GULF OF GUINEA NORTHERN REGIONS SOCIAL COHESION (SOCO) PROJECT

Digital Technologies and Innovations in Northern Ghana Policy Brief
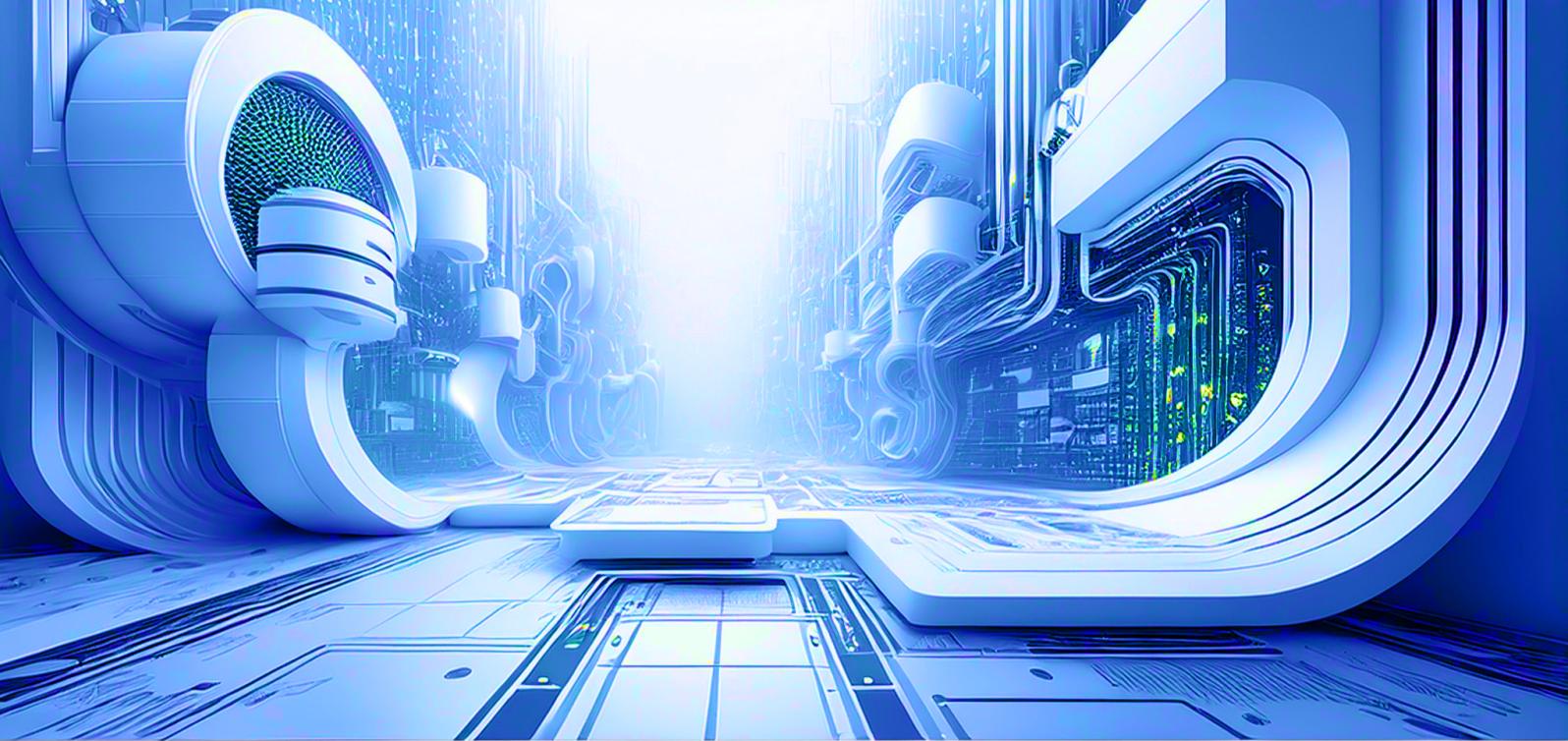
Title: Wiring the North for Opportunity: Accelerating Digital Inclusion and Innovation in Northern Ghana

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Executive Summary

Northern Ghana is being left behind in Ghana's digital transformation. While internet penetration nationally is about 70%, large parts of the northern belt still record internet use below 50%, mirroring the north-south income gap. Mobile money use reaches 72% in urban areas but only 47% in rural communities, and people with disabilities face even wider gaps. These divides lock households and firms out of digital markets, raise transaction costs, and slow progress on poverty reduction and shared prosperity.

