



Community-Centered Connectivity in Rhino Camp Refugee Settlement, Uganda

An Internet Society Case Study | May 2026



Executive Summary

Between 2025 and early 2026, the **Internet Society** partnered with the **Community Empowerment & Transformation Agency (CETA)**, **Hello World**, and the **Research and Education Network for Uganda (RENU)** on a community-centered connectivity and capacity-building initiative in Rhino Camp Refugee Settlement in Uganda. The initiative is a practical, evidence-based model aligned with the United Nations Refugee Agency’s (UNHCR’s) priorities of self-reliance and inclusion for durable solutions.

The initiative is anchored in the Internet Society’s global community-centered connectivity and digital skills programs. Internet Society training curricula—notably the Designing and Deploying Computer Networks (DDCN) and related community network courses—formed the backbone of the technical capacity-building effort. CETA led trainings and trained locals to become trainers, expanding the community’s capacity to deploy their own networks and ensuring long-term ownership and stability.

Technical partners Hello World and RENU helped launch the community-owned “Hello Hubs” in the settlement’s Siripi and Ofua zones. Internet Society-trained local technicians, community governance committees, and emerging sustainable service models support both hubs. By prioritizing people and institutions instead of treating connectivity as a stand-alone infrastructure challenge, the approach enabled refugees and host-community members to design, build, manage, and govern their own digital infrastructure—without creating ongoing financial or technical dependence on outside groups.



Photo credit: Hello World

A Localized Strategy

Rhino Camp Refugee Settlement is made up of eight zones. Collectively, the zones are home to 192,000 refugees and a 158,271-person host community. The surrounding environment has limited grid power, high connectivity costs, and uneven digital access. Due to poor coverage and network quality, combined with high costs, mobile Internet is often the only option for people, constraining access to education, livelihoods, services, and information. At the same time, humanitarian funding pressures underscore the need for locally managed, financially and technically sustainable solutions.

The initiative responded to this context by:

- ▶ Prioritizing skills and institutional capacity before and during infrastructure deployment.
- ▶ Anchoring delivery in a trusted local organization, CETA, strengthened through its role as an Internet Society training partner.
- ▶ Leveraging Internet Society curricula and global community network expertise to ensure technical robustness and replicability.
- ▶ Collaborating with partners, Hello World and RENU, who supported the connectivity deployment, technical assistance, and continued capability building.
- ▶ Designing connectivity systems that locals can operate, govern, and adapt over time.





Photo credit: Hello World

What We Did

Internet Society Training and Training-of-Trainers Model

A core pillar of the initiative was the delivery of Internet Society training programs, particularly the [Designing and Deploying Computer Networks \(DDCN\)](#) course. These courses are part of the Internet Society's global effort to strengthen local capacity to build and manage community networks, especially in underserved and displaced communities.

CETA served as the Internet Society's local training delivery partner, leading participant mobilization, facilitation, mentoring, and follow-up. In total, 135 refugee and host-community participants built practical skills in networking fundamentals, wireless and local area network (LAN) design, routing, power systems, Internet standards, and troubleshooting.

Importantly, the approach focused on training local trainers by:

- ▶ Equipping a cohort of six technically capable participants to mentor peers and support future training cycles.
- ▶ Training graduates to help Hello World and RENU deploy Internet infrastructure and manage operations on an ongoing basis.
- ▶ Forming peer-support groups to sustain learning beyond formal training.

This ensured that the training was not a one-off intervention, but a scalable capacity-building system embedded locally through CETA.



Scaling Local Capacity Through Embedded Learning

Capacity building extended beyond the classroom. During the construction of community hubs, Hello World embedded engineering training directly into the build process, reinforcing course content through real-world application. Hello World trained a total of **444 community members** during site deployment.

Community members learned by doing, participating in:

- ▶ Installing and maintaining solar and power systems.
- ▶ Wiring and mounting network equipment.
- ▶ Configuring routers, access points, and mesh nodes
- ▶ Applying safety, maintenance, and troubleshooting practices.

This embedded learning model strengthened confidence, normalized refugee and youth leadership in technical roles, and ensured that skills translated into operational capability.

Deploying Community-Led Connectivity Solutions

The Internet Society funded the deployment of connectivity infrastructure in Rhino Camp as part of its commitment to advancing community-led networks and meaningful connectivity for displaced people. Hello World served as the connectivity deployment partner, responsible for deploying operational, community-owned infrastructure on the ground.

CETA assumed the role of local steward and implementing partner, coordinating day-to-day operations, supporting committees, and maintaining links with the Internet Society, Hello World, and RENU for technical and learning support.

