Global Disability Innovation Hub

AT2030

UK International Development

UCL


## Mobile as Assistive Technology

# Global Insights Summary Report

**AT2030 Insight Paper | Inquire Cluster**

**www.at2030.com**

*Submitted by the Global Disability Innovation Hub*

# 1 Table of contents

## Contents

# 2 Executive Summary

Smartphones now contain screen readers, magnification tools, live captions, real-time transcription, and navigation features that can perform many of the functions of traditional assistive products. Across low- and middle-income countries (LMICs), people with disabilities are using these built-in features as their primary assistive technology, often because specialist AT is unavailable, unaffordable, or absent.

This report examines that reality: the use of mainstream smartphones as assistive technology — mobile-as-AT — and the system conditions that determine whether it works reliably in practice.

Despite their growing role, smartphones are rarely recognised or governed as assistive infrastructure. National AT policies typically exclude them. Telecommunications regulation and disability policy operate separately. Digital inclusion strategies seldom account for the structural requirements that make accessibility sustainable rather than temporary.

Between 2023 and 2025, GDI Hub conducted structured interventions across Kenya, India, and Brazil with more than 750 people with visual and hearing impairments. Across contexts, five consistent findings emerged:

- Mobile-as-AT functions as a layered system, not a single device. Outcomes depend on hardware performance, operating systems, connectivity, service accessibility, and structured human support.
- Training is infrastructure. Sustained capability develops over time and requires reinforcement beyond initial activation.
- Data affordability determines whether accessibility is reliable or conditional.

- Mainstream technology decisions — from language support to hardware specifications — directly shape assistive outcomes.
- Community organisations are essential delivery infrastructure, not peripheral partners.

These findings point to four minimum system conditions for mobile-as-AT to function at scale: sustained training ecosystems; affordable connectivity; accessibility standards across devices and platforms; and formal policy recognition of smartphones as AT.

Without these conditions, assistive use remains fragile. Independence may increase in the short term, but without structural alignment it remains dependent on temporary supports.

Smartphones are already being used as assistive infrastructure. The question is whether the systems around them will adapt accordingly.

# 3 Context

## 3.1 Treating Mobile as Infrastructure

Over the past decade, smartphones have become the primary way billions of people communicate, access information, manage money, and navigate the world. For people with disabilities, this shift carries particular significance. Modern devices contain built-in tools — screen readers, magnification, live captions, real-time transcription — that replicate or replace many traditional assistive products. In practice, a single smartphone can do the work of a screen reader, a captioning unit, and a magnifier simultaneously.

This is not a future possibility. It is already happening. Across low- and middle-income countries (LMICs), people with visual and hearing impairments are using smartphones as their primary assistive technology (AT), often because specialist AT is unavailable, unaffordable, or simply not present in their communities (WHO & UNICEF, 2022). Mobile is not supplementing the AT system. In many places, it has become the AT system.

Yet the policies, procurement frameworks, and funding systems that govern AT have not caught up. Most national AT frameworks do not include smartphones. Telecommunications regulation and disability policy operate in separate institutional worlds. Digital inclusion strategies rarely address the specific barriers that prevent people with disabilities from accessing and using mobile technology effectively. The result is a gap between what mobile devices are capable of delivering and what people with disabilities are actually able to access and sustain in practice.

This report addresses that gap. Not by making the case that mobile phones can function as AT, but by examining the conditions under which they reliably do, drawing on GDI Hub's research and delivery experience across three countries and over 750 participants.

Throughout this report, we use the term mobile-as-AT to describe the use of mainstream smartphones — and the accessibility features, applications, and connectivity built into them — as AT. While mobile devices can include basic feature phones, the evidence presented here focuses specifically on smartphones, whose built-in accessibility features enable them to function as multi-purpose assistive tools.

## 3.1.1 An Evidence-to-Action Report

This is an evidence-to-action report. It draws on structured interventions across Kenya, India, and Brazil to identify the system conditions that determine whether mobile-as-AT works in practice. It is organised in three parts.

#### *3.1.1.1 Evidence*

Documents what we observed across country contexts: what worked, what constrained impact, and what the findings reveal when examined together.

#### *3.1.1.2 Systems*

Outlines what those observations reveal about how mobile-as-AT actually functions, where it breaks down, and what enabling conditions have to be in place for it to work reliably.