Evidence from the SoCo Digital Technologies and Innovations Study in six northern and Oti regions—based on 250 respondents (64% male, 36% female; 3% PWDs), shows both opportunities and risks. Farmers (49%), traders, teachers, students and artisans already use digital tools for mobile money, social media marketing, e-learning and access to services; 62% say digital technologies are already influencing local economic activity, and 92% see strong future potential. Yet 45-46% rate internet and cellular connectivity as "low"; digital literacy is around 54%, and respondents highlight unstable networks, lack of skills, poverty, and inaccessible devices as major obstacles. Cybercrime and mobile money fraud are the most cited digital risks.

This policy brief proposes a Northern Ghana Digital Inclusion and Innovation Compact: expanding resilient digital infrastructure, investing in foundational digital skills for youth, women and PWDs, and crowding in private innovation through hubs, agri-tech and e-health solutions. This shift from ad-hoc projects to a structured compact offers the most straightforward path to raising productivity, deepening financial inclusion, and turning Northern Ghana into an engine of inclusive, tech-enabled growth.

1. The Development Challenge

Ghana's economy is digitalising fast, but Northern Ghana risks being stranded on the wrong side of the digital divide. Nationally, there were about 24 million internet users and nearly 39 million active mobile subscriptions in early 2024, over 113% of the total population. Yet internet usage in much of the northern belt remains below 50%, while it ranges from 50–92% in the middle and coastal belts. Mobile money adoption is 72% in urban areas compared with 47% in rural communities, and for people with disabilities, internet and mobile money use drops to 30% and 20% respectively. These gaps are not just about technology; they translate directly into lower productivity, higher transaction costs, weaker market access, and persistent poverty. In a region already facing climate stress, social fragility, and weak physical infrastructure, poor digital connectivity compounds disadvantage: farmers cannot access real-time prices and weather data; youth cannot tap into online jobs or training; and health and education services cannot leverage telemedicine or e-learning at scale.

The cost of inaction is rising: every year that Northern Ghana's digital infrastructure, skills and enterprises lag behind, the region's human capital and firms fall further from the frontier. This undermines the World Bank's twin goals by locking in spatial inequality and slowing national growth.

2. Key Findings from the SoCo Digital Technologies and Innovations Study

2.1. Northern Ghana has a young, working-age population, heavily rural and agrarian, that sits at the heart of the digital gap.

The study surveyed 250 respondents across six northern and Oti regions: 64.41% male, 35.59% female, and 2.93% persons with disabilities. The dominant age group is 31-35 years (24.88%). Almost half are farmers (48.78%), with traders (10.24%), teachers (13.66%), and a mix of students, artisans and civil servants making up the rest. In much of the country's northern belt, internet use rates are below 50 percent compared to the middle belt and coastal regions, where usage rates range between 50 percent to 92 percent (Figure 1 below). The north-south divide in internet connectivity mirrors the income divide in the country.

Internet Use at District Level
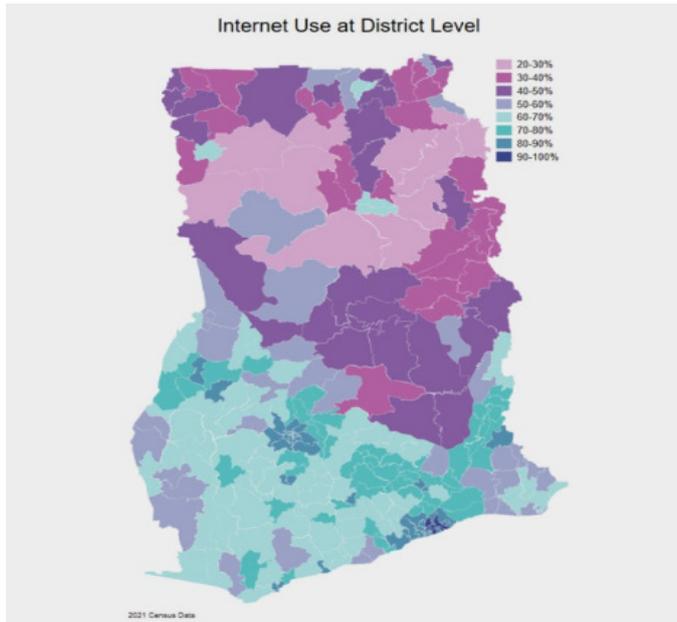
Source: 2021 Population and Housing Census, Ghana Statistical Service

