POLICY BRIEF NO. 01

BRIDGING THE DIGITAL GENDER GAP THROUGH REGIONAL INNOVATION HUBS: EVIDENCE FROM DIGIKEN-SUPPORTED GIRLS' HACKATHONS

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Key Messages

- Kenya's digital gender gap persists with rural women's internet use lagging urban access, and girls remain underrepresented as creators of technology.
- Regional Digital Innovation Hubs can close this gap by moving beyond basic digital literacy to innovation ecosystems where girls design, prototype and test solutions to real development challenges.
- Two DigiKen girls' hackathons, held to mark the International Day of Women and Girls in STEM and the International Day of Girls in ICT, show that girls need access to mentorship, tools and a platforms to innovate.
- Policymakers and partners should invest in regional hubs, embed responsible AI and hackathons in digital-skills programs, and fund mentorship-to-incubation pathways so girls' innovations reach impact.

1. Background

As Kenya accelerates its digital transformation agenda, ensuring that women and girls participate as innovators-not merely users of digital technologies- remains a critical policy challenge. While investments in digital infrastructure have expanded connectivity, persistent gender disparities continue to limit girls' participation in science, technology, engineering, mathematics (STEM), artificial intelligence (AI), innovation, and entrepreneurship, particularly in underserved regions.

The DigiKen Programme, implemented by the African Centre for Technology Studies (ACTS), through its Green and Digital Innovation Hub, demonstrates how regional Digital Innovation Hubs (DIHs) can serve as strategic platforms for advancing inclusive digital transformation.

Through the gDIH, DigiKen is strengthening regional innovation ecosystems by building the capacity of Digital Innovation Hubs and equipping local Trainer of Trainers to create innovation pathways for youth, women, and marginalized communities, consistent with the "Leave No One Behind" (LNOB) principle.

Evidence from girls' hackathons implemented through DigiKen illustrates that innovation hubs provide safe, community-based spaces where girls develop practical digital skills, learn responsible AI, access mentorship, and design technology solutions addressing pressing local challenges such as climate resilience, financial inclusion, gender-based violence, maternal health, inclusive education, agriculture, and online safety.

The programme demonstrates that investing in regional innovation hubs simultaneously builds institutional capacity, strengthens local innovation ecosystems, and equips girls with the confidence and skills to become creators of Africa's digital future.

2. The Policy Challenge

Despite Kenya's leadership in digital innovation, women and girls remain underrepresented in digital technology careers, AI, innovation ecosystems, and entrepreneurship. Barriers include: limited access to practical digital skills; inadequate mentorship and role models; limited exposure to emerging technologies such as AI; weak innovation ecosystems outside major cities; social norms that discourage girls from pursuing STEM careers and limited opportunities to transform ideas into digital products. A DigiKen needs assessment found that 60.2% of LNOB respondents do not yet use AI, citing lack of skills, training and affordable access [1].

These disparities are even more pronounced in marginalized counties, where innovation infrastructure remains limited. Bridging the digital gender gap therefore requires moving beyond digital literacy towards **building local innovation ecosystems where girls can design, prototype, test, and scale solutions to real development challenges.**

3. The Green and Digital Innovation Hub (gDIH): Supporting Inclusive Innovation through Hackathons and Makerthons

As part of its mandate to accelerate inclusive green and digital transformation, the **Green and Digital Innovation Hub (gDIH)** provides end-to-end technical and ecosystem support for hackathons, makerthons, innovation challenges, and digital boot camps. These innovation platforms serve as experiential learning environments where young people, particularly women and girls, move beyond acquiring digital skills to designing, prototyping, testing, and refining technology solutions that address local development challenges.

As part of its ecosystem support, the gDIH builds the capacity of regional Digital Innovation Hubs (DIHs) through curriculum development, trainer and mentor capacity building and technical mentorship from experts across academia, industry, and development organizations.

Beyond event delivery, the gDIH facilitates post-hackathon mentorship, investment readiness, and linkages to entrepreneurship ecosystems. This model positions innovation hubs as permanent local infrastructure supporting inclusive digital transformation across Kenya.

The gDIH supports regional hubs by:

- strengthening institutional capacity of Digital Innovation Hubs
- training local Trainers of Trainers (ToTs)
- providing digital innovation curricula
- facilitating mentorship experts
- promoting responsible and ethical AI
- Creating pathways from skills development to entrepreneurship.