#### *3.1.1.3 Action*

Defines what needs to change, across policy, industry, financing, and training ecosystems, to make mobile-as-AT sustainable at scale.

Together they build a cumulative case for a practical shift in how smartphones are understood and governed: from incidental tools to recognised infrastructure. That shift matters because the decisions shaping mobile-as-AT — in procurement, investment, telecommunications policy, device design, and service delivery — are being made now, largely by actors operating independently of one another. This report is intended to support coordinated action by establishing a shared vocabulary, a common evidence base, and a clear set of enabling conditions that each actor can use as a reference point, regardless of where they sit in the system.

## 3.2 Who This Report Is For

Mobile-as-AT sits at the intersection of disability policy, digital infrastructure, telecommunications markets, and service delivery systems. No single actor controls the conditions that make it work — and it fails when any one part of the system is missing. This report is written for the actors whose decisions collectively determine whether smartphones function as assistive infrastructure:

### 3.2.1 Policymakers and regulators

Policymakers and regulators working across AT, digital inclusion, telecommunications, health, and education — who will find evidence and framing to support the integration of mobile-as-AT into national policy and procurement

### 3.2.2 Industry actors

Industry actors including mobile network operators, device manufacturers, and operating system providers — who will find evidence of where design and pricing decisions shape accessibility outcomes in practice

### 3.2.3 Funders and donors

Funders and donors supporting disability inclusion or digital infrastructure — who will find analysis of the conditions that distinguish sustainable systems from one-off pilots

### 3.2.4 Community and delivery organizations

Community and delivery organizations, including Organisations of Persons with Disabilities (OPDs), NGOs, and training providers — who will find documented approaches and the system context needed to move beyond initial rollout

## 3.3 Why Mobile-as-AT Matters Now

Access to AT remains deeply unequal, with the largest gaps in low- and middle-income countries (WHO & UNICEF, 2022). At the same time, smartphones are among the most widely distributed and routinely used technologies in these contexts (GSMA, 2024). For many people with disabilities, a smartphone is more accessible than specialist assistive products, which are often unavailable, unaffordable, or absent from formal provision systems.

In settings where specialist AT systems are limited, smartphones are already functioning as de facto assistive tools, but without formal recognition or system support.

The gap is not technological. Accessibility features are built in. Devices are widely available. What is missing is the surrounding structure: policy recognition, affordable connectivity, sustained training ecosystems, and service standards that ensure accessibility works reliably in practice.

Without these conditions, assistive use remains fragile. Smartphones may enable independence, but that capability is conditional rather than durable.

## 3.4 The Stakes of Getting This Wrong

The risk is not that smartphones fail to function as assistive tools. They already do. The risk is that this reality becomes embedded without alignment.

If smartphones continue to serve as assistive infrastructure without formal recognition, standards, and governance, inconsistency becomes entrenched. Accessibility varies by device tier, language, and impairment. Performance gaps persist without accountability. Meanwhile, formal AT frameworks remain focused elsewhere, increasingly disconnected from the mainstream digital infrastructure people are actually using.

Over time, this misalignment hardens. Smartphones become normalized as assistive tools, but without the system conditions required to make that role reliable.

### 3.4.1 LMICs as Innovation Leaders

LMICs are not peripheral to this transition. They are its leading edge. In many LMICs, smartphones arrived before specialist AT systems ever took hold. People with disabilities adapted, building peer networks and community-based support structures that sustained capability in the absence of formal AT provision. These are not failure stories. They are innovation stories.

At the same time, LMIC contexts surface system vulnerabilities early. Affordability constraints, language gaps, device-quality trade-offs, and the absence of post-training support quickly reveal where mobile-as-AT breaks down. What appears as fragility is also foresight: these contexts show, in accelerated form, the conditions under which smartphone-enabled accessibility succeeds or fails.

The lessons emerging from LMICs are therefore not local case studies. They are forward indicators for global system design.

# 4 Evidence

## 4.1 Evidence in Practice: Country Case Studies

Between 2023 and 2025, GDI Hub conducted structured mobile-as-AT interventions across Kenya, India, and Brazil, working with over 750 people with visual and hearing impairments. The three country studies that follow examine the same system-level challenge in different contexts. Each reveals what worked, what constrained impact, and where the system broke down. Together, they show that the same underlying dynamics surface across geography, income level, and infrastructure.