Hello World worked with refugees and host community members to deploy two community-owned digital hubs (“Hello Hubs”) in the settlement’s Siripi and Ofua zones using a community-centered methodology. Hello World estimates that this project has connected a total of 7,900 users so far:

- ▶ Community leaders, CETA, settlement authorities, and UNHCR counterparts collaboratively undertook site selection and preparation, ensuring local legitimacy, accessibility, and long-term feasibility.
- ▶ Hello World led connectivity deployment—including civil works, solar and power systems, network installation, and on-site engineering training—with a strong emphasis on skills transfer, inclusive participation, and local ownership.
- ▶ Connectivity design combined mobile backhaul with a mesh network proof-of-concept that RENU implemented, providing locally extensible, resilient, and future-ready network architectures.
- ▶ Power systems were solar-based and adapted to off-grid conditions typical of the settlement environment.

Hello World led the deliberate extension of connectivity beyond the hubs themselves to nearby markets, education spaces, and community areas. This demonstrated how community-led connectivity can be deployed incrementally, expanding coverage and impact as local capacity and demand grow.



Governance, Ownership, and Sustainability

Community ownership was institutionalized from the outset:

- ▶ Communities elected hub management committees responsible for governance, safeguarding, sustainability, and accountability.
- ▶ Locally agreed rules defined access, responsibilities, and conflict-resolution mechanisms.
- ▶ The hub management committee introduced sustainable service-based models for affordable Internet access and device charging.

Existing mobile networks are weak, inconsistent, and unaffordable, with speeds averaging 105 Mbps of limited data at a cost of UGX 2,500–4,000 per GB for 24 hours. In practice, the time it takes to exhaust the mobile data plan is just one hour for people streaming videos or online meetings, making the packages unaffordable for Rhino Camp residents.

How We Did It

Partnership Model

- ▶ **Internet Society:** Provided globally recognized training curricula (DDCN and community network courses), strategic direction on community-led connectivity, and learning oversight aligned with the Internet Society's broader refugee and community-centered connectivity work.
- ▶ **CETA:** Internet Society training delivery partner and local lead organization, responsible for training facilitation, community mobilization, hub operations, and long-term stewardship.
- ▶ **Hello World:** Led community-centered hub deployment, embedded engineering training during builds, provided governance support, and general support. They continue to provide ongoing capacity building and technical assistance.
- ▶ **RENU:** Connectivity partner providing mesh network expertise and a scalable, future-ready network architecture.

This complementary partnership ensured that global expertise (Internet Society), local leadership (CETA), and technical delivery (Hello World and RENU) were tightly integrated.

Accompaniment and Learning-Focused Support

The principle of accompaniment means being present with communities over time and supporting their agency. It is a principle shared by the Internet Society and Hello World, as we believe in the importance of local decision-making. In practice, this entailed:

- ▶ Regular problem-solving and reflection sessions with CETA.
- ▶ Remote monitoring of solar and network performance.
- ▶ Gradual transfer of responsibilities as local confidence and competence increased

This approach enabled continuous learning and adaptation to real operational challenges in the settlement context.

Impact

Technical and Operational Impact

- ▶ Two fully operational, community-owned digital hubs serving over 4,500 refugees and host community members.
- ▶ Internet Society and Hello World trained six local technicians to resolve routine solar and network issues independently.
- ▶ Flexible, modular network architecture suitable for future expansion and replication.

Social and Economic Impact

- ▶ Improved access to affordable Internet for education, communication, and livelihoods
- ▶ Increased confidence among youth and women participating in technical roles
- ▶ Extended connectivity to markets, supporting small businesses and daily economic activity.

Institutional Impact

- ▶ Strengthened role of CETA as a local digital inclusion and training actor, capable of delivering Internet Society courses and managing community infrastructure. They plan to train another 450 people in 2026.
- ▶ Functioning governance structures that embed accountability and inclusion.

Baseline findings confirm strong demand for connectivity, alongside ongoing challenges relate to affordability, devices, and digital skills—reinforcing the Internet Society’s position that connectivity must be paired with sustained capacity building and community governance to achieve meaningful outcomes.

Community Feedback

“ The availability of the Internet has reduced theft in the way that people, especially youth, stay engaged in more positive and productive activities. Many young people now use the Internet to stay connected with their family members, especially those living in other places or countries.

In addition, some youths use the Internet to search for online learning opportunities, scholarships, educational resources, and useful information that help them improve their knowledge and change their lives. They are now more engaged in learning, communication, and searching for opportunities. Many young people are becoming more focused on their future.”

Justin Lisisa Lobela, 28 years, originally from the Democratic Republic of Congo, serves as a refugee youth representative at the Rhino settlement. After taking one of the first courses offered, he now trains others in online trust and safety

Sustainability and Replicability

The Rhino Camp experience demonstrates that refugee-led connectivity is viable when:

- ▶ Training programs are delivered through trusted local partners.
- ▶ Local trainers and institutions are developed before and alongside infrastructure.
- ▶ Infrastructure deployment is inseparable from skills transfer and governance.
- ▶ Financial stewardship and monitoring are treated as core components of the system.

With continued consolidation, this model offers a scalable blueprint for UNHCR, the Internet Society, and partners seeking to advance self-reliance, community ownership, and sustainable digital inclusion in refugee and displaced communities.

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