3. Connectivity is weak and unstable where it is needed most.

From the Scoping, 45% of respondents rate internet connectivity in Northern Ghana as "low", 35% as "moderate", 11% as "no connectivity", and only 9% as "strong". In cellular networks, 46% rate connectivity as "low", 33% as "moderate", 8% as "no connectivity", and 13% as "strong".

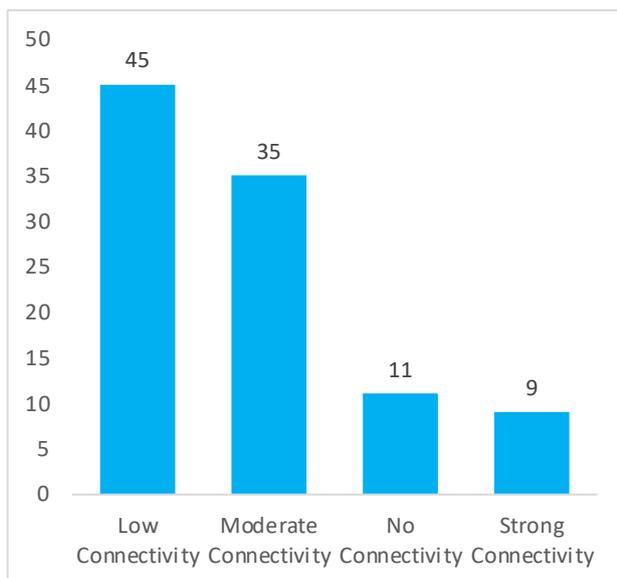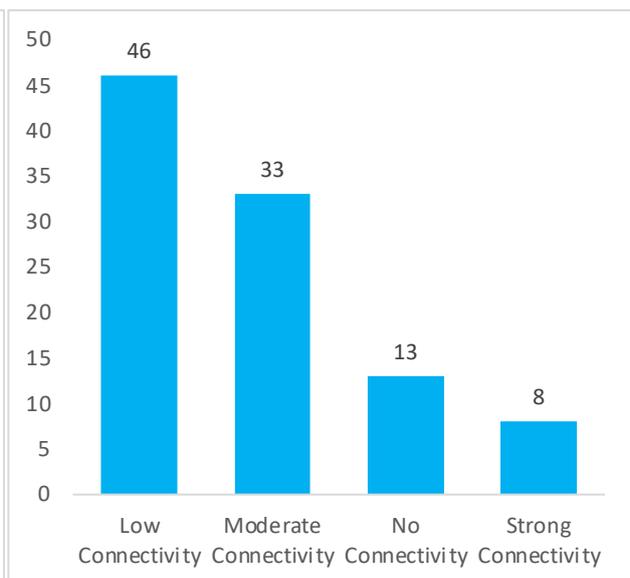Figure 2: Internet Connection Stability Rating

Figure3: Cellular Network Connection Stability

Source: SoCo Project Digital Technologies & Innovations Study, 2024

3.1. Digital technologies are already shaping local economies, but the potential is far from realised.

Indicative percentages from the survey reveal that 62% of inhabitants in the project area believe digital technologies already influence economic activity in their communities (through mobile money, social media marketing, access to learning, etc.), and 92% see significant potential for future growth if barriers are addressed. Regarding successful local digital businesses, 78% of respondents recognise that mobile money agents, internet cafés, and printing presses support financial transactions and business services.

