, digital skills and literacy, and critical public services. It is chaired by the International Telecommunication Union (ITU), United Nations Children's Fund (UNICEF), Norway, Sierra Leone, and India's iSpirit.

Another great example comes from UNICEF and ITU that have championed the Giga initiative. This initiative aims to bring internet connectivity, critical open-source software, and digital financial services to schools in countries and communities with low internet access. Giga, recognizing that schools are the center of many rural communities, offers digital devices to youth, who are able to expand digital services, like tele-health medicine, and connectivity to other groups in their communities, creating a network effect[30]. Giga helps solve the problem of hard infrastructure, but often possessing a digital identity is essential to benefit from digital technologies. A current solution to digital identity can be found in India's iSpirit initiative which creates digital platforms to streamline digital services like national digital identification and a unified payment interface for digitally inclusive financial services for over 1.2 billion Indians.[31] Since its inception, India's Stack initiatives has made the software, ideas, protocols, standards, and codes open access for other governments to pioneer and scale in their own countries, especially as a response to the pandemic.[32]

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[28] Digital Public Goods Alliance, https://digitalpublicgoods.net/about/
[29] We will use the terms "Digital Public Goods Alliance" and "DPG Alliance" in an interchangeably way.
[30] Giga is an initiative launched by UNICEF and ITU in September 2019 to connect every school to the Internet and every young person to information, opportunity and choice, is supporting the immediate response to COVID19, as well as looking at how connectivity can create stronger infrastructures of hope and opportunity in the "time after COVID." https://www.unicef.org/innovation/giga
[31] Article: IndiaStack can help India recover from COVID-19, but execution is critical. Arunjay Katakam. June 1, 2020 https://bfaglobal.com/catalyst-fund/insights/indiastack-can-help-india-recover-from-covid-19-but-execution-is-critical/
[32] Article: IndiaStack- Digital Infrastructure as Public Good. Vivek Raghavan, Sanjay Jain, Pramod Varma Communications of the ACM, November 2019, Vol. 62 No. 11, Pages 76-81   10.1145/3355625 https://cacm.acm.org/magazines/2019/11/240375-india-stack-digital-infrastructure-as-public-good/fulltext

These two examples showcase ways in which digital public goods are solving aspects of the digital divide. The benefits of digital public goods are in their ability to be low-cost, scalable, and open to a multitude of stakeholders, both private and public, and young people. However, digital public goods also face many obstacles that hinder wide scale. Without a proper governance structure for DPGs, ensuring complete transparency, accountability and inclusivity will be constrained. Digital commons, public data pools, open-source software, and digital platforms, should allow the participation of diverse adoption and familiarity. Digital public goods are relatively new concepts and are not as well known by governments, private sector, and young people. Lastly, as is the case with other public goods, digital public goods could be impacted by the free-rider problem in which there are low incentives of accountability and efficiency unless it is matched with committed partners, resources, and policy.

Case Study: What are the specific challenges young people face to accessing digital public goods or collaborating for digital public commons?

Challenges of access to digital public goods need always to be assessed with the greater societal context in view as it determines the challenges, opportunities and barriers that can rise up. A study assessing how youth make use of the internet in Rwanda, Tanzania and Nigeria reported high rates of youth unemployment and low levels of education within these countries are posing to be a significant challenge. For example, these challenges in turn affect the ability of the youth within these countries to access digital public goods. Youth unemployment ranges from 11 per cent in Rwanda and Tanzania to 28 per cent in Nigeria, with the challenge of opportunity for employment being low irrespective of the education levels.[1] The factors are highlighted:

- The internet is used to create new economic opportunities but mainly among those with an entrepreneurial activity already taking place. There is an awareness that the internet on its own will not address all their challenges.
- There are factors such as cost, network service, access to devices, language and low skills levels that limit young people's experiences to optimally make use of the internet to address their problems.
- Young women face the additional barriers of cultural and gendered norms that hinder their access to mobile phone technology and to the Internet. Shifting these constraining but powerful social and cultural norms, is a national gender equity issue beyond the scope of traditional telecommunications policy.

Section 3: Governance of Digital Public Goods

When we speak about achieving the 17 Sustainable Development Goals and 169 targets of the 2030 Agenda related to the deployment of digital technologies, this goes hand in hand with promoting access to technologies and building a digital ecosystem, including elements such as public data pools and public platforms.[33] Therefore, the stakeholders on different levels should work to establish a digital ecosystem for all. Now we will observe how could be achieved a good governance of digital public goods.