### 4.1.1 Kenya: Data Affordability and Local Language Constraints

#### *4.1.1.1 Context*

Kenya has high mobile network coverage and a digitally integrated economy, making accessible participation in mobile systems a matter of economic and social inclusion. Yet smartphone ownership among disabled Kenyans stands at 12%, compared to 41% among the non-disabled population — a gap driven by awareness, affordability, and digital literacy barriers.

#### *4.1.1.2 Intervention and Uptake*

Participants received smartphones, attended two-day impairment-specific training, received monthly data allocations for six months, and accessed ongoing peer support through OPD-managed WhatsApp groups. OPDs led recruitment and training delivery, while Safaricom played a critical enabling role in supporting connectivity and data

access. Uptake was strong. By the end of the study, 87% of deaf and hard-of-hearing participants were using WhatsApp video calls regularly, compared to 12% at baseline.

#### *4.1.1.3 Observed Gains*

Participants reported meaningful increases in autonomy across communication, navigation, and daily task management. For deaf and hard-of-hearing participants, the primary gain was communication access — following conversations without an interpreter and using sign language via video calls. For blind and partially sighted participants, gains centred on navigation, device control, and independent information access. The consistent theme was a shift from dependency to agency.

#### *4.1.1.4 Constraints*

Local-language gaps compounded this: voice recognition defaulted to English, with failure rates that required one-to-one support to manage. Essential services, including banking, health, and employment platforms, did not consistently meet accessibility standards.

#### *4.1.1.5 System Insight*

Mobile-as-AT is not a device. It is a bundle. Kenya clearly shows that addressing device provision without addressing data costs and language inclusion does not solve the access problem. It relocates it.

### 4.1.2 India: Training Scaffolding and OPDs as Delivery Infrastructure

#### *4.1.2.1 Context*

India's disability population is large and highly diverse, with significant variation in baseline digital skills and prior AT experience. In many communities, digital literacy is nascent, making training and support design particularly consequential. The study was conducted in Karnataka, where established OPD networks provided the community infrastructure through which participants across urban, peri-urban, and rural settings could be reached.

#### *4.1.2.2 Intervention and Uptake*

Participants received smartphones and attended modular, impairment-specific training delivered in small groups, with separate tracks for blind and partially sighted and deaf and hard-of-hearing participants. OPDs led recruitment, identified and trained facilitators, and managed ongoing WhatsApp-based peer support groups throughout the study. Uptake was progressive: participants progressed from basic device operation to confident use of accessibility features at varying rates, depending on prior exposure and support availability.

#### *4.1.2.3 Observed Gains*

Participants who had never owned smartphones moved to independent, confident use of built-in accessibility features and mainstream applications. The gains were most pronounced where peer networks and OPD support were consistent. Participants described a shift from dependence on family members, interpreters, and community

helpers to independent capability, built gradually through practice and reinforcement over weeks.

#### *4.1.2.4 Constraints*

One-off training was insufficient for participants with limited prior experience. Without reinforcement, skills demonstrated during training did not reliably persist. Outcomes tracked directly with support continuity: where structures were strong, trajectories were strong; where they thinned, adoption flattened.

#### *4.1.2.5 System Insight*

Training is not a complement to mobile-as-AT deployment. It is the mechanism through which deployment becomes usable. India demonstrates that a sustained, community-embedded support structure can be built at scale — but only if it is resourced for that purpose. OPDs were not peripheral to this; they were the mechanism through which the intervention became viable. Programmes that fund devices without funding ecosystems will consistently underperform.

### 4.1.3 Brazil: Technical Ceilings and Differential Needs by Impairment Type

#### *4.1.3.1 Context*

Brazil is a middle-income setting with high smartphone penetration and relatively widespread connectivity. The disability digital divide here is not primarily a device

access problem — it is a usability and optimisation problem. Access exists; what determines whether mobile functions as AT is whether devices and services are designed to support it.

#### *4.1.3.2 Intervention and Uptake*

Participants received smartphones alongside structured training and a larger data allowance. Delivery was supported by local OPD partners, with Claro playing an enabling role in supporting connectivity throughout the study. Engagement with accessibility features and mainstream applications was high from early in the study, with blind and partially sighted participants demonstrating rapid integration of mobile into daily routines, including banking, shopping, communication, and service navigation.

