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ASSISTIVE TECHNOLOGY LANDSCAPE IN AFRICA

SCOPING REVIEW REPORT

In partnership with

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PREFACE

This report presents a consolidated, evidence-based overview of the AT landscape in Africa, with a particular focus on young persons with disabilities. Drawing on a systematic synthesis of **523 sources**, including peer-reviewed research, policy documents, organizational websites, and contextual materials, the report examines AT access, policy environments, market dynamics, and manufacturing and innovation ecosystems across **all 54 African countries**. It also offers strategic recommendations to strengthen AT systems on the continent and to expand inclusive youth employment pathways.

The findings highlight the critical importance of coordinated systems, inclusive service delivery models, robust data and evidence, and inclusive youth participation in shaping responsive and sustainable AT ecosystems.

This report reflects the integration of rigorous evidence and the collective expertise of the authors and project team in addressing the objectives defined by the Mastercard Foundation.

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1 EXECUTIVE SUMMARY

This report commissioned by the Mastercard Foundation provides the most comprehensive evidence-based mapping to date of the AT landscape in Africa, with a specific focus on youth inclusion, skills development, employment, and entrepreneurship. It **synthesizes findings from 523 source**s, including 185 scientific studies and 338 grey-literature documents, covering all 54 African countries.

The Mastercard Foundation works with visionary organizations to empower young people to access meaningful, dignified, and fulfilling work. Through its Young Africa Works strategy, Mastercard Foundation seeks to enable 30 million young people across Africa to access dignified and fulfilling work by 2030, with a focus on marginalized groups, including young women, refugees, displaced persons, and people with disabilities.

This review addresses three strategic questions central to the Mastercard Foundation's mission to support employment and entrepreneurship opportunities for young people with disabilities:

- What are the priority AT needs, **access** barriers, and context-specific enablers for equitable access across Africa?
- What does the national and regional **policy landscape** reveal about legal frameworks, AT strategies, implementation gaps, and opportunities to strengthen disability inclusion and access?
- What employment, entrepreneurship, **innovation and manufacturing** opportunities exist within Africa's AT ecosystem- particularly for young persons with disabilities-and how can these be scaled sustainably?

Key Findings

1. Assistive Technology Access

Across Africa, young persons with disabilities remain structurally invisible within AT systems. Fragmented information pathways, weak data systems, stigma, and poor coordination across health, education, and community sectors prevent early identification of need and disrupt transitions from school to work. Access to AT often depends on chance, personal networks, or digital connectivity rather than predictable, rights-based systems.

AT provision remains heavily skewed toward mobility devices, while communication, cognitive, learning, and digital AT—critical for educational attainment and employability—are routinely overlooked. Affordability is the most binding constraint, with high out-of-pocket and recurrent costs making sustained AT use unattainable for most youth. Evidence consistently shows that youth-centered, decentralized, digitally enabled, and peer-based models offer the strongest pathway to equitable access and scale. Youth-centered approaches respond to the distinct realities of young persons with disabilities, whose AT needs are linked to education–work transitions, identity formation, and digital participation. Engaging young people as users, peer navigators, repairers and innovators rather than passive beneficiaries plays a critical role in reducing stigma, improving continuity of use and creating direct pathways into skills development and employment.

2. Policy and Governance

AT policy activity has accelerated significantly since 2016, with at least 38 countries adopting AT-specific strategies aligned to global frameworks. However, implementation maturity lags far behind policy intent. Many policies lack operational detail, enforceable standards, financing, and monitoring systems.

Governments, primarily Ministries of Health, retain leadership, increasingly using Technical Working Groups (TWGs) to coordinate multi-stakeholder policy development. While promising, coordination across education, labor, industrial development, and youth systems remains weak. Youth with disabilities are widely recognized as beneficiaries but rarely engaged as policy co-creators, limiting responsiveness and demographic leverage. Financing is the weakest link: few countries include costing, return-on-investment analysis, or dedicated budget lines, leaving systems donor-dependent and fragile.

3. AT Ecosystem and Stakeholders

Africa's AT ecosystem is transitioning from fragmented, donor-led provision toward multi-actor systems, but progress is uneven. East and Southern Africa demonstrate the strongest coordination, driven by academic leadership, social enterprises, and policy–practice linkages. West and Central Africa remain more donor-dependent, with weaker institutional integration.

Ecosystem maturity correlates strongly with stakeholder diversity. Families, community-based workers, OPDs, and youth peer networks consistently improve relevance and uptake, yet remain weakly institutionalized. Persistent coordination failures across stakeholders remain a primary constraint on sustainability and scale.

4. Products, Production, and Innovation

AT provision across Africa remains device-centered rather than participation-centered. Mobility devices dominate national portfolios, while communication, cognitive, self-care, and digital AT are under-supplied—undermining continuity of use for youth transitioning through education and into work.

Local AT production exists but is uneven. East Africa hosts the most dynamic production and innovation ecosystems; Southern Africa offers stable fabrication capacity; West Africa remains early-stage; North Africa contributes advanced technical expertise in biomedical engineering, orthotics and prosthetics manufacturing, rehabilitation robotics, digital assistive devices, and standards-based medical device production—driven by stronger university–industry linkages and engineering capacity.

Over 85–90% of AT products are imported, exposing systems to supply-chain and funding shocks. Importantly, repair, refurbishment, and maintenance already underpin service delivery in many contexts and represent scalable, lower-capital employment pathways for youth.

5. Market Dynamics

AT need across Africa is extremely high and growing, yet rarely quantified or used for planning. Based on global estimates, 15.6% of the population require at least one assistive device. Fulfilled AT need remains critically low, typically well below 25% across African countries, with youth-specific access levels consistently lower and often undocumented. Weak data systems undermine procurement, financing, and accountability.

Critically, the African AT market is scale-constrained rather than supply-constrained. Innovation and manufacturing capacity exist, but growth is limited by weak demand signaling,

fragmented procurement, regulatory gaps, lack of certification systems, and donor-dependent financing. As a result, the AT market remains a major untapped opportunity for inclusive growth and youth employment.

6. Economic Opportunities for Young Persons with Disabilities

Young persons with disabilities already participate in the AT ecosystem as users, repairers, innovators, and entrepreneurs, but systemic constraints limit scale and sustainability. Repair and maintenance offer particularly high-potential employment pathways requiring lower capital investment. Digital AT innovation expands roles beyond fabrication into design, software, logistics, and service coordination.