Digital data as a public good requires us to think of who owns the data and towards what purpose it is being used to benefit all. There are two lenses through which digital data governance for digital cooperation could be seen: public data pools and community data. A necessity exists of establishing public

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[33] Digital Public Goods: A precondition for realising the SDGs. Anita Gurumurthy Nandini Chami https://www.sef-bonn.org/fileadmin/SEF-Dateiliste/04_Publikationen/GG-Spotlight/2019/ggs_2019-04_en.pdf

data pools that are of public interest such as data on health and agriculture. The COVID-19 pandemic has shown that for a sector such as health, public data pools can allow more transparent and coordinated efforts to overcome the crisis. However, developing a governance framework for digital data will require a coordinated effort to transfer knowledge and technologies to the Global South where digitization of data sets or GovTech is only starting to take off and in most cases lack the necessary support to appropriately use digitization technologies.

Governance of data sets that are of public interest is mainly a task of the public and private sector, however, the general public also can play a part on the governance of community data. Data generated by citizens is playing an increasing role on monitoring natural and biological resources, and also has shown to be effective in crisis response. Community data is paving the way for a shift in power balances where citizens become producers of data and not only consumers. With power shift dynamics and a more connected data digital ecosystem with a wide range of stakeholders, the concern of data jurisdiction raises the need for data governance and frameworks to balance conflicting interests and ensure public trust. A data governance structure will require considerations of different categories of access, use and control rights over data.

Multiple governing entities are participating in the effort to ensure access to digital goods to all. Identifying the roles each governing hierarchy has can contribute to building a shared understanding of what a digital public infrastructure means. Governing entities operate at different levels: internationally through alliances such as the Digital Public Goods Alliance (DPGA), thematically such as the DPGA's Communities of Practice (CoP) and locally thanks to the help of governments and/or citizens.

International governing entities such as the DPGA showcase the need for multilateralism as a way to advance the development and deployment of DPGs in different nations through internationally agreed mechanisms and standards. The DPGA has been actively working on establishing foundational tools to "advocate for the discovery, use, and deployment of digital public goods", primarily through their recently launched DPG Registry initiatives such as pathfinding pilots.[34] These are digital projects that respond to a certain need which is identified with the help of "pathfinders", defined as "low- and middle-income countries that pilot new ways to change the power balance around technology solutions". Some examples include a shared understanding of what digital public infrastructure means; vetted DPGs – a list of openly licensed platforms, content, and technologies focused on:

- **Thematically governing entities --** Communities of Practice
As part of its continuous efforts to develop high-potential DPGs globally, the DPGA encouraged the creation of Communities of Practice (CoPs). They are people with valuable experiences in the digital sphere who focus on given "priority areas" such as "Digital Health" or "Climate Change Adaptation". Undoubtedly, a paramount thematic is that of "Early Grade Reading". It is indeed critical for individuals to learn how to read (within the scope of SDG4); however, more than 600 million children do not have full reading proficiency across the world, a number that increased due to the recent COVID-19 health crisis. As a consequence, CoPs were convened to identify and list out DPGs that would help young people to enhance their reading skills; the "Foundational Literacy" platform was therefore implemented.

- **Local governing entities**
 As with any other goal, local entities can help larger communities thrive. Regular citizens can be instrumental in ensuring the widespread use of DPGs through communication (e.g. social media) and

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[34] Digital Public Goods Alliance, https://digitalpublicgoods.net/who-we-are/

demonstration (e.g. in schools and other public places). One such example of a collective of citizens who gathered their forces to do just that is the "Indian Software Product Industry Roundtable". Their goal is to improve employment and economic growth by developing DPGs within the country.

Section 4: Policy Recommendation

A number of recommendations are suggested in order to promote a global digital commons and reduce digital inequalities. Primarily these consist of the creation, adoption and governance of digital public goods, and the need for greater stakeholder engagement, particularly of young people and marginalized groups.

Digital Public Goods

- Increase the adoption and use of DPGs (in line with the United Nations Secretary-General's Roadmap for Digital Cooperation).
- Increase capacity-building among marginalized peoples around how to use digital technologies effectively. Promoting digital skills and digital literacy, particularly among population groups at greatest risk of structural inequalities and digital inequalities specifically, must be specifically emphasized.
- Strategies should be formulated to ensure DPGs are well maintained in the long term, including providing incentives for efficiency and accountability. For example, multilateral institutions should create financial incentives that promote the long-term funding and maintenance of DPGs.
- Make further efforts to ensure strong and inclusive policies and governance of such resources. This is crucial to increase access to digital technologies and internet connectivity. Also, governance must be multilateral and multi-sectoral in order to ensure that a variety of perspectives, approaches and agendas are represented.
- Promote open-sourcing of DPGs and public data so as to improve access, interoperability, and scaling. Thus, the availability and digital distribution of free, peer-reviewed, standardized scientific literature and data should be improved. The distribution and production of this scientific knowledge should receive equal amounts of attention, so those who might otherwise resort to piracy – or not come into contact with the knowledge at all – are made aware of this alternative source. Since these are digital public goods expenses would be limited besides promotion and creation/curation of the information. Furthermore, if the literature is written anew there will be no infringement or immediate threat to existing intellectual property.
- National digital transformation strategies should support and prioritize the development and deployment of DPGs that are deemed highly adaptable, or else with a proven potential to address local-specific priorities. Engagement from key stakeholders, such as youth groups and academia, should be sought to determine which DPGs might be best suited for these purposes.
- DPG introduction should adopt the form of a protracted process of community engagement to help shape and embed the technologies within pre-existing social institutions. DPG support and resource-provision should be contingent on the technology's ability to create skilled human capital and catalyze endogenous innovation capacities.