Figure 4: Perceived current vs potential impact of digital technologies on local economies
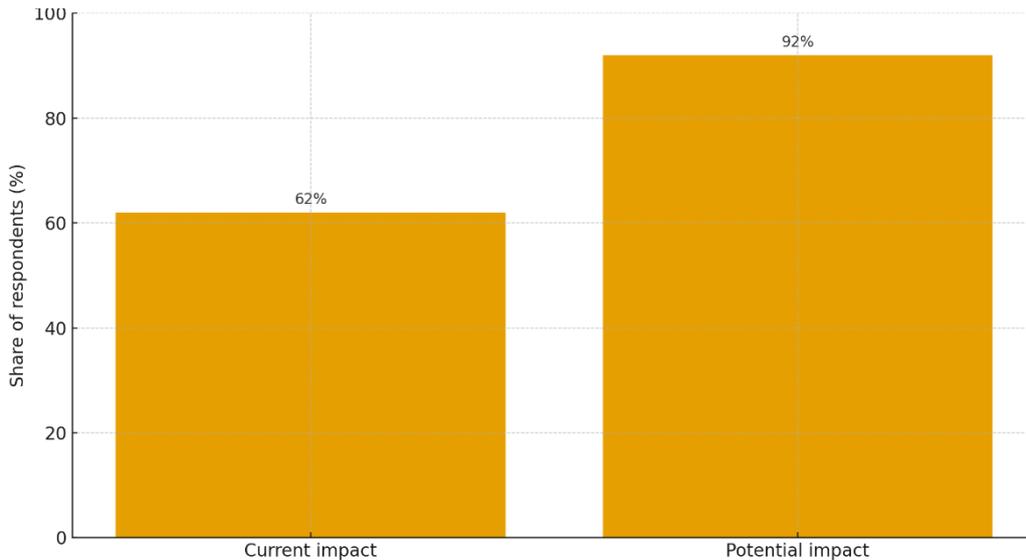
3.2. The digital divide reflects and reinforces existing inequalities.

National data show that internet and mobile money usage are substantially lower for persons with disabilities (30% and 20%) than for others (69% and 48%). Digital literacy in Northern Ghana is around 54%, and low general education levels compound limited Information Communication Technology (ICT) skills. Community members highlighted low levels of education, poverty, limited digital infrastructure, and a lack of knowledge of ICT tools as key obstacles to growth and the adoption of digital technologies.

3.3. Digital technologies are transforming services and social life, but risks are rising.

The study data show that 67% of persons surveyed say digital technologies positively influence social interactions, education, health, and community activities; examples include easier communication, online education platforms, digital health insurance renewal, mobile money, and telemedicine (e.g., Zipline drones for medical supplies). However, 57% cite cybercrime and mobile money fraud as the biggest concern; other issues include misuse of phones by children, distraction from social media and reduced workplace productivity. 43% remain concerned about data privacy and security.

3.4. The policy and regulatory landscape is dense, but fragmented and weakly enforced.

Ghana has multiple laws: the Data Protection Act 2012 (Act 843). Other laws that contain some privacy/data protection provisions include the 1992 Constitution; Electronic Communications Act, 2008 (Act 775); Electronic Communications Regulations, 2011 (L.I. 1991); Credit Reporting Act, 2007 (Act 726); Credit Reporting Regulations, 2020 (L.I. 2394); Public Health Act, 2012 (Act 851); Children's Act, 1998 (Act 560); and the Cybersecurity Act, 2020 (Act 1038). Ghana has adequate laws, such as the Electronic Transactions Act 2008 (Act 772), the Electronic Communications Regulations 2011 (L.I. 1991), and the Data Protection Act 2012 (Act 843), that are designed to protect personal data and regulate unsolicited communications. However, enforcement is weak, and regulatory responsibilities are spread across the Data Protection Commission, the National Communications Authority, and the Cybersecurity Authority, creating fragmentation and accountability gaps.

3.5. Northern Ghana's digital entrepreneurial ecosystem is emerging but underdeveloped.

Nationally, 500-700 start-ups (mainly in Accra/Kumasi) are supported by hubs and initiatives such as NEIP and the Accra Digital Centre. In the north, smaller hubs such as HoPin Academy, Yison TechHub and Noni Hub are growing, but access to finance, skills and markets remains limited. The results from the scoping emphasise the need for infrastructure, digital skills training, financial support, and access to devices to scale local innovations, especially in agri-tech, e-commerce and digital services.