However, youth leadership remains peripheral in AT governance, access to finance is limited, and linkages between AT systems, training institutions, and labor markets are weak. Without deliberate integration, AT access does not reliably translate into sustained employment outcomes.

Strategic Implications for Funders and Policy Makers

The evidence is clear: assistive technology can be a productivity- and employment-enabling investment. Policy foundations largely exist; the greatest opportunity lies in implementation, system strengthening, and market shaping.

By investing in youth-inclusive AT implementation; local production and repair ecosystems; skills and workforce pipelines; broader fields linked to AT such as finance and data science; digital and decentralized service models; and stronger data and financing systems, AT can be positioned as a catalytic platform for youth employment, entrepreneurship, and inclusive growth across Africa.

2 INTRODUCTION

2.1 RATIONALE

Across Africa, millions of young persons with disabilities face persistent exclusion from education, employment, and community life due to limited access to appropriate assistive technology (AT). This exclusion reinforces poverty and inequality, undermining human potential and economic growth. Globally, over 2.5 billion people require one or more assistive products such as wheelchairs, hearing aids, or communication aids[1] yet in Africa more than 200 million people lack access.[2] In low- and middle-income countries, only about 3% of AT needs are met Click or tap here to enter text.—representing a profound equity and development gap.

Africa's youth population is expanding rapidly and is expected to become the world's largest workforce by 2030, with 375 million new entrants.[4] However, young persons with disabilities remain disproportionately excluded from employment and training opportunities.[5,6] Strengthening AT access is therefore critical to enabling participation, independence, and economic inclusion.

The continent's shifting health and demographic profile further increases demand for AT. The transition from infectious to chronic and non-communicable diseases and people living longer has heightened the prevalence of functional limitations Click or tap here to enter text.. Recent scoping reviews show widespread disability linked to leading health conditions.[8–10] Persons with disabilities face greater risks of secondary health conditions and poorer outcomes due to poverty, stigma, and limited rehabilitation services[11–13], intensifying their need for AT.

Improving AT access is fundamental to unlocking Africa's demographic dividend. AT supports education, vocational training, and employment—key drivers of productivity and social inclusion.[14,15] Evidence shows that access to AT enhances learning, independence, and employment outcomes[5] and can yield a 9:1 return on investment.[16] Beyond individual benefits, inclusive AT ecosystems stimulate local innovation, manufacturing, and service delivery, contributing to broader economic development.[17]

Global frameworks such as the UN Convention on the Rights of persons with disabilities Click or tap here to enter text., the World Health Assembly Resolution on Improving Access to Assistive Technology Click or tap here to enter text. and the WHO Global Report on Assistive Technology[2] highlight AT as essential for universal health coverage and inclusive growth.[20] While promising local models exist—such as Shonaquip Social Enterprise Network and Malamulele Onward in South Africa[21,22]—they remain fragmented and under-resourced. Broader systemic barriers persist, including weak policy coordination, limited financing, fragmented supply chains, and shortages of trained personnel.[23–27]

Despite growing recognition of AT's importance, no comprehensive, Africa-focused synthesis currently maps AT access, innovation, and employment linkages for young persons with disabilities. Evidence remains dispersed and inaccessible to policymakers and funders. This scoping review addresses that gap by examining AT across policy, system, market, and user dimensions to identify barriers, enablers, and opportunities for inclusive entrepreneurship. The findings aim to guide evidence-based investment, policy reform, and multisectoral collaboration to strengthen Africa's AT ecosystem and expand opportunities for young persons with disabilities.

2.2 PROJECT AIM

The aim of the review is to systematically map the current landscape of AT in Africa. This will involve identifying and synthesizing the evidence from key documents and literature to understand the AT landscape in Africa, including access, policies, priority needs, market size, innovation, and employment opportunities, especially for young persons with disabilities across African countries.

2.3 OBJECTIVES

The review answered the following research questions:

1. What are the AT needs, barriers, and contextually relevant enablers that can optimize collaboration and access in Africa?
2. What is the national and regional political and policy landscape in Africa concerning legal frameworks, strategies for increasing AT access and disability inclusion, local production, policy implementation gaps, and growth potential?
3. What economic opportunities and initiatives exist within the African AT ecosystem for employment and entrepreneurship development and scaling, particularly for young persons with disabilities?

3 METHODOLOGY

3.1 SCOPING REVIEW DESIGN AND SCOPE

The scoping review was conducted in line with Arksey and O'Malley[28] and updated Joanna Briggs Institute guidance[29] and reported using PRISMA-ScR (Preferred Reporting Items for Systematic Reviews and Meta-Analyses Extension for Scoping Reviews) framework.[30] This review constitutes Phase 1 of a mixed-methods project, with Phase 2 involving country-level qualitative inquiry. The protocol was registered on the Open Science Framework (https://osf.io/gkbct).

3.2 ANALYTICAL FRAMEWORKS

This scoping review was underpinned by three complementary theoretical frameworks to guide the identification, organization, and interpretation of findings: the 10P Framework for AT systems,[17] Levesque et al.'s Framework for Access to Healthcare,[31] and the PROGRESS-Plus Framework for health equity.[32]

3.3 DATA SOURCES AND INCLUSION CRITERIA

A broad range of document types were eligible for inclusion, including peer-reviewed studies of any design and grey literature (e.g., policy frameworks, program reports, stakeholder submissions, institutional documents, conference proceedings, and website content). Documents had to address at least one of the core review questions on AT and relate to African countries. No date or language limitations were applied. Although the scoping review considered broader AT users including the general population, keywords related to young persons with disabilities (aged 15 – 35 years) were included as this was a primary focus of the scoping review. Articles did not need to use the term ‘‘assistive technology’’ to be included. Instead, specific search terms for various assistive devices and persons with temporary disabilities/impairments were considered. Stakeholders that were identified through an **AT stakeholder mapping exercise** prior to the scoping review were consulted for additional unpublished or difficult-to-access materials.

3.4 STUDY SELECTION

Records were deduplicated and screened in Rayyan V.0.1.0 software (Rayyan Systems Inc, Massachusetts, USA).[33] Two reviewers independently screened titles/abstracts and full texts, with consensus resolution. Selection was documented using a PRISMA-ScR flow diagram.