<u>Stakeholder involvement and youth engagement</u>

- Multi-stakeholder involvement at all stages is key to inclusive and appropriate solutions for addressing digital inequality, including throughout the creation, adoption, and governance of DPGs.
- In order to engage people from all affected groups, stakeholder involvement should be intergenerational. However, youth engagement is particularly important as young people are particularly affected by digital inequalities. Initiatives should therefore attempt to engage young people through co-production of digital products and initiatives, as well as in the governance of these products. Youth capacity-building is essential in order to adequately prepare young people to take part in this process and equip them with the necessary skills to effectively engage and advocate for digital equality.
- An example of successful youth engagement in the digital inclusion space can be found in the workstreams of ITU's Youth Strategy initiative. The Youth Strategy carves out avenues for youth to build their digital skills through capacity-building programmes, gives youth formal positions and an actual voice within the ITU infrastructure in the form of internships and focal point positions, as well as hosting and participating in youth forums and summits to listen to the perspectives of young people. This model of training youth to effectively engage in digital spaces paired with creating space to listen to the youth perspective as they engage in those spaces is one mechanism that the UN system can use to begin to bridge the digital divide.
- Education systems should be considered as important routes to promoting digital access and to engaging youth in these efforts. ITU and UNICEF's Giga initiative is an excellent example of a program targeting youth through schools in order to increase digital access and enable young people to expand this digital access to the rest of their community.
- Youth groups should be facilitated with the tools and resources necessary to not only experiment with DPGs in controlled settings, but also to become agents of information and deployment within their own communities. Direct campaigns to teach young people on DPGs will improve the economic development of societies, especially through literacy materials related to tech skills and engagement of initiatives working on the digital divide issue.
- Additionally, it is vital that stakeholder involvement is intersectional, representing a broad range of marginalized populations and those most at risk of structural and digital inequalities, such as women, indigenous populations, people with disabilities, refugees and internally displaced persons. Perspectives should be sought from stakeholders from both rural and urban communities to ensure solutions respond to these communities' specific needs and challenges. Inclusion of the views of those with multiple marginalized identities is particularly important in order to understand the burden of multiple forms of disadvantage and how this acts as a barrier to digital equality, as well as illuminating the specific approaches that are necessary to ensure that initiatives meet their needs appropriately.
- Coordination between UN agencies and youth initiatives related to digital technology is necessary to both avoid redundancy in work streams and to increase the impact of any initiatives started in this space. Additionally, coordination would ensure that diverse perspectives are incorporated into the decision-making process. Thus, it would be useful to create an inter-agency space with young people engaged in issues related to science-policy, including digital technology.

Conclusion: Towards a New Social Contract and Global Digital Commons

As shown by the impacts of the COVID-19 pandemic, the current global political and economic system is not delivering on critical public goods such as sustainable development, public health, education, and climate action. Without bold and creative actions global inequalities will continue to grow and will disproportionately impact the quality of life of young people and future generations. In response, the United Nations Secretary-General has called for the creation of a New Social Contract and a New Global Deal that creates opportunities for young people and other vulnerable groups. This new social contract would require recognizing the fundamental changes in work, technology, demographics, and opportunities that have massively disrupted our societies. It would require reimagining social protection schemes and public service delivery to provide free access to healthcare, education, and the internet. Lastly, a new social contract will also require that we make youth the center of existing policy formation and interventions.

In this push towards a New Social Contract and Global New Deal, a revitalized global technological and digital commons is essential to reduce digital inequalities indicative of the digital divide and design a more inclusive, connected future. The digital divide is a phenomenon that surpasses geographic and technological barriers and threatens to exacerbate inequalities and dampen COVID-19 recovery efforts. These challenges necessitate more inclusive and dynamic global digital cooperation and a global technological commons where no one is left behind. To reach this goal a more concerted effort and collaboration is needed by the United Nations, governments, the private sector, civil society, and, especially, young people. To accomplish this, digital public goods can serve as tools and templates to embolden the global technological commons and reimagine how stakeholders pursue inclusive social development and digital transformation strategies, especially with young people as co-designers, co-innovators, and co-policymakers. Young people should be considered critical architects in pushing towards a new social contract, designing an inclusive digital and technological commons, and accelerating the 2030 Agenda.