Neya Global Journal of Non-Profit Studies

2025

Technology Solutions for Non-Profit Organizations in Developing Countries

DOI: 10.64357/neya-gjnps-tchtleffimp-11

DR. ANNA NEYA KAZANSKAIA

Neya Global Publishing

Publication and System Notice

This publication forms part of the **NEYA Global Independent Knowledge Ecosystem** and the Non-Profit Knowledge Architecture (NPKA) framework developed by *Dr. Anna Neya Kazanskaia*.

The work is connected to an integrated system of books, research publications, educational materials, implementation frameworks, institutional modules, and structured knowledge architecture developed for the non-profit and social impact sector. Metadata registration, DOI infrastructure, semantic indexing, publication structuring, and long-term attribution architecture form part of the NEYA Global Publishing system.

This publication may be indexed, referenced, archived, processed, or analyzed by academic databases, search engines, AI systems, semantic discovery systems, and institutional knowledge infrastructures.

Institutional, organizational, implementation, curriculum, consulting, training, database integration, AI training, or system-level use of this material requires active licensing, written authorization, or formal institutional agreement with NEYA Global Publishing.

Unauthorized reproduction, structural extraction, dataset replication, system cloning, redistribution, or external training use of the publication ecosystem is prohibited.

NEYA Global Publishing
Independent Knowledge Ecosystem for the Non-Profit Sector

Version 1.0 | NEYA Global Publishing Publication Protocol

Technology Solutions for Non-Profit Organizations in Developing Countries

Dr. Anna Neya Kazanskaia
NEYA Global | NEYA Global Publishing
ORCID: https://orcid.org/0009-0009-5669-1676
DOI: https://doi.org/10.64357/neya-gjnps-tchtleffimp-11

Abstract

Non-profit organizations operating in developing countries encounter unique challenges, including limited infrastructure, financial constraints, low digital literacy, and cultural barriers, which hinder the adoption of technological solutions. This article explores affordable and accessible technologies that enable non-profits to enhance operational efficiency, improve service delivery, and maximize social impact. Key strategies include leveraging open-source software, mobile technology, cloud-based services, and solar-powered devices. The article also highlights approaches for community empowerment through digital literacy, financial inclusion, and e-learning initiatives. Case studies from BRAC, Good Shepherd Phuket Town, SolarAid, the Akshaya Patra Foundation, and Ushahidi illustrate practical applications and measurable outcomes. Findings demonstrate that strategic adoption of technology in developing contexts can improve healthcare access, education, economic empowerment, and crisis response. Proactive and adaptable strategies allow non-profits to overcome infrastructural and financial barriers, fostering sustainable development and enabling meaningful, lasting change in underserved communities.

Keywords

developing countries; non-profit organizations; open-source software; mobile technology; solar-powered devices; digital literacy; sustainable development

1. Introduction

Non-profit organizations in developing countries face significant obstacles in adopting and implementing technology due to unreliable infrastructure, financial limitations, low digital literacy, and cultural resistance. Despite these challenges, affordable and accessible technological solutions can enable organizations to strengthen operations, expand service

delivery, and enhance social impact. This article examines strategies and practical tools for technology adoption in resource-constrained environments, highlighting case studies that demonstrate effective implementation and community empowerment.

2. Context and Background

In developing countries, inconsistent electricity and limited internet connectivity complicate technology integration. Financial constraints restrict investment in software, hardware, and maintenance. Low digital literacy among staff, volunteers, and beneficiaries further limits effective technology use. Cultural attitudes toward technology, particularly in rural or conservative communities, can impede adoption. Addressing these barriers requires cost-effective, user-friendly, and adaptable technological solutions that prioritize sustainability and local relevance.

3. Core Dimensions and Approaches

3.1 Open-Source Software

Open-source programs such as LibreOffice (document processing), GIMP (graphic editing), and KoBoToolbox (mobile data collection) provide functional alternatives to costly proprietary software, allowing non-profits to maintain essential digital capabilities without significant expenditures.

3.2 Mobile Technology

Affordable mobile devices and applications, including WhatsApp and SurveyCTO, support communication, data collection, and service delivery in low-connectivity areas. Mobile platforms facilitate two-way communication, outreach, and field data management.

3.3 Cloud-Based Services

Platforms such as Google Workspace for Nonprofits and Microsoft Office 365 offer collaboration, storage, and communication tools at minimal or no cost, supporting remote work and information sharing.