3.5 DATA EXTRACTION AND SYNTHESIS

A structured extraction tool captured study characteristics, AT access, policy elements, and employment linkages. Data were analyzed using descriptive thematic synthesis supported by Atlas.ti 22.3 (Scientific Software Development GmbH), applying an abductive approach combining deductive framework-based coding with inductive theme development.

4 EVIDENCE BASE REVIEWED

4.1 NUMBER OF DOCUMENTS INCLUDED IN THE REVIEW

A total of **2,947 scientific studies** were identified through database searches. After removing **1,956 duplicates**, **991 records** were screened, with **732** excluded based on title and abstract. **259 full-text reports** were assessed for eligibility, of which **76** were excluded due to reasons such as lack of full text, absence of AT focus, studies outside Africa, Arabic language (due to its lexical complexity and cultural and structural differences from the English language), or ineligible design. **Citation sources** provided **2** additional studies. This resulted in **185 scientific studies** meeting the inclusion criteria (Figure 4.1.1).

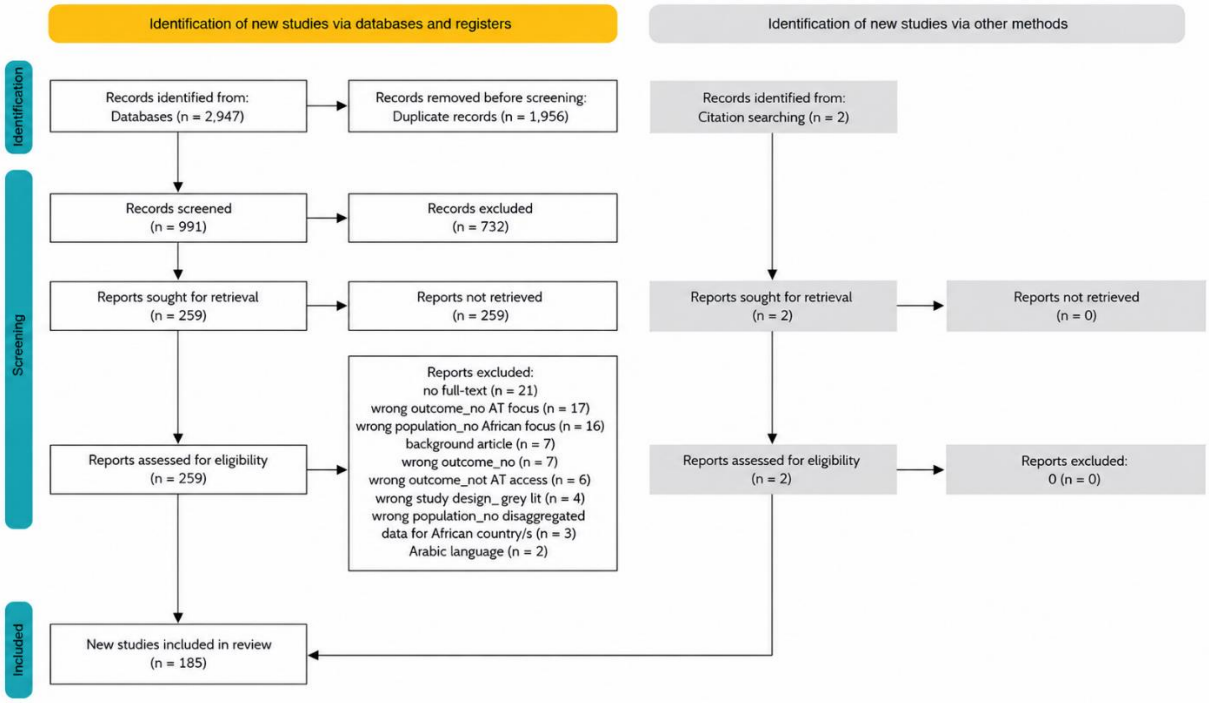


Figure 4.1.1: PRISMA Flow diagram showing selection of scientific studies

Grey literature searches identified an additional **105,000 website records**, **138 organizational documents** (Figure 4.1.2). A total of **409 grey literature documents (166 reports, 110 policy documents and 138 organization/manufacturers' websites)** were retrieved and screened, with **76** excluded (duplicates, scientific paper, or inactive websites).

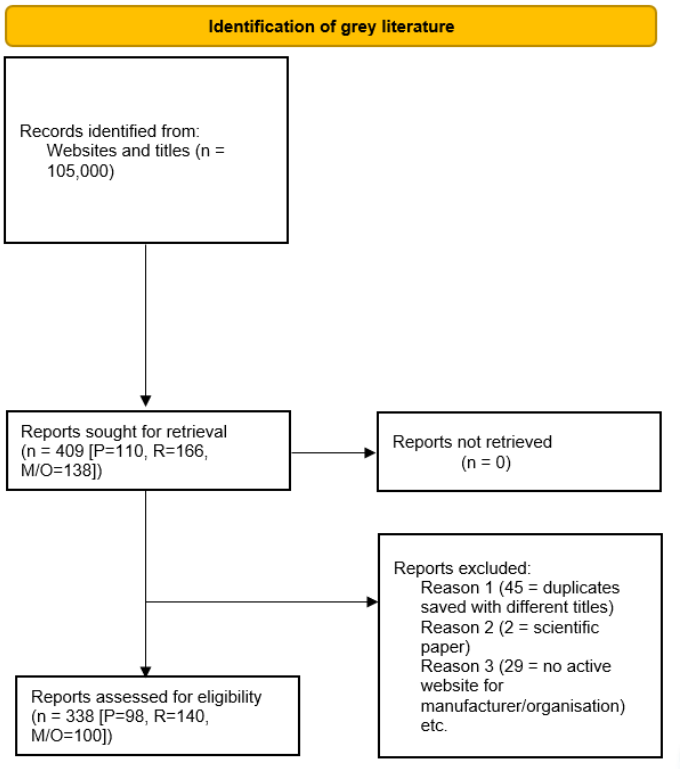


Figure 4.1.2: PRISMA Flow diagram showing s*election of grey literature documents*

Overall, **185 scientific studies** and **338 grey literature documents (140 reports, 98 policy documents and 100 organization/manufacturers' websites)** were included in the final scoping review, representing evidence on AT access and use across African contexts.