#### *4.1.3.3 Observed Gains*

Blind and partially sighted participants reported transformative independence in tasks previously requiring assistance, managing financial transactions, accessing services, and communicating without an intermediary. Deaf and hard-of-hearing participants showed meaningful gains in communication access, though with greater variability. For many, mobile was not supplementing daily life. It was restructuring how they engaged with essential systems.

#### *4.1.3.4 Constraints*

Technical ceilings emerged despite strong connectivity and device provision. Simultaneous use of screen reading software and screen magnification, features many blind and partially sighted users rely on together, caused device freezing, degrading usability precisely when multiple accessibility needs overlapped. Deaf and hard-of-

hearing users encountered persistent friction pairing their hearing aids via Bluetooth, where manufacturers had deprioritised hearing aid compatibility in favour of general wireless functionality. Data consumption also diverged significantly by impairment group: deaf and hard-of-hearing participants who relied on sign language video calls used data at higher rates than blind and partially sighted participants, exposing a structural mismatch between assistive use patterns and how data plans are designed.

#### *4.1.3.5 System Insight*

Access does not resolve system limits. Brazil shows that without rigorous accessibility quality assurance, tested across hardware configurations and impairment combinations, devices introduce technical ceilings that training and connectivity cannot fix. Mainstream design decisions about Bluetooth compatibility, operating system optimisation, and multi-feature performance are, in practice, AT decisions for millions of users who have no alternative.

# 5 Systems

## 5.1 What the Evidence Shows: Cross-Cutting System Findings

The three country studies tell a consistent story. Smartphones can function as assistive infrastructure, but whether they do depends far more on the system surrounding them than on the device itself. Five findings recur across contexts, independently of geography, income level, or disability type. Together, they point to a set of enabling conditions that determine whether mobile-as-AT works in practice.

### 5.1.1 Mobile-as-AT Is a Layered System, Not a Product

Providing a device did not, in itself, produce meaningful or durable outcomes. Impact emerged from the interaction between hardware performance, operating system stability, data affordability, service accessibility, and structured human support. Where these layers reinforced one another, participants reported rapid gains in independence and confidence. Where one was weak, overall usability was constrained regardless of the quality of the others.

This behaviour is characteristic of infrastructure, not consumer products. System alignment is both the central design challenge and the central policy opportunity.

### 5.1.2 Training Is Infrastructure, Not an Add-On

Initial training enabled participants to activate accessibility features and begin using them. But sustained capability — independent use, troubleshooting, adapting to new applications — was built progressively over weeks and months, and depended on peer networks, OPD-led follow-up, and continued support beyond the classroom.

The difference between participants with ongoing support and those without was meaningful. Continued support appeared to play an important role in sustaining capability over time. Training, therefore, cannot be treated as a programme component that precedes deployment. It is part of the infrastructure that makes the technology work in practice.

### 5.1.3 Data Affordability Is a Structural Barrier

The accessibility features that produced the most significant gains — live transcription1, navigation, and video communication — are data-intensive. When allocations ran out, participants rationed or abandoned them. Not because they had lost interest, but because they could not afford to continue.

Data affordability is not a user issue. It is a structural determinant of whether accessibility is reliable or conditional. Programmes that provide devices and training but not sustained affordable connectivity are not delivering mobile-as-AT. They are only delivering the preconditions for it.

### 5.1.4 Mainstream Technology Decisions Are AT Decisions

Operating system updates, hardware specifications, application design, and language support are not typically made with AT users in mind, but they directly shape AT outcomes. Lower-cost devices introduced accessibility constraints in several contexts. Language gaps caused the voice-based setup to fail for speakers of languages deprioritised by operating system providers. Inaccessible applications kept banking, healthcare, and government services out of reach, even where device use was otherwise confident.

As smartphones consolidate the functions of traditional assistive devices, decisions made by operating system providers, manufacturers, and application developers carry the same consequences as decisions made by specialist AT developers. They need to be treated accordingly.

### 5.1.5 Community Organisations Are System Actors

OPDs were not simply partners in delivery. They were the mechanism through which mobile-as-AT became usable in practice, providing trusted recruitment, contextually appropriate training, ongoing troubleshooting, and sustained relationships that kept participants engaged over six months.

