Al Sur document:
Expanding Internet Connectivity
December 15th 2020

This document is presented by the Al Sur consortium (a group of 11 civil society organizations and academia from eight different countries that works to strengthen human rights in the digital context) and was prepared by one of its members, Karisma Foundation (Colombia), in response to the request made by the ITU for civil society to report problems and challenges for the expansion of connectivity in rural and remote areas, and the role of community networks in this process of reducing the urban-rural digital gap.

Although a regional framework is made, the document focuses on Colombia's situation as a country that offers an overview of the average in the region. The document especially presents the barriers derived from the public policy vision that refers to the ICT sector and reflects the different governments' position in Latin America, especially its market vision to close the digital connectivity gap through commercial licenses of the electromagnetic spectrum. Although the complexity and diversity of digital gaps are appointed, the analysis is based on the connectivity diagnosis that shows how in this digital gap the distance between urban and rural is evident, and the differences between the principal cities compared to scattered rural areas are very worrying. Finally, throughout the document, the aim is to highlight the role, still incipient, of community networks, which has great potential for reducing the digital connectivity gap.

1. **What are the challenges and opportunities for expanding Internet connectivity, particularly to remote and underserved areas? What are the roles of governmental and non-governmental stakeholders to overcome these challenges?**

Challenge 1: Get governments to recognize the true complexity of the digital connectivity gap and provide more specific evidence about it in their respective countries

Different strategies and projects to enhance connectivity in Latin America have increased internet access in the region, but there is still a long way to go. According to the Economic Commission for Latin America and the Caribbean (CEPAL, 2020), 67% of the population in the region has internet access. Additionally, CEPAL states that 60% of homes have an internet connection.

From the data shown by CEPAL, it is necessary to highlight the considerable urban-rural gap: while in urban areas, households without internet connection account for 33%, in rural areas they account for 77%. Based on this data it is difficult to talk about a "digital transformation" that contributes to the development of the region, especially because the gap in connectivity is a reflection of the inequity that afflicts the region. The link between poverty and inequality has its share in this problem, but there are other disparities that we must acknowledge: the digital divide also affects more women populations and geographically or socially isolated groups. Nor is it possible to ignore that the digital gap cannot be measured only in connectivity, it is also linked to elements like connection quality, the information to which one has access, and the technical knowledge necessary for Internet access to be useful and profitable.

Colombia is a country that represents the average of the region's statistics - it is neither the best nor it is part of the group of lagging countries - and Colombian data reflect all these inequalities. For example, the amount of population that uses the Internet is 62% - below countries in the region such as Chile and Argentina with a use of 82% and 74% respectively (Quintero R. Solano Y. 2020) - despite the fact that the "National Rural Connectivity Plan" of 2019 (Ministry of Information Technologies and Communications, Mintic, 2019) establishes that the penetration of internet in Colombia is only 37.5%. This means that most people access the internet through their cell phones.

Additionally, the Ministry of ICTs data suggests that urban centers - municipal capitals - have an internet penetration of 45.75%, while the dispersed rural sector and small urban centers barely reach the tiny amount of 6.2% of internet penetration. In terms of quality, it is evident that good connectivity is concentrated in urban centers, evidencing the rural-urban gap. Connectivity quality is a critical subject because although in governmental data there are many people who appear connected, in reality, they do so through poor quality or unreliable connections, which can be worse in rural areas where these deficiencies are equivalent to not having internet access for certain uses.

Given the fact that rural areas have the worse internet connectivity, in this context, the digital gap in terms of access, use, and appropriation of technology for women presents an even less encouraging scenario. The gender gap was addressed by the Ministry of ICTs in a 2018 survey on the access, use, and appropriation of ICT by women in Colombia (ICT Ministry, March 2018), which concluded that 19% of them have not yet passed the access gap and that this number is made up of indigenous women, from the rural sector, the elderly and the poorer socioeconomic groups. The same survey shows that the most generalized gender gap in urban areas is that of uses and appropriation, something that Fundación Karisma found since 2017 in a survey with low-income women in Bogotá (Toledo, 2015).

Analyzing Colombia as a typical country in the region, the government offers data on the population in relation to economic income, the geography of the country, and gradually it incorporates the gender variable, but we know little about other variables that affect people in relation to access, even less on the use and appropriation of ICT. Although we will highlight other digital gaps, this document focuses on the connectivity gap.