4.2 OVERVIEW OF THE SCIENTIFIC LITERATURE REVIEWED

Across the included 185 studies, the largest number of AT articles originated from Eastern Africa, followed by Southern and West Africa, with fewer studies from North and Central Africa (Figure 4.2.1). This distribution reflects both differences in research capacity and the concentration of AT-related initiatives, with South Africa, Kenya, Nigeria, Tanzania and Uganda emerging as key contributors to the regional evidence base.

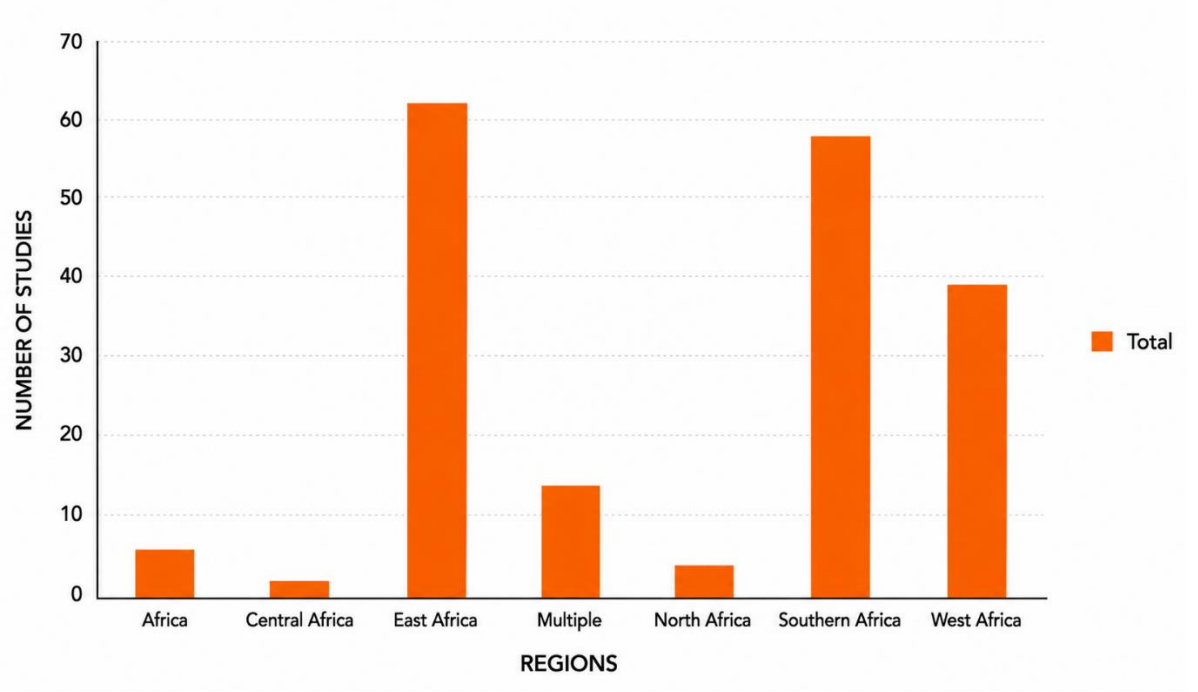


Figure 4.2.1: Assistive Technology articles by region

Overview of study designs in assistive technology research

Assistive technology research is dominated by **descriptive and exploratory study designs**, with qualitative studies forming the largest share of the evidence base. This reflects a strong focus on documenting user experiences, contextual barriers, and system challenges shaping AT access. Descriptive cross-sectional surveys are the most common quantitative approach, largely used to estimate need, access, and service gaps. Mixed-methods studies are increasingly used, indicating recognition of the complexity of AT systems.

However, **evaluative and innovation-focused designs remain limited**. Few studies assess intervention effectiveness, implementation, cost, or scalability. This pattern suggests that AT research remains largely diagnostic rather than solution-oriented, limiting its ability to inform investment decisions, market development, and sustainable system strengthening.

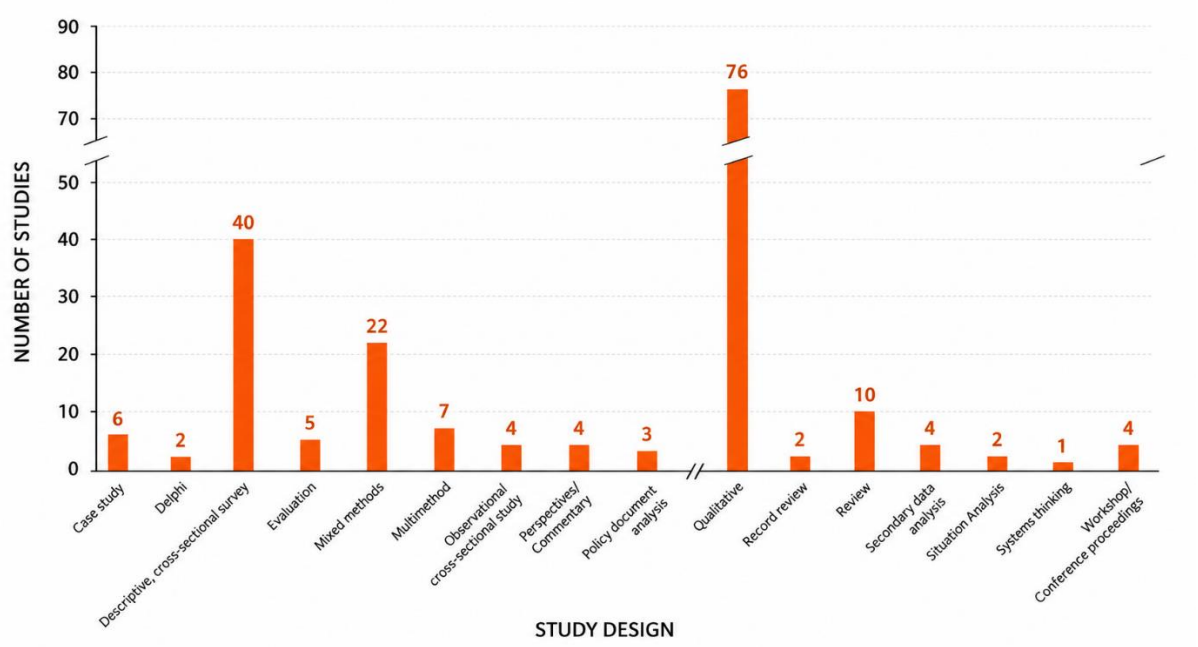


Figure 4.2.2: Overview of study designs in Assistive Technology research in Africa