[1] https://www.gdih.org/wp-content/uploads/Data-Driven-Insights-on-The-Digital-Gaps-of-MSMEs-and-LNOBs-in-Kenya_Report_18th_June_2026.pdf

4. Regional Digital Innovation Hubs as Centers of Inclusive Digital Transformation

The DigiKen model recognizes **Digital Innovation Hubs** as more than training venues. They function as regional platforms that connect youth and women to innovation ecosystems, promote locally developed digital solutions for sustainable development and nurture local innovators. Importantly, through a robust network of Trainer-of trainers (TOTs) the hubs ensure that **women, girls, and marginalized communities are not excluded from Africa's digital transition**, advancing the Leave-No-One-Behind (LNOB) agenda.

5. Evidence from DigiKen Girls' Hackathons

To demonstrate how regional Digital Innovation Hubs (DIHs) can accelerate inclusive digital transformation, the DigiKen programme, through the Green and Digital Innovation Hub (gDIH), supported two girls' hackathons. These events provided practical evidence that locally embedded innovation ecosystems can equip young women with digital, innovation, and leadership skills while strengthening the capacity of regional innovation hubs.

The first intervention was implemented in February 2026 to commemorate the **International Day of Women and Girls in Science**. Through the **Northern Innovation Hub (Nie Hub)** in Garissa, DigiKen supported a two-day hackathon that engaged 50 high school and university girls from the region. Beyond financing the event, DigiKen invested in strengthening the local innovation ecosystem by working through the hub's Trainers of Trainers (ToTs), who facilitated the hackathon with technical mentorship from ACTS and United Nations partners. This approach reflected the programme's broader strategy of building sustainable institutional capacity within regional Digital Innovation Hubs so that they can continue delivering innovation programmes beyond the lifespan of individual projects.

The hackathon introduced participants to technology, design thinking, teamwork, and digital problem-solving before guiding them through an innovation journey in which they worked collaboratively to identify challenges affecting their communities and develop technology-enabled solutions. Working in teams, the participants transformed locally identified problems into digital concepts and presented their ideas to mentors, peers, and a panel of judges. The solutions developed demonstrated a strong understanding of local development priorities. These included She FUND, a fintech platform designed to promote financial independence for women and girls; a Climate-Smart Water Infrastructure Platform enabling communities to report water shortages in real time and request solar-powered irrigation systems; a community-based model combining digital awareness campaigns, school engagement, and family dialogue to prevent early child marriage; a Safe Communities Initiative focused on gender-based violence prevention through community accountability and collaboration with local authorities; and **SafeLink Garissa**, a digital referral and response platform supporting survivors of gender-based violence.

Participants at the DigiKen two-day hackathon in Garissa, organised through the Northern Innovation Hub (Nie Hub) to commemorate the International Day of Women and Girls in Science.

Learn more about the event:

- Press Brief: My First Tech Solution Hackathon for Girls in Garissa
- Blog: Girls Shaping the Digital Future in Kenya

Building on these experiences, DigiKen expanded its innovation ecosystem approach during the **International Girls in ICT celebrations** in April 2026 by organizing a three-day hybrid Artificial Intelligence (AI) Hackathon at the Timbuktoo Hub, in Konza Technopolis that engaged 50 girls. The event was implemented through a partnership between **ACTS, Plan International, the ACTS AI Institute (ACAII), Microsoft, UN Women, UNEP, and graduates of the African Girls Can Code Initiative (AGCCI)**. Rather than functioning as a standalone training event, the hackathon was designed as an innovation pathway that simultaneously strengthened the institutional capacity of two DigiKen-supported Digital Innovation Hubs-Africa Media Hub and PC Kinyanjui Jitume Hub-to independently organize future AI boot camps, hackathons, and digital innovation programmes.

The hackathon adopted a blended learning approach consisting of two virtual preparatory sessions followed by an intensive in-person innovation challenge. The preparatory sessions enabled participants to understand AI for sustainable development, explore challenge areas, form multidisciplinary teams, define community problems, and begin designing user journeys before the physical event. During the in-person hackathon, participants refined their ideas through rapid prototyping using Google Stitch, received mentorship from technical experts drawn from the African Girls Can Code Alumni, strengthened their leadership and communication skills, and presented their AI-enabled solutions before a panel of judges.