Without this layer, device provision risked remaining deployment rather than adoption. With it, sustained use became more likely. OPDs are not peripheral stakeholders. They are a core part of delivery infrastructure, and mobile-as-AT systems that do not build in their sustained involvement are unlikely to scale effectively.

## 5.2 Minimum Viable Conditions: What Has to Be True

If mobile-as-AT is to function reliably and at scale, what must be in place? Evidence from Kenya, India, and Brazil points to four interdependent system conditions.

### 5.2.1 Training Ecosystems

Across contexts, the evidence is clear: one-off training sessions, even well-designed and disability-specific ones, are insufficient to sustain long-term capability. Digital skills develop progressively, requiring repeated practice, peer reinforcement, and troubleshooting support over weeks and months.

The minimum requirement is not a better two-day workshop. It is a training ecosystem: modular in structure, differentiated by disability type and baseline skill level, and sustained through community-based networks beyond the initial session. In practice, this means modular curricula that allow participants to enter at different skill levels and progress at different rates; impairment-specific training tracks that account for distinct onboarding challenges; interpreter preparation as a formal component; peer learning designed and resourced intentionally; and OPD-led follow-up funded as a programme element rather than a voluntary add-on.

#### *5.2.1.1 When this fails*

In both India and Kenya, participants without sustained support structures were less likely to maintain initial gains over time. Where follow-up was limited, confidence and

usage levels tended to plateau or decline, even when initial training had been effective. The device remained; sustained capability was less certain.

### 5.2.2 Data and Connectivity

For mobile-as-AT users, data is not a convenience. It is an input to assistive function. Live transcription, navigation, video communication, and application updates all depend on connectivity.

When data allowances are exhausted, many core accessibility functions become difficult or impossible to use consistently.

Treating data as a personal expense to be absorbed within individual budgets is incompatible with treating smartphones as assistive infrastructure. Sustained connectivity must be built into provision models. In practice, this may include mobile network operators exempting core accessibility applications from data caps; subsidised plans reflecting higher consumption patterns among certain impairment groups; expanded community WiFi where mobile data remains unaffordable; and connectivity included in programme budgets beyond initial intervention periods.

#### *5.2.2.1 When this fails*

In Kenya, 53% of participants exhausted their 2GB monthly allocation within the first week. As a result, usage of the most data-intensive accessibility features was reduced. The gains achieved were real, but dependent on continued connectivity.

### 5.2.3 Devices, Operating Systems, and Accessibility Standards

A device that meets accessibility specifications on paper may still fail in practice. Lower-cost smartphones — the devices most financially attainable for users in LMICs — were consistently the least accessible in terms of usability across contexts.

Screen readers could not navigate certain interfaces. Hardware buttons did not reliably register accessibility gestures. Some operating system versions limited access to native accessibility menus. These were not isolated cases. They reflected recurring patterns observed across lower-cost device tiers.

Addressing this requires accessibility testing before market release under real-world use conditions; certification to identify devices verified as AT-capable; local language support treated as baseline functionality; and WCAG 2.1 Level AA compliance mandated for publicly funded mobile applications and government digital services.

#### *5.2.3.1 When this fails*

In Brazil, simultaneous use of screen reading software and magnification caused device freezing — a hardware-software interaction that degraded usability when multiple accessibility needs overlapped. No training intervention could address this. It required technical adjustments at the device and operating system level.

### 5.2.4 Policy, Procurement, and Regulation

Smartphones fall outside most national AT policy frameworks. They are rarely included on assistive product lists or eligible for AT subsidies, and telecommunications regulation seldom intersects meaningfully with disability policy.

This is among the most consequential structural gaps in the mobile-as-AT landscape. While programme design can partially address other conditions, policy recognition determines whether mobile-as-AT remains project-based or becomes systemically embedded.

Closing that gap requires including smartphones on national assistive product lists; mandating accessibility in public procurement; requiring compliance from device manufacturers and operating system providers as a condition of market access; coordinating across telecommunications, disability, digital inclusion, health, and education policy; and ensuring digital inclusion strategies explicitly account for assistive use patterns.

#### *5.2.4.1 When this fails*

Across all three countries, when study-provided data allocations ended, no policy mechanism existed to ensure continuity. Participants who had achieved meaningful independence through smartphone-enabled accessibility faced uncertainty about sustaining that use — not because the technology had failed, but because no system existed to support it beyond the intervention period.