KEY STAKEHOLDERS: GEOGRAPHIC DISTRIBUTION AND RESEARCH LEADERSHIP ACROSS AFRICA

Authors affiliated with African institutions make up nearly two-thirds (62.4%) of the total, highlighting strong continental ownership and leadership in AT and rehabilitation research (Table 4.2.1). Europe contributes about one-fifth (21.4%), reflecting sustained partnerships led by the UK, Ireland, and Nordic countries. Smaller yet significant contributions emerge from North America (6.0%), Asia (3.4%), and Oceania (2.6%), primarily through collaborative or technical partnerships, while global networks (4.3%) reflect the cross-regional nature of AT research and policy initiatives.

Table 4.2.1: Percentage of Authors by Continent

Continent	% of Total Authors	Countries Represented (No. of authors)
Africa	**62.4%**	South Africa (145), Nigeria (55), Kenya (40), Uganda (35), Tanzania (25), Ghana (30), Malawi (25), Zimbabwe (25), Ethiopia (20), Botswana (14), Sierra Leone (15), Rwanda (10), Namibia (6), Egypt (6), Morocco (6), Zambia (4), Lesotho (3), Eswatini (3), Cameroon (10), Sudan (4), Senegal (2), Liberia (2), Gambia (2), South Sudan (1), Algeria (1), Tunisia (1)
Europe	**21.4%**	United Kingdom (45), Ireland (20), Sweden (15), Norway (10), Netherlands (7), Germany (6), Switzerland (5), France (4), Belgium (3), Denmark (3), Finland (2), Austria (2), Czech Republic (1), Poland (1), Italy (1)
North America	**6.0%**	United States (25), Canada (10), Mexico (1)
Asia	**3.4%**	India (6), Japan (3), China (2), Bangladesh (2), Nepal (2), Pakistan (2), Afghanistan (1), Indonesia (1), Philippines (1)

Continent	% of Total Authors	Countries Represented (No. of authors)
Oceania	**2.6%**	Australia (12), New Zealand (2), Fiji (1)
Multi-country / Global Collaborations	**4.3%**	Global or cross-continental affiliations spanning Africa, Europe, North America, Asia, and Oceania (25)

AUTHOR AFFILIATIONS

The author affiliation analysis reveals a geographically diverse and strongly Africa-led research landscape in AT and rehabilitation (Table 4.2.2). South Africa stands out as the primary hub, with several major universities serving as anchors for regional collaboration and capacity development. Beyond South Africa, substantial contributions from countries such as Nigeria, Kenya, Uganda, Ghana, Tanzania, Ethiopia, Malawi, and Zimbabwe reflect a maturing network of African researchers and institutions advancing inclusive innovation.

Table 4.2.2: Frequency of Authors by Affiliation

Continent	Approx. No. of Authors	Most Represented Institutions / Hubs
Africa	**365**	Stellenbosch University, University of Cape Town, University of South Africa (UNISA), University of Nairobi, Makerere University, University of Ibadan, University of Ghana, University of Dar es Salaam, Addis Ababa University, University of Zimbabwe
Europe	**125**	University College London (UCL) & Global Disability Innovation Hub, Maynooth University (Ireland), Lund University (Sweden), SINTEF (Norway), Trinity College Dublin (Ireland), Maastricht University (Netherlands), University of Oxford (UK)
North America	**35**	University of Pittsburgh, Columbia University, Missouri State University, University of Saskatchewan, Duke University
Asia	**20**	Manipal University (India), WHO Kobe Centre (Japan), Kabul Orthopedic Organization (Afghanistan), Centre for the Rehabilitation of the Paralyzed (Bangladesh)
Oceania	**15**	Monash University, La Trobe University, University of Sydney, University of Queensland
Multi-country/ Global Collaborations	**25 cross-affiliated authors**	WHO Geneva, ATscale, Clinton Health Access Initiative, Center for Inclusive Policy (Washington DC), Global Disability Innovation Hub, Maynooth University, Stellenbosch University

Collaborations with global partners, including University College London, Maynooth University, Monash University, and the World Health Organization, reinforce these regional networks through co-design, training, and systems research. Although smaller in scale, contributions from North and Central Africa indicate emerging engagement in AT research, often through

international partnerships. Collectively, these trends highlight growing African leadership in generating evidence and shaping policies that align with the vision for inclusive, locally driven development.

FREQUENCY OF AUTHORSHIP

The distribution of authors within the AT research ecosystem highlights both the depth of expertise and the growing collaborative momentum across Africa (Table 4.2.3). Most contributions originate from South Africa, where established scholars such as *Surona Visagie*, *Theresa Lorenzo*, and *Soraya Maart* lead prolific research programs spanning rehabilitation, disability inclusion, and systems strengthening. This leadership extends through regional partnerships with institutions across Southern, Eastern, and West Africa.

Significant scholarly activity is also evident in Nigeria, Kenya, Uganda, Ghana, Tanzania, Ethiopia, Malawi, and Zimbabwe, where researchers like *Catherine Holloway*, *Victoria Austin*, *Emma Smith*, and S*arah Kisanga* have driven innovation and cross-country collaboration in AT design, policy, and implementation. The spread of authorship reflects not only growing national research capacity but also the interconnectedness of African and global researchers advancing inclusive development.