Consistent with the gDIH's human-centred innovation philosophy, the learning journey encouraged participants to move from identifying real community challenges to designing ethical and inclusive digital solutions. The process followed the innovation pathway of **"See the problem – Understand AI – Design with empathy – Build responsibly – Pitch for impact,"** reinforcing the principle that technology should be developed around human needs and sustainable development outcomes.

Throughout the hackathon, participants received practical training in emerging technologies, including Artificial Intelligence, Generative AI, Prompt Engineering, Responsible AI, Google Stitch for rapid application prototyping, teamwork, communication, leadership, and pitching. Technical sessions delivered by the Green and Digital Innovation Hub, the ACTS AI Institute, Microsoft, and partner organizations emphasized that AI should be developed responsibly, incorporating principles of fairness, privacy, inclusion, accessibility, and ethics from the earliest stages of innovation.

The solutions produced during the AI hackathon reflected the girls' ability to apply digital technologies to address complex social and development challenges. The prototypes included an AI-powered precision fertilizer advisory platform for Kenyan smallholder farmers; an AI-enabled safety application supporting women both online and offline; a maternal healthcare companion; an educational application for autistic learners; and an AI-powered solution to identify and prevent online threats.
Collectively, these innovations demonstrated that when girls are provided with the appropriate skills, mentorship, tools, and supportive innovation environments, they are capable of designing practical digital solutions with the potential to contribute to national development priorities.

Highlights from the DigiKen AI Hackathon. Held during the International Girls in ICT celebrations at Timbuktoo Hub, Konza Technopolis, the three-day hybrid hackathon brought together more than 50 girls to explore Artificial Intelligence, Generative AI, Prompt Engineering, and Responsible AI.

Learn more about the event: [Press Brief: Girls Take Lead in Artificial Intelligence (AI) Innovation at ICT Day Hackathon in Konza]

6. Policy Implications and Recommendations

The DigiKen experience demonstrates that closing the digital gender gap requires **moving beyond conventional digital literacy programmes towards ecosystem-based approaches** that equip girls and young women to become innovators, entrepreneurs, and leaders in the digital economy. While foundational digital skills remain important, lasting impact is achieved when training is complemented by mentorship, experiential learning, innovation challenges, and pathways to entrepreneurship.

A key lesson is that **regional Digital Innovation Hubs (DIHs)** can serve as centers of inclusive digital transformation. By strengthening the institutional capacity of local hubs, training mentors, and connecting participants to innovation networks, DigiKen created sustainable platforms that extend digital opportunities to underserved communities while ensuring that women and girls are not left behind.

The programme also demonstrated that **hackathons and makerthons are powerful learning approaches,** enabling participants to apply digital technologies and Artificial Intelligence (AI) to address real-world challenges in health, agriculture, climate resilience, financial inclusion, education, online safety, and gender equality.

Another important lesson is the value of integrating responsible AI, human-centered design, and rapid prototyping into digital literacy programmes. Rather than teaching technology in isolation, DigiKen encouraged participants to identify community needs, design solutions collaboratively, and develop prototypes using emerging digital tools. This approach strengthened technical competence alongside creativity, leadership, teamwork, ethical awareness, and problem-solving skills.

The DigiKen model offers important lessons for digital literacy programmes across Kenya and the region. First, investments should prioritize strengthening regional innovation ecosystems rather than delivering one-off training activities. Second, digital skills programmes should incorporate practical innovation experiences, including hackathons and makerthons that enable learners to solve real community challenges. Third, AI training should integrate ethics, inclusion, privacy, and accessibility to prepare young people for responsible digital innovation. Finally, participants should be connected to longer-term learning, mentorship, incubation, and entrepreneurship pathways to sustain innovation beyond individual events.

Drawing on these lessons, the DigiKen model proposes five priorities for policymakers and partners:

- National and county governments should prioritise strengthening regional innovation ecosystems by funding hubs as permanent local infrastructure rather than financing one-off training activities.

- Programme implementers and donors should embed practical innovation experiences, including hackathons and makerthons, that enable learners to solve real community challenges.

- AI training should integrate ethics, inclusion, privacy and accessibility to prepare young people for responsible digital innovation.

- Programme designers and investors should connect participants to longer-term learning, mentorship, incubation and entrepreneurship pathways to sustain innovation beyond individual events.

- Programme implementers should establish clear intellectual property (IP) frameworks before hackathons commence to safeguard participants' innovations and provide participants with foundational IP literacy.

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