Challenge No. 2: Overcome the domain of market solutions in connectivity both in legislation and in other public policies

The challenges of digital inequality are critical and States recognize this by making efforts at the level of public policies and legislation. In Colombia, for example, in 2019 the 1978 law known as the ICT modernization law was passed. Civil society groups made comments on this bill (Fundación Karisma, 2018). This regulation proposes major plans to expand infrastructure where it has been established that the gap is greater, in rural areas (see the rural connectivity plan). However, the reforms are insufficient to reduce this gap in relation to connectivity. This is because, as in many Latin American countries, in essence, this strategy responds to the same market matrix and the subsidiary State concept and, regardless of the advantages offered, the most serious problem in the urban/rural gap is that this service is not going to be economically profitable in remote areas.

Likewise, the two strategies that are proposed in this connectivity plan focus, first, on an

increase in infrastructure, which aims at connecting the municipal capitals, and, secondly, on an internet access program in the most remote educational centers. In other words, the dispersed rural sector will continue to be neglected.

Although it is clear that in the states of the region there is a roadmap to reduce the connectivity gap, the problem is that it focuses on maintaining and strengthening the commercial activity of large operators. Our criticism is not focused on the implementation of this roadmap, but that it does not seek to facilitate and offer advantages to other alternatives that can face the problems diagnosed with novel solutions insofar as they would be directed to the problems identified in dispersed rural areas and consists of alleviating barriers to the development of community networks and small local operators.

Mexico has been the example to follow and, more recently, countries like Argentina and Peru have made important strides to balance things up and allow these stakeholders to participate and offer solutions to underserved populations. The situation in other countries such as Colombia has not been so simple and, however, the role of non-governmental stakeholders, such as Colnodo and the Karisma Foundation, have made progress and/or fostered discussions regarding these issues during the debates concerning the project of the ICT modernization law (2019). Although it wasn't possible to achieve a scenario similar to the leading countries in this topic, the implementation of a regulatory pilot of a community network was accelerated, which generated a joint work initiative between the Ministry of ICTs and Colnodo. With this pilot program, a small window is opened for community networks to participate. If this solution is viable despite the bureaucracy and the absence of legal recognition, it is something that only time will tell.

Challenge No. 3: Developing a legal and public policy ecosystem that favors the birth of community networks and minority providers

This gap and problem can be observed in how neglected peripheral regions are with regard to internet access. In Colombia, for example, while some regions such as Vaupés have a percentage of connected homes of 4%, Vichada with 5%, Amazonas with 5%, and Guainía with 7%, the capital city, Bogotá, in its urban area, it has a percentage of connected homes of 74.67% (Quintero R. Solano Y., 2020).

These gaps have emerged and become explicit due to the recent COVID-19 crisis, as it has become clear that many countries in the region suffer from significant inequality problems in different aspects, being the digital gap is one of these. This inequality can be observed at different levels, but it can be focused on two significant gaps, urban-rural and income.

In the first case, the scarce infrastructure for rural areas and, on many occasions, the low purchasing power of people represent a barrier to achieve coverage in rural areas. Therefore, as long as public policies are aimed at private investment, these areas will not achieve significant penetration because they are not profitable for companies to deploy the service. It is hard to explain why public policies are only aimed at market solutions without considering other alternatives such as community networks and minority providers. The former is usually associated with non-profit entities and cooperative schemes, and the latter with operators who have more interest in entrepreneurship and profit-making purposes. However, both of them have connections and ties with the community which give them a broad knowledge of the context and makes them work towards autonomy purposes for these populations that go beyond just economic usufruct.

In the second case, if connectivity is focused on municipal capitals, the purchasing power of people in rural territories is neglected, who cannot afford the service. In sectors with lower purchasing power and marginalized, access to internet services is not the rule because people do not have the economic means to do so, even in areas of high connectivity such as urban centers (Quintero R. Solano Y., 2020). Consequently, increasing connectivity is not only a matter of expanding coverage, it also requires focusing strategies to reduce inequalities and the search for equal opportunities. Betting on market solutions exclusively foregoes the chance to create other opportunities.

But to achieve the participation of community networks and minority providers that can respond to these social complexities regarding the connectivity gap, it is necessary to review the issue of licensing the electromagnetic spectrum, since it is through this process that the different ranges of frequencies used for the operation of the different information and communication technologies are assigned.

In the Colombian case, there are no alternatives to the market segment for spectrum licensing. This means that small providers and/or community networks find themselves in the difficult position of competing with large telecommunications companies to access the spectrum. International recommendations on public policy matters state that governments, as a good practice, should develop systems that prioritize access, so that all stakeholders in the socioeconomic system can use digital communications, infrastructures, services, and data (OECD, 2019). The purpose is to facilitate community and cooperative connectivity projects, especially in rural areas where, in many cases, there is no infrastructure provided by private parties and - although incentives and advantages are offered - there will hardly be a market to develop with the costs of large companies because many of these populations do not have the purchasing power of the market (Fundación Karisma, 2019, Garzón Barreto, 2020).

