

POLICY BRIEF



# Community Networks in the Global South. Infrastructure and Strategies for Bridging Connectivity Gaps

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Digital  
Transformation



# Abstract

This policy brief explores the potential of community networks (CNs) as an inclusive, decentralised, and democratic response to the digital divide in urban areas. It draws on successful case studies from the Global South and North – specifically in Buenos Aires and New York City – to argue for their strategic value in promoting meaningful connectivity, community resilience, and digital rights. The brief highlights the need for the G20 to adopt regulatory, financial, and governance frameworks that support CN deployment, particularly in underserved urban contexts.

**Keywords:** Community Networks, Digital Divide, Collaborative Governance, Digital Rights, Infrastructure, Global South, Policy Innovation

## Diagnosis

According to the International Telecommunications Union (ITU), the Global South faces persistent Internet access and usage gaps.<sup>1</sup> These gaps exist between urban and rural areas and among different population groups. Yet, these general figures obscure more localised and layered forms of inequality.

The digital divide has evolved from a binary concept of 'connected vs unconnected' to a multidimensional phenomenon. Initially tied to access, it now encompasses affordability, service quality, and broader social factors such as rights, gender, education, and economic status (Segura<sup>2</sup>). Van Dijk<sup>3</sup> describes the digital divide as a layered phenomenon rather than a simple binary gap. It includes an elite with complete digital access, a middle group with varied usage, and a digitally excluded population. The divide is influenced by policy, economic conditions, and social factors, requiring targeted interventions. This layered approach is especially relevant for urban contexts in the Global South, where formal connectivity may exist. Still, socioeconomic inequalities, poor infrastructure, and exclusion from digital citizenship undermine meaningful use.

Community Networks have emerged as an innovative solution. These locally owned and managed networks challenge traditional models and expand connectivity and education opportunities. Due to their strong communal identity, they are particularly effective in rural areas and help bridge economic gaps in urban settings.

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<sup>1</sup> International Telecommunication Union. 2024. "Facts and Figures." Accessed on April the 5th, 2025. <https://www.itu.int/en/ITU-D/Statistics/pages/facts/default.aspx>.

<sup>2</sup> Segura, María Soledad. 2021. "No es una laguna jurídica. Desigualdades digitales y sociales en Argentina." *Revista Electrónica Internacional de Economía Política de la Información, Comunicación y Cultura* 23 (2): 190–208. Available in <https://periodicos.ufs.br/epitic/article/view/15556>.

<sup>3</sup> Van Dijk, Jan A. G. M. 2020. *The Digital Divide*. Cambridge: Polity Press.

While community networks have been extensively documented in rural areas – notably Latin America, Africa, and parts of Asia – their relevance in urban settings remains underexplored in policy debates. However, the economic asymmetries, housing precarity, and infrastructural neglect in large cities often mirror or exacerbate rural exclusion.

Throughout this policy brief, we seek to characterise successful experiences in urban areas in both the global north and south and identify concrete policy interventions to foster and encourage CNs. We aim to demonstrate the feasibility and implications of this model in diverse contexts through successful experiences such as Replicando Conexiones in Argentina or the Streaming University Project in New York.

## **Problem framing and stakeholders**

Based on ITU<sup>4</sup> statistics over the past 20 years, we can see that connectivity levels have grown very inequitably across the world's regions. The connectivity gap between the global south and the north amounts to 53.7% if we compare the maximum difference between the percentage of people using the internet in Europe (91.2% in 2024) and Africa (37.5% in 2024). To these regional disparities, we must add the intra-regional disparities observed in most countries of the global south, where economic inequality is one of the significant problems.

As mentioned above, digital divides are due to a multi-causality of elements and can be shaped into a wicked problem in the public policy field. Supranational organisations, national and subnational governments, transnational companies in the communications sector, national service providers, small local businesses,

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<sup>4</sup> International Telecommunication Union. 2024. op.cit.

community organisations and the population are the central actors in this challenge of fostering inclusive digital access.

In recent years, community networks have emerged in Latin America, Africa and Asia, as well as in high-income countries such as the United States, Germany and Spain. These spaces are locally owned and managed by communities based on technologies and organisational forms that challenge traditional models; in that form, they expand the possibilities of connecting and educating the population. Community networks have become a powerful alternative to connect rural areas because of their strong communitarian identity. Still, this model has also proven to be a successful solution to many large cities' economic gaps.

Two cases stand out in this regard. In Buenos Aires, the "Replicando Conexiones" programme provided digital skills training to residents of Villa Soldati, one of the city's most underserved districts. The programme focused on community-based digital literacy, safe internet use, and technical training for network maintenance. Its advanced stage included a 'train-the-trainers' component, which enabled some participants to lead the deployment of a new community network in Córdoba, further training others to install and manage such networks. This project highlights the potential of CNs not only to build infrastructure but to build capacities and community leadership in the digital space.