Table 4.2.3: AT Africa Research – Author Frequencies by Country (Unique Authors)

Country (Total Unique Authors)	Examples of Authors (With Frequency Counts)
South Africa (145)	Surona Visagie (18), Theresa Lorenzo (7), Soraya Maart (4), Gubela Mji (4), Elsje Scheffler (4), Callista Kahonde (3), Nikola Seymour (3), Nadine Wolf (2), Karin van Niekerk (2), Shakila Dada (2), Kerstin Tönsing (2), Diane Bell (2) Rebecca Matter (2)
Nigeria (55)	Paulinus Okah (3), Emeka J. Chukwuemeka (2), Ify Evangel Obim (2), Aishat Ibrahim (2), Claret Chinwe Okoye (2), Mudasiru Yusuf (2), Vera Victor-Aigbodion (2), Michael Soyele (1)
Kenya (40)	Catherine Holloway (8), Victoria Austin (6), Giulia Barbareschi (5), Emma Smith (4), Nancy Mbugua (3), Anthony Mugo (2), Bernard Chiira (2), Foad Hamidi (2)
Uganda (35)	Walter O. Yagos (2), David Kyaddondo (2), Patience Agabirwe (2), Martha Geiger (1), Nikola Seymour (1), Racheal D. Mugabi (1), Jane Nambi (1), Fred Wabwire-Mangen (1)
Tanzania (25)	Sarah E. Kisanga (3), Dalton Kisanga (3), Elia Swai (2), Juliana Kamaghe (2), Aston Ndosi (1), Bertha Losioki (1), Fortunatha Matiba (1)
Ethiopia (20)	Tesfahun M. Yilma (2), Alemu Kassaw Kibret (2), Meberate Belachew (2), Tesfaye Dabi (2), Abdu A. Adamu (1)
Ghana (30)	Michael A. Quainoo (2), Sylvester Kyeremeh (2), Daniel Osei (2), Henry Howard (1), Bridget S. Boateng (1), Deborah Appiah (1)
Zimbabwe (25)	Jonathan Munyoro (3), Mthokozisi Ncube (2), Joice Tafirenyika (2), Silibaziso Magaracha (1)

RECOMMENDATIONS

To build on these strengths, there is a clear opportunity to intentionally support underrepresented regions—particularly Central and North Africa—through targeted investment in research infrastructure, mentorship, and regional networks. Strengthening South–South collaborations and promoting equitable partnerships between African and international institutions was critical to sustaining research leadership and innovation in assistive technology. This aligns with the commitment to advancing African-led, inclusive, and evidence-informed solutions that expand access to AT and unlock opportunities for young persons with disabilities across the continent.

INTERPRETATION OF THE INSTITUTIONAL COLLABORATION NETWORK

The network graph illustrates a strong, interconnected web of partnerships linking African universities with global research leaders in AT (Figure 4.2.1). Stellenbosch University and the University of Cape Town form the principal southern African hubs, collaborating extensively with institutions in Zimbabwe, Botswana, Namibia, and Malawi, as well as with Maynooth University (Ireland) and WHO. In East Africa, Makerere University (Uganda) and the University of Nairobi (Kenya) emerge as key nodes, engaging with both regional partners and the Global Disability Innovation Hub (UCL, UK). Cross-continental linkages—particularly through Maynooth University and WHO—demonstrate the growing influence of African institutions in shaping international AT research agendas. Overall, the network underscores a trend toward multi-country, interdisciplinary, and equity-focused collaboration, aligned with the vision of strengthening African-led partnerships to drive inclusive innovation and systems change.

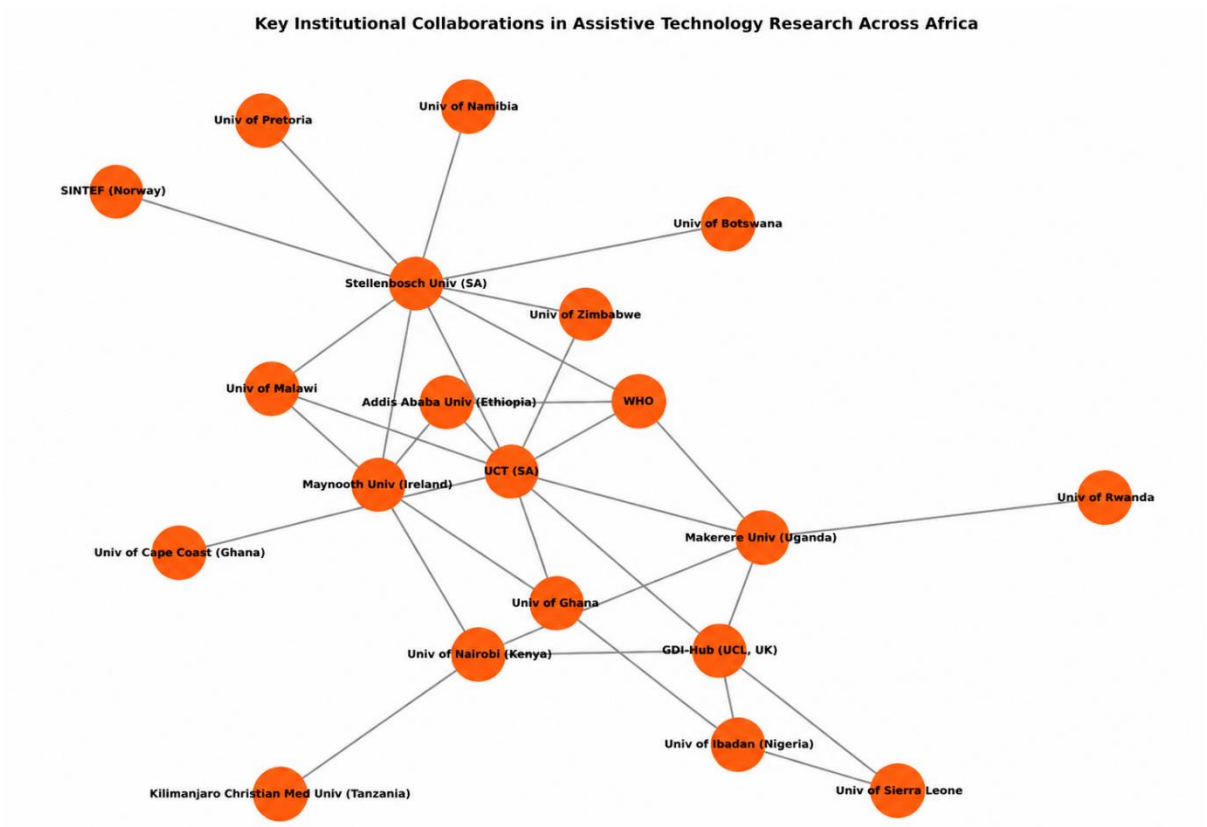


Figure 4.2.3: Key institutional collaborations in assistive technology research across Africa