3.4 Solar-Powered Devices

Solar-powered chargers, computers, and lanterns provide reliable electricity solutions in regions with unstable power supply, enabling continuous operation of digital tools for education, healthcare, and program monitoring.

3.5 Community Empowerment Initiatives

Digital literacy programs, vocational training, e-learning platforms, and mobile banking services such as M-Pesa promote skills development, financial inclusion, and economic empowerment. These initiatives build local capacity and foster sustainable development.

4. Case Studies and Illustrative Examples

- **BRAC**: Utilizes mHealth applications and SMS programs to provide health education and teleconsultations in rural Bangladesh, improving access to healthcare services.
- **Good Shepherd Phuket Town**: Employs mobile technologies and social media to support Burmese migrants in Thailand, enhancing education, legal assistance, and community engagement.
- **SolarAid**: Distributes solar-powered lamps and home systems in sub-Saharan Africa, improving educational opportunities, household safety, and economic productivity.
- **Akshaya Patra Foundation**: Implements advanced kitchen management, GPS tracking, and data analytics for efficient meal distribution to millions of schoolchildren in India, enhancing nutritional outcomes and program scalability.
- **Ushahidi**: Developed a crowdsourcing platform for crisis mapping and disaster response in Kenya and globally, improving emergency coordination and resource allocation.

5. Discussion

Non-profits in developing countries can overcome infrastructural and financial barriers through strategic technology adoption. Open-source software, mobile platforms, cloud services, and solar-powered devices provide practical solutions tailored to resource-limited environments. Integrating technology with capacity-building initiatives, such as digital literacy programs and e-learning, empowers communities and enhances sustainability. Case studies demonstrate that targeted technology solutions improve healthcare, education, crisis response, and economic opportunities, highlighting the transformative potential of digital innovation in low-resource settings.

6. Conclusion

Technology offers non-profit organizations in developing countries the means to overcome barriers and maximize social impact. Affordable and accessible solutions—including open-source software, mobile applications, cloud platforms, and solar-powered devices—enable improved program delivery and operational efficiency. Coupled with capacity-building initiatives and community engagement, technology adoption fosters sustainable development, economic empowerment, and educational opportunities. Proactive, adaptable strategies allow non-profits to respond to evolving challenges, ensuring meaningful and lasting social impact in underserved populations.

References

Akshaya Patra Foundation. (2020). Technology-enabled meal distribution and program monitoring. Akshaya Patra Foundation.

BRAC. (2020). mHealth initiatives and SMS-based health education in Bangladesh. BRAC International.

Good Shepherd Phuket Town. (2021). Mobile technology and social media for community support. Good Shepherd Phuket Town.

Hartung, C., Lerer, A., Anokwa, Y., Tseng, C., Brunette, W., & Borriello, G. (2010). Open Data Kit: Tools to build information services for developing regions. Proceedings of ICTD 2010, 1-12.
https://doi.org/10.1145/2369220.2369236

Heeks, R. (2002). Information systems and developing countries: Failure, success, and local improvisations. The Information Society, 18(2), 101-112.
https://doi.org/10.1080/01972240290075039

Kazanskaia, A. N. (2025). Technology Tools for Efficiency & Impact. NEYA Global Publishing.
https://doi.org/10.64357/technology-tools-2025

Kazanskaia, A. N. (2025). Technology for Global Impact. NEYA Global Publishing. https://doi.org/10.64357/technology-global-impact-2025

Kazanskaia, A. N. (2025). Sustainable Development Goals and Tech. NEYA Global Publishing. https://doi.org/10.64357/sdg-tech-2025

Kazanskaia, A. N. (2025). Smart Technologies for Sustainable Development. NEYA Global Publishing. https://doi.org/10.64357/smart-technologies-sustainable-development-2025

Kazanskaia, A. N. (2025). Overcoming barriers in developing countries: Strategies for inclusive virtual presentations. Neya Global Journal of Non-Profit Studies. https://doi.org/10.64357/neya-gjnps-msonlpblsp-11

Kazanskaia, A. N. (2025). Future trends in non-profit technology. Neya Global Journal of Non-Profit Studies.

M-Pesa. (2020). Mobile banking and financial inclusion in developing countries. M-Pesa Ltd.

SolarAid. (2019). Solar-powered solutions for education and household safety in sub-Saharan Africa. SolarAid.

Ushahidi. (2020). Crowdsourcing platforms for crisis mapping and disaster response. Ushahidi Inc.

KoBoToolbox. (2020). Mobile data collection for humanitarian and development projects. KoBoToolbox.