4. Policy Options

4.1. Scenario A: Status Quo (Patchy connectivity, low skills and device ownership and fragmented initiatives)

Scenario A presents a "business as usual model" model in which Northern Ghana continues to rely on a slow, market-led rollout of digital infrastructure, scattered ICT4D projects, weak enforcement of data protection and cybersecurity laws, and under-resourced innovation hubs. Digital literacy remains low, and persons with disabilities, women, and rural youth stay excluded mainly from the digital economy.

In this context, productivity in agriculture and informal services remains low; firms and households continue to transact mainly in cash, facing high search and coordination costs; and financial inclusion grows only slowly. Local entrepreneurs struggle to reach larger markets or attract investment, the north–south digital and income gap continues to widen, and it becomes increasingly complex for Ghana to achieve inclusive, shared prosperity.

## 4.2.Scenario B: Incremental Change (More Projects, many initiatives, but limited structural change)

Scenario B represents an incremental approach in which the Government and development partners expand what already exists: more school computer labs and tablets, additional community training sessions, and a few more private hubs, while specific regulations are clarified. However, there is still no overarching framework that brings together infrastructure, skills, entrepreneurship, and regulation into a coherent digital strategy for Northern Ghana. As a result, more communities and schools go online, and some youth and women gain digital skills and new income opportunities, but these gains are uneven and fragile, tied to short-term projects rather than long-term systems and incentives. Northern Ghana will, therefore, continue to trail southern Ghana on key digital, productivity, and inclusion indicators, and the overall impact on growth remains modest.

4.3.Scenario C: A Northern Ghana Digital Inclusion and Innovation Framework

This scenario proposes a structured compact that treats digital inclusion and innovation in Northern Ghana as a core development and competitiveness priority rather than a niche ICT agenda. It rests on three pillars. First, universal, reliable basic connectivity in priority districts, with public-private investments drawing on national funds and World Bank or partner resources targeting universal 3G/4G coverage and public Wi-Fi hotspots in SoCo districts, backed by renewable energy solutions for off-grid communities. Second, foundational digital skills for all, especially youth, women and persons with disabilities, with digital literacy integrated into school curricula and adult community programmes and focused on financial literacy, e-commerce, digital safety and basic coding. Third, a vibrant, protected digital market for local innovators, with dedicated support for northern digital entrepreneurs and innovation hubs, combined with robust data protection and cybersecurity enforcement to build trust and attract investment.

Together, these measures lower transaction costs and raise productivity for farmers, traders and MSMEs, expand access to markets and finance, create more and better jobs for youth and women, and establish stronger foundations for service delivery innovations in health, education and local governance, thereby supporting long-term poverty reduction and shared prosperity.
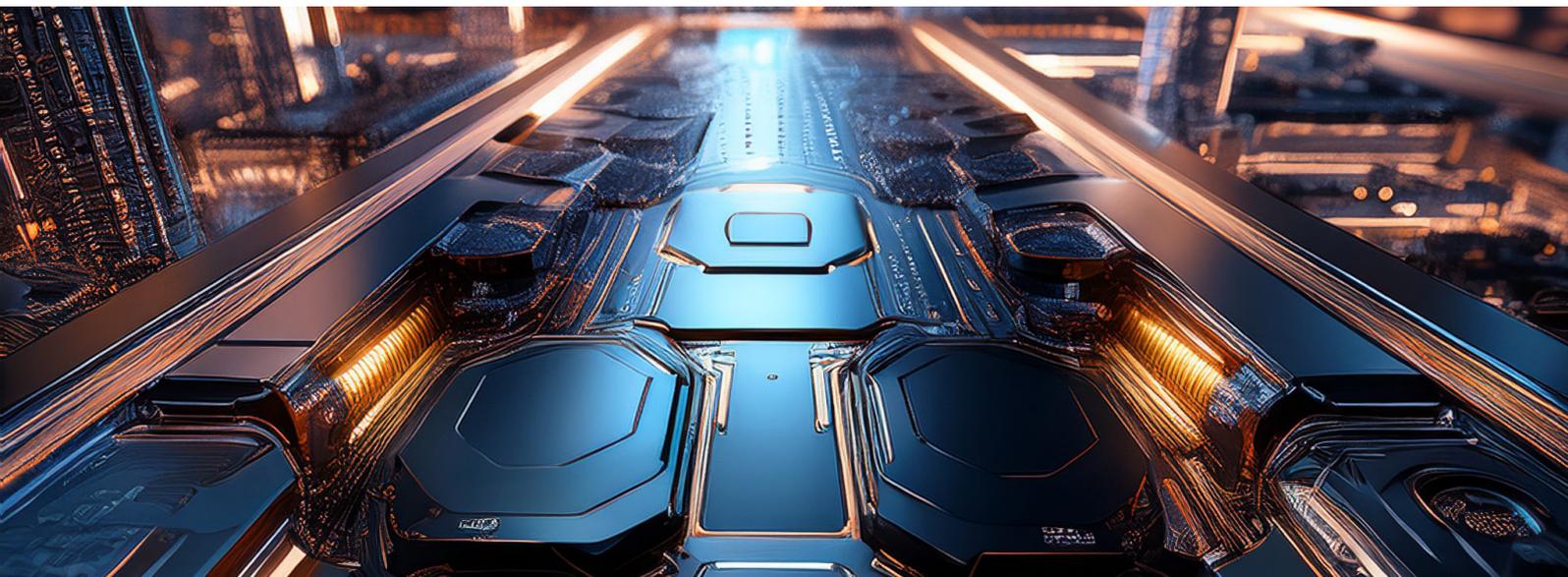
5. Recommendations