OVERVIEW OF FUNDING SOURCES

An analysis of the funding sources is provided in Table 4.2.4. Among studies with identifiable external support, the United Kingdom dominates funding, accounting for nearly one-third (28 %) of all acknowledged funders—primarily through UK Aid/FCDO and the AT2030 Program led by the Global Disability Innovation Hub (GDI Hub). Swedish funding bodies collectively contributed about 16 %, reflecting longstanding Nordic investment in rehabilitation and assistive-technology research. South African and Irish funders (mainly the NRF and Irish Research Council) each supported around 9–10 %, while the United States and German institutions each accounted for approximately 6–9 %. Smaller but notable contributions came from Norway, Canada, and Switzerland. Overall, this landscape highlights a strong dominance of Global North funding, with limited African-based financial mechanisms, underscoring the importance of developing local and regional research-funding capacity to sustain assistive-technology and rehabilitation research.

Table 4.2.4: Funding Sources by Country (as % of total funded studies)

Country of Funder	Key Funders / Agencies	% of Total Funded Studies
United Kingdom (UK)	UK Aid / FCDO, GDI Hub, Wellcome Trust, DFID, Newton Fund, Monash Business School (Australia partnerships), Global Challenges Research Fund (GCRF), Knowledge for Change, Marie Curie FP7	28 %
Sweden	Swedish Research Council, Promobilia Foundation, Sparbanksstiftelsen Alfa, Folke Bernadotte Foundation, Konung Gustaf V's 80-Year Fund, Erling-Persson Foundation, SPIDER, Umeå University grants	16 %
South Africa	National Research Foundation (NRF), University of Cape Town, Stellenbosch University Fund, University of Pretoria Research Office, University of Zululand	10 %
Ireland	Irish Research Council (COALESCE grants), APPLICABLE Project	9 %
United States of America (USA)	USAID, National Institutes of Health (NIH), Duke University, Oppenheimer Memorial Trust (collaborations), US State Department	9 %
Germany	DAAD, DFG (German Research Foundation), Government of Germany (via WHO commissioned work)	6 %
Norway	Norwegian Agency for Development Cooperation (Norad), Atlas Alliance, Norwegian Federation of Organizations of Disabled People	4 %
Canada	Canadian Institutes of Health Research (CIHR), Mastercard Foundation, Social Sciences and Humanities Research Council (SSHRC)	5 %
Botswana	University of Botswana Internal Research Funds	2 %
Switzerland	ETH for Development (ETH4D), International Consortium for Rehabilitation Robotics (ICORR)	2 %
Japan / WHO Kobe Centre	WHO Centre for Health Development (WKC) – Innovation for Healthy Ageing Program	1 %
Netherlands	Stichting Inzet der Lage Landen	1 %
Zimbabwe	University of Zimbabwe via IDRC sub-grant	1 %
Regional or Multilateral Agencies	World Health Organization (WHO), World Bank / IDRC (partnership grants)	6 %

4.3 OVERVIEW OF POLICY DOCUMENTS REVIEWED

A total of 110 documents were screened. Of these, 98 documents from at least 38 African countries (including several regional or multi-country documents) were retained for final analysis. Eleven documents were excluded as duplicates, and one was removed because it

was a scientific journal article rather than a policy instrument. A range of documents developed between 1981-2024, such as, but not limited to, policies, laws, Acts, guidelines, frameworks, strategic plans, action plans, were included to represent different levels of policy intent from legal authority (laws/acts) to implementation mechanisms (plans, frameworks, guidelines). The different types of documents were categorized as follows for ease of analysis:

- **Legal & Policy Frameworks (n=45):** Foundational documents that establish the legal, institutional, and policy environment for disability inclusion and AT. They define rights, mandates, and national coordination mechanisms. Examples include laws, acts, decrees, regulations, and national disability or AT policies.
- **Strategic & Operational Plans (n=28):** Action-oriented blueprints translating policy intent into measurable objectives. They set targets, timeframes, budgets, and responsibilities, often across sectors (health, education, labor, etc.). Examples include national or regional AT strategies, action plans, and cooperation frameworks.
- **Technical & Implementation Tools (n=23):** Practical instruments that guide day-to-day implementation. These include guidelines, manuals, toolkits, frameworks, and monitoring or analytical documents. They standardize service delivery, ensure quality, and provide reference materials for practitioners.
- **Declarations & Commitments (n=2):** High-level regional or international statements that articulate shared values, principles, or goals. Examples include declarations, resolutions, and calls to action adopted through intergovernmental or multi-stakeholder initiatives.

The Southern African region, appeared to be the most active region (n=28), with comprehensive frameworks and diverse instruments across South Africa, Malawi, and Zimbabwe. The East African region follows closely with 27 documents, and showed a rapid policy development since 2020, particularly in Kenya, Uganda, and Tanzania, reflecting growing AT integration within health and social systems. The West African region yielded 24 documents indicating a steady policy evolution, with newer AT-focused strategies in Sierra Leone, Liberia, and Nigeria. In contrast, the Central and North African regions together account for 10 documents, reflecting limited AT-specific policy development. In these regions, AT is typically addressed within broader disability or social protection frameworks rather than through stand-alone strategies.

Of the 98 documents, the majority (n = 33) were single-country policy instruments, with South Africa (n = 17), Kenya, Malawi, and Nigeria (n = 7 each) emerging as the most prolific. A smaller subset of documents (n = 3) was developed as multi-country or sub-regional strategies, involving between three and six countries per document. In addition, six documents were classified as regional or continental (e.g., “Africa region,” “Eastern Mediterranean Region”), representing frameworks intended for cross-national application rather than a single government. This distribution suggests that while AT policy activity is concentrated at the national level, there is growing use of regional and multi-country instruments to harmonize standards, accelerate adoption, and align with WHO and UN disability frameworks.

Policy development spans from 1981 to 2024 (where specified) with a surge in AT-specific strategies between 2016-2024 (e.g., Uganda 2024; Tanzania 2024; Zimbabwe 2024), signaling growing alignment with WHO and UN frameworks.