3. How can small / community / non-profit operators help to promote increased Internet connectivity?

Community networks are proposed as key elements to increase connectivity in areas of difficult access since they represent an alternative for rural areas where private internet providers do not have coverage or it is not profitable for them to develop the infrastructure to provide said coverage.

Community networks in these contexts also involve self-managed, autonomous, and communally-owned network designs that are self-sustaining and help improve connectivity in a scalable way that is directly proportional to the needs of the population. These characteristics are especially desirable in dispersed rural areas that are frequently ignored in public policies.

However, an important challenge for the strengthening of community networks and that must be addressed by public policies is the need to support these initiatives so that their development does not reproduce the same inequalities observed in our society. In other words, while community networks and small local operators can help to face connectivity challenges, nothing prevents them from doing so without a differential approach in relation to minority and vulnerable populations (women, specific social groups, belonging to ethnic communities or specific races, etc.). That is why it is necessary for the public policy perspective to go beyond connectivity or access to the internet and reflect, diagnose, and produce data on the other types of digital gaps.

This promotion of internet connectivity for community networks and small operators cannot be done without being fostered by legislation. In particular, community networks have had a very successful boom and recognition in Mexico and are actively being deployed in Argentina and Peru. But there is still a long way to go in the region. In Colombia, for example, the Karisma Foundation has denounced the absence of community networks within the framework of the country's public policy: in law 1978 of July 25, 2019, or the ICT modernization law, which reformed the sector and was presented with the main purpose of reducing the digital gap. Despite this, this law did not take into account important alternatives such as promoting and facilitating the existence of small operators and community networks. This law leaves community networks in a vulnerable position with regard to spectrum access, as they compete with large telecommunications companies. In summary, it is clear that the outlook for the development and construction of community networks is difficult, and is faced with a set of barriers rather than opportunities.

However, despite the difficulties already mentioned, in Colombia a community network pilot has been developed in Buenos Aires, Cauca, promoted by the Colnodo organization in alliance with the Ministry of ICTs. Community networks in other countries, especially Argentina and Mexico, contrast with the Colombian case. In these countries, the NGOs AlterMundi and Rhizomatica lead models for the construction of community networks with horizontal designs. In these projects, technicians have their origin in the free software and hardware communities. They are usually committed to these causes and their logic is supported by the collective construction of solutions. In these projects, the communities themselves develop their agency and autonomy through community networks.

The Colombian pilot is a large-scale intranet that allows messaging and calling services between the affiliated villages and those connected to the network. This network has been developed entirely using free software and hardware and represents the most important regulatory precedent in the effort to promote the implementation of community networks in Colombia. Its implementation portrays very accurately some of the challenges faced by these stakeholders in their effort (see the article on community network pilot Ministry of Information Technologies and Communications, 2020):

- Political challenges:

Existing barriers in Latin American countries create a scenario where pilot programs are implemented first by governmental institutions and then adopted by the communities, unlike other experiences in countries where the initiative generated by the community - often supported by non-governmental actors. This governmental origin generated a serious challenge of coexistence between the technicians and the community, as well as encounters of interests and perspectives.

- Technical challenges:

The pilot program had to face various technical problems, such as the difficulty of accessing the internet, exacerbated by challenging geographical conditions, as well as the intermittent connectivity of the electricity grid that can generate blackouts in these communities for several hours.

Last, but not least, we have to acknowledge a challenge of a cultural-ideological nature that is seen, above all, in countries of the region with a high political polarization. We refer to a continuous prejudice with respect to the concept of "communal" that, for example, in countries like Colombia is associated with extreme left movements or insurgency.

Likewise, due to other cultural modernization processes, the general public has a pejorative view of this type of project. This prejudice decisively affects community networks because this creates an additional barrier to the development and implementation of this type of network, as observed in the Colombian case.

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The Al Sur consortium is made up of:

- Red en la Defensa de los Derechos Digitales, R3D, Mexico.
- IPANDETEC, Panama.
- Karisma Foundation, Colombia.
- Hiperderecho, Peru.
- Derechos Digitales, Latin America.
- Asociación por los Derechos Civiles, ADC, Argentina.
- Centro de Estudios en Libertad de Expresión y Acceso a la Información de la Universidad de Palermo, CELE, Argentina.
- Coding Rights, Brazil.
- Internet Lab, Brazil.
- Instituto Brasileiro de Defesa do Consumidor, Brazil.
- TEDIC, Paraguay.

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