5.1. The Ministry of Finance and the Ministry of Communications and Digitalisation should create a Northern Digital Infrastructure and Inclusion Window.

This should be done by following the following steps;

Establish a dedicated financing window within the public investment programme to co-fund broadband expansion, telecom towers, public Wi-Fi, and solar-powered community tech centres in the six northern and Oti regions, prioritising high-poverty, low-connectivity districts.

- Use performance-based disbursements (e.g., coverage, uptime, affordability) to align incentives for telecom operators and infrastructure providers.
- Leverage this window to crowd in concessional climate and digital transformation finance, linked to resilient, low-carbon digital infrastructure.

5.2. The NDPC, GES and MLGCRA should take steps to mainstream and scale Digital Literacy and Service Innovation into Local Development Plans.

The NDPC should require that district Medium-Term Development Plans in Northern Ghana include clear digital literacy and digital service delivery targets for schools, health facilities, and local government, backed by dedicated budget lines. The GES, in collaboration with the National Council for Curriculum and Assessment (NaCCA) and other stakeholders, should integrate digital literacy, including online safety and financial literacy, into primary and secondary curricula, and fund community-based training for farmers, traders, youth and women using local language content and radio or digital campaigns. MMDAs should partner with development partners and NGOs to support local governments and traditional leaders in adopting digital tools for planning, citizen feedback, and information sharing, building on existing initiatives such as ICESSPOOL, DigiWASH, Kpododo, and Zipline.

5.3. Data Protection Commission, NCA, Cybersecurity Authority and Partners should build a Safe, Trustworthy Digital Market and Entrepreneurial Ecosystem

The Data Protection Commission, the National Communications Authority, and the Cybersecurity Authority should establish a joint regulatory task force to coordinate enforcement of data protection, consumer protection, and cybersecurity for mobile money and other digital services, with a strong focus on reducing fraud and building user trust in Northern Ghana. Government and development partners should launch a "Northern

Ghana Digital Innovation Fund" to provide grants, seed financing and technical assistance to hubs and start-ups working on agritech, e-health, e-commerce and local-language digital solutions. In parallel, universities, innovation hubs and the Bureau of Ghana Languages should work together to promote local digital content and applications in northern languages for agriculture, health, finance and education.

6. Conclusion

Investing now in a Northern Ghana Digital Inclusion and Innovation Framework will convert today's digital divide into tomorrow's growth opportunity, raising productivity, deepening financial inclusion and expanding markets for millions of poor and vulnerable people. The payoff is a more balanced, competitive and resilient Ghana, where the north is not a technology laggard but a full partner in the country's digital and economic transformation.