Several documents did not explicitly indicate the year of publication, adoption, or revision, but were included to provide important contextual and operational evidence of ongoing AT-related policy activity within each country and to ensure comprehensive representation of the AT policy environment, consistent with scoping review principles that prioritize breadth of coverage over completeness of metadata.[28,29]

4.4 Overview of Report Documents Reviewed

Geographic Distribution of the Report Documents Reviewed

Overall, 140 AT related reports were reviewed. There was at least one report from each of the African regions. While 26 reports focused on the WHO African region, 23 included information from more than one country indicating cross-national or regional collaborations. A total of 91 reports focused on single countries across the five African subregions, East, West, Central, Southern, and North Africa, covering 39 countries (Table 4.4.1). The distribution highlights both geographic diversity and uneven documentation patterns, reflecting varying levels of research activity, policy implementation, and stakeholder engagement in AT and disability inclusion.

Across Africa, the data show that West Africa and East Africa together account for nearly two-thirds of all reports, indicating strong regional leadership in documentation and policy engagement. Southern Africa also shows solid progress, with well-established institutional frameworks and a consistent stream of national reports. In contrast, Central Africa and North Africa remain underrepresented, reflecting ongoing challenges in visibility, data generation, and institutional capacity for AT-related research and reporting.

This pattern suggests that while AT and disability inclusion efforts are continent-wide, **documentation and evidence generation are concentrated in specific subregions**. Strengthening research networks, regional partnerships, and knowledge-sharing mechanisms especially in Central and North Africa will be key to achieving balanced continental coverage and advancing inclusive development goals.

Table 4.4.1: Regional Distribution of Reports

African Region	No. of Countries	Countries	No. of Reports
East Africa	9	Ethiopia (8), Kenya (6), Rwanda (5), Uganda (3), Tanzania (2), Mauritius (2), Burundi (1), Sudan (1), Seychelles (1)	29
West Africa	14	Nigeria (7), Sierra Leone (7), Ghana (3), Côte d'Ivoire (2), Liberia (2), Senegal (2), Gambia (2), Benin (1), Burkina Faso (1), Cabo Verde (1), Mali (1), Niger (1), Republic of Guinea-Bissau (1), Togo (1)	32
Central Africa	4	Democratic Republic of the Congo (3), Cameroon (1), Central African Republic (1), Chad (1)	6
Southern Africa	10	Zimbabwe (5), South Africa (3), Zambia (3), Eswatini (2), Malawi (2), Mozambique (2), Angola (2), Botswana (1), Lesotho (1), Namibia (1)	22

African Region	No. of Countries	Countries	No. of Reports
North Africa	2	Algeria (1), Tunisia (1)	2
WHO African Region	47	All 47 WHO AFRO countries	26
Multiple Countries	2-34	Ranged from 2 to 34 countries covered in one report. Overall, 50 countries across Africa were involved	23

GEOGRAPHIC DISTRIBUTION OF THE AUTHORS

Although these reports are based on research or activities conducted in Africa, they were developed/compiled across 44 countries and 7 global regions (Table 4.4.2). The regional distribution reveals distinct patterns in both the geographic concentration and volume of documentation related to AT and disability inclusion that received support from international entities such as WHO, ATscale, HI, CHAI, and World Bank in conducting and writing these reports.

The distribution of authorship across AT reports reveals clear regional disparities in research leadership and knowledge production related to Africa. Authors based in **West, East, and Southern Africa** contribute a substantial share of nationally grounded analyses, reflecting both the geographic concentration of AT research capacity and the regional maturity of AT systems, which directly influence how assistive technologies are used, adapted, and scaled. In contrast, **Central and North Africa** are less represented in authorship, with much of the available evidence originating from externally led studies and regional or global assessments. Beyond the continent, **European and North American institutions** play a dominant role in shaping Africa's AT evidence base through authorship of global research, funding analyses, and coordination reports. While AT research related to Africa is expanding, authorship remains fragmented and uneven, highlighting the need to strengthen locally led research capacity, decentralize authorship, and institutionalize cross-regional collaboration to build a more contextually grounded, policy-relevant, and equitable AT knowledge ecosystem.

Table 4.4.2: Regional Distribution of the Authors for the Reports

Region	No. of Countries	Countries	No. of Reports
West Africa	14	Benin (1), Burkina Faso (2), Cabo Verde (1), Côte d'Ivoire (2), Gambia (2), Ghana (3), Liberia (2), Mali (1), Niger (1), Nigeria (6), Republic of Guinea-Bissau (1), Senegal (2), Sierra Leone (6), Togo (11)	41
East Africa	9	Burundi (1), Ethiopia (8), Kenya (9), Mauritius (2), Rwanda (5), Tanzania (2), Uganda (3), Seychelles (1), Sudan (1)	32
Southern Africa	10	Angola (2), Botswana (1), Eswatini (2), Lesotho (1), Malawi (2), Mozambique (2), Namibia (1), South Africa (3), Zambia (3), Zimbabwe (5)	22
Europe	4	Austria (1), France (3), Switzerland (13), United Kingdom (4)	21
Central Africa	4	Cameroon (1), Central African Republic (1), Chad (1), Democratic Republic of the Congo (10)	13
North America	1	United States (9)	9
North Africa	2	Algeria (1), Tunisia (1)	2

YEAR OF PUBLICATION OF REPORTS

The 140 reports were published from 2009 to 2025 (Table 4.4.3). The peak year of publication is 2022, accounting for 51 reports, more than one-third of the total. This surge likely corresponds to intensified global and regional initiatives to conduct assessments, policy updates, and related studies on disability and AT systems. The subsequent years, 2021 (26 reports) and 2023 (14 reports) maintained relatively high output levels, reflecting the ongoing momentum in evidence generation and implementation monitoring across Africa. 2024 also shows notable productivity with 15 reports, indicating sustained institutional and donor interest in the field.

In contrast, earlier years (2009–2020) show lower but steady output, with between 1 and 10 reports per year. This period likely represents the foundational phase of AT-related documentation before major frameworks such as the WHO's Global Report on Assistive Technology and the AT2030 initiative expanded regional research capacity. Recent years (2024–2025) suggest a continuation of this positive trend, with 7 reports already published for 2025. Finally, three reports lack a stated publication date (n.d.), which may correspond to undated grey literature.

Overall, the distribution shows a clear acceleration in AT report production since 2020, reflecting growing recognition of