The "The Streaming University Project's Virtual Tenant Patrol" initiative installed a decentralised mesh network in public housing developments in New York City. Co-developed by the Internet Society New York Chapter and local tenant associations, it hosts a community-led alert system, video streams, and walkie-talkie channels for real-time monitoring of building services. By integrating local needs – such as public safety and mutual aid – into the digital infrastructure, the project has created a trusted, non-surveillant communication layer owned and operated by residents.

Replicando Conexiones in Buenos Aires and the Virtual Tenant Patrol in New York exemplify collaborative, dynamic, and adaptable governance models that respond to local realities and promote inclusive digital infrastructure. Replicando Conexiones emerged from a partnership between Asuntos del Sur, ISOC Argentina, and Soldati Conectada, blending technical expertise, public policy engagement, and deep community ties. It prioritised digital literacy, safe internet use, and capacity-building through a train-the-trainers model, later expanding through articulation with public actors. The Virtual Tenant Patrol, developed by ISOC-NY and tenant associations in public housing, addresses community safety via a decentralised mesh network, integrating tools like walkie-talkies, livestreams, and emergency alerts. While operating in distinct institutional and socio-economic contexts, these experiences are committed to community-led processes and decentralised governance. Their success underscores the importance of flexibility, inter-organisational trust, and responsiveness to evolving needs. Sustaining community networks in complex urban settings demands co-designed governance models with residents that are adaptable over time and capable of bridging civil society, technical actors, and public institutions. These cases reveal that digital inclusion is not merely a question of infrastructure but a political and social endeavour rooted in shared ownership, trust, and the collective right to connectivity.

Both cases demonstrate that CNs are technological fixes and social and political infrastructures. They generate value by fostering community engagement, enabling digital self-determination, and creating economic opportunities. They also promote a collaborative governance model where public, private, and community actors may co-design solutions.

## Recommendations

This has direct implications for the G20. The digital divide is one of the most pressing global challenges, central to achieving the 2030 Agenda. Yet many connectivity initiatives remain top-down, market-driven, and blind to local context. Community networks offer a bottom-up alternative that aligns with Sustainable Development Goals 4 (Quality Education), 9 (Industry, Innovation and Infrastructure), 10 (Reduced Inequalities), 11 (Sustainable Cities and Communities), and 16 (Peace, Justice and Strong Institutions).

Policymakers must establish robust frameworks that support the deployment of community networks, collaborate with NGOs and the private sector to empower communities, and ensure appropriate funding for these initiatives. Strengthening these networks requires articulating efforts between North and South community networks and documenting their innovative impact on local ecosystems. Moreover, a comprehensive framework for urban community networks should be developed to extend these benefits beyond rural areas and economically disadvantaged urban populations. By fostering collaboration between Global North and South experiences, CNs can become a platform for reciprocal learning, local innovation, and policy experimentation.

We call on the G20 to prioritise community networks as a key element in achieving digital inclusion with a resilient and community-driven digital infrastructure approach. The identification and design of collaborative governance models will facilitate the promotion of Public-Private Partnerships and other mechanisms to achieve a meaningful, human-centric digital infrastructure. To that end, we believe that the G20 should consider the following actions:

1. Recognise community networks as legitimate actors in national connectivity strategies, incorporating them into universal service frameworks.

2. Promote asymmetric regulation by adjusting licensing regimes, spectrum allocation, and technical requirements to reflect the non-profit and localised nature of CNs in contrast to the large operators.
3. Establish a Global Fund for Community Networks, pooling resources from multilateral banks, philanthropy, and national governments to support infrastructure deployment, community training, and long-term sustainability.
4. Support North-South cooperation and knowledge exchange, fostering joint learning across regions and empowering CNs as innovation sites.
5. Invest in digital skills programmes tailored to community needs, focusing on women, youth, and historically excluded populations.
6. Enable CNs to support local resilience and safety through integration with public services and community-driven initiatives, such as neighbourhood alarms, peer-to-peer emergency alerts, and participatory data platforms.
7. Facilitate inclusive policy design through multistakeholder governance frameworks that include grassroots voices in regulatory and infrastructural decisions.

Community networks are a proven, scalable, and context-sensitive solution to the multidimensional digital divide, especially in urban areas marked by deep economic inequality and fragmented social fabrics. From Buenos Aires's outskirts to New York City public housing, these networks demonstrate how digital infrastructure can double as community infrastructure – supporting local education, safety, economic resilience, and democratic participation.

We urge the G20 to place community networks at the heart of the digital inclusion agenda. Their support is not merely a matter of infrastructure but of justice, innovation, and sovereignty. The time to act is now. Let us build a more inclusive, democratic, and resilient digital future – one community at a time.

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