# 6 Action

## 6.1 Pathways to System Change

The enabling conditions we describe are not aspirational. They are achievable, in most cases, through actions already within the mandate of existing institutions. What is missing is coordination and clarity about where responsibility sits. This section sets out pathways to system change and assigns specific actions to the actors responsible for them.

These pathways are interdependent. Movement on anyone creates conditions that enable progress on the others.

### 6.1.1 Pathway 1: Policy and Regulation

Governments should formally recognise smartphones as assistive technology within national AT policies and consider their inclusion on national assistive product lists. Integrating mobile-as-AT into Universal Health Coverage and relevant social protection schemes would align existing financing mechanisms with current patterns of use. WCAG 2.1 Level AA compliance should be required for publicly funded digital services, supported by clear implementation timelines. Cross-ministerial coordination is needed to prevent mobile-as-AT from falling between telecommunications, disability, health, and digital portfolios.

Telecommunications regulators can support this by linking accessibility compliance to market participation frameworks and encouraging zero-rating or subsidised access for core accessibility functions, alongside disability-responsive data plan design.

#### *6.1.1.1 Responsible:*

Governments; Health and Digital Affairs Ministries; Telecommunications Regulators.

### 6.1.2 Pathway 2: Devices and Mobile Network Operators

Mobile network operators play a central role in the affordability of assistive use. Zero-rating core accessibility applications, designing data plans that reflect higher consumption patterns among certain impairment groups, and partnering with OPDs to co-design these approaches would directly address connectivity barriers identified in the research.

Device manufacturers, particularly those producing lower-cost smartphones widely used in LMICs, should strengthen pre-market accessibility testing across hardware configurations and impairment combinations. Establishing accessibility certification mechanisms for entry- and mid-tier devices would support more informed procurement decisions. Maintaining hearing aid compatibility and ensuring that cost-reduction strategies do not compromise accessibility functionality are critical to preventing technical ceilings at lower price tiers.

#### *6.1.2.1 Responsible:*

Mobile network operators; device manufacturers operating in LMIC markets.

### 6.1.3 Pathway 3: Operating System and Platform Providers

Operating system providers shape the functional performance of accessibility features across device tiers. Expanding local language support, strengthening compatibility standards for lower-cost hardware, and simplifying onboarding pathways would address recurring barriers observed across contexts.

Application developers and digital service providers, particularly in banking, healthcare, employment, and government services, should adopt WCAG 2.1 Level AA as a baseline design requirement and conduct structured accessibility testing with disabled users prior to release. Governments, as major digital service commissioners, can reinforce these standards through procurement requirements and enforcement mechanisms.

#### *6.1.3.1 Responsible*

Operating system providers (including Android platform teams), application developers, and governments as digital service commissioners.

### 6.1.4 Pathway 4: Training Ecosystems

OPDs and training providers are well positioned to formalise modular, impairment-specific curricula adaptable across geographic and language contexts. Sustained peer learning networks and structured follow-up mechanisms should be resourced as core programme components rather than optional extensions. Interpreter preparation and training-of-trainers models are particularly important in contexts where digital literacy is still developing.

Mobile network operators and device manufacturers may consider co-funding training initiatives and develop accessible, multilingual self-paced resources. Governments can

support sustainability by embedding digital skills training for people with disabilities within education, healthcare, and rehabilitation systems.

#### *6.1.4.1 Responsible*

OPDs, NGOs, training providers; mobile network operators and device manufacturers in partnership; governments, including Education and Health Ministries.

### 6.1.5 Pathway 5: Financing and Investment

Development finance institutions and donors can support system alignment by recognising mobile-as-AT within broader digital public infrastructure investment frameworks. Long-term financing and cross-country learning will be essential to avoid fragmentation across pilot initiatives.

International organisations may integrate mobile-as-AT into WHO assistive technology guidance and ITU digital inclusion standards, alongside strengthening cost-effectiveness evidence to support sustained public and private investment.

#### *6.1.5.1 Responsible*

Development finance institutions; bilateral and multilateral donors; WHO, ITU, and UN disability inclusion bodies.

# 6.2 From Pilots to Action

The evidence from Kenya, India, and Brazil demonstrates that mobile-as-AT works. The enabling conditions are known. The system levers are identifiable. The actors with the authority to act on them are defined. What remains is the shift from awareness to coordinated action.

## 6.2.1 Ready to Scale Now

Several elements of mobile-as-AT ecosystems are ready for scaled investment and implementation without further research or piloting:

- **Exempting core accessibility applications from data caps.** The evidence that data cost is a primary sustainability barrier is consistent across country contexts. For mobile network operators, this is a tractable intervention, and the policy and commercial groundwork to support it is increasingly in place.
- **Community-led modular training programmes.** The models developed in India, Brazil, and Kenya show strong results and are designed to be adapted across contexts. The priority now is funding and integration into national digital skills strategies, not further piloting.
- **Smartphone inclusion on national assistive technology lists.** This would make smartphones eligible for the subsidies, prescriptions, and procurement frameworks that apply to other assistive products. The policy change is administratively straightforward; the barriers are cross-ministerial coordination and political will.
- **Accessibility mandates for public digital services.** Regulatory frameworks already exist in most contexts. What is needed is enforcement timelines and procurement requirements that make accessibility a condition of public contracts rather than a voluntary standard.

## 6.2.2 Where the Evidence Base Needs to Grow

Several questions remain open:

#### *6.2.2.1 Long-term sustainability*

Evidence from this research spans six months. The trajectory of mobile-as-AT use beyond that period, as devices age, operating system versions diverge, and formal support structures recede, remains an important gap in the evidence base.

#### *6.2.2.2 Cost-effectiveness at scale*

The economic case for mobile-as-AT, including effects on specialist AT procurement, caregiver dependency, employment, and income, has not been fully established. This evidence is a prerequisite for sustained investment from governments and development finance institutions.

#### *6.2.2.3 Inclusive design for older users and users with multiple impairments*

Both groups were underrepresented in this research. The specific barriers they face and the programme adaptations required to address them warrant dedicated investigation.

## 6.2.3 Where Collaboration Is Required

The transitions suggested in this report cannot be made by any single actor. Telecommunications regulators and disability policy bodies need shared frameworks for accessibility requirements on mobile network operators and device manufacturers. Operating system providers and AT researchers need direct working relationships that bring real-world performance evidence into platform design decisions. Donors and

development finance institutions need to coordinate on financing structures that sustain training ecosystems and data subsidies beyond project timelines.

## 6.3 How to Engage

**If you are a government or regulator**, the most immediate actions are policy recognition of smartphones as AT and accessibility mandates for public digital services. GDI Hub can provide evidence briefings, policy translation support, and connections to the OPD and research networks that inform national implementation.

**If you are a mobile network operator or device manufacturer,** the most direct actions are exempting core accessibility applications from data caps (zero-rating), conducting pre-market accessibility testing with disabled users, and designing data plans that reflect the needs of disabled users. GDI Hub can provide the user evidence and operational research that grounds these decisions in practice.

**If you are a funder or donor**, the most urgent gap is sustained financing for training ecosystems and connectivity beyond individual project timelines. GDI Hub can support programme design, cross-country learning, and cost-effectiveness evidence development.

**If you are an OPD or a community or delivery organization**, the training models, curriculum frameworks, and delivery approaches developed through this work are available and adaptable. GDI Hub can support replication, adaptation, and connection to the cross-country learning network this body of work has established.

# 7 About This Research

This body of work set out to move beyond documenting what interventions achieved, toward understanding the conditions that make those achievements durable and scalable. That required longitudinal mixed-methods research across diverse contexts, close partnerships with community organisations whose relationships and local knowledge shaped both delivery and insight, and a commitment to treating implementation as a source of evidence rather than simply an output.

The value of working across three countries lies in what the comparison reveals. Kenya, India, and Brazil represent different income levels, infrastructure contexts, and system configurations — and yet the same five conditions shaped outcomes in each. That consistency points to dynamics that are structural rather than context-specific, and that have implications beyond any single country or programme.

The findings from this work are intended to inform three areas of further action:

- Integration of mobile-as-AT into policy frameworks, procurement standards, and telecommunications regulation
- Engagement with device manufacturers, operating system providers, and mobile network operators on accessibility standards and data plan design
- Support for OPDs, NGOs, and governments in designing programmes built for sustainability from the outset

GDI Hub welcomes collaboration with any actor working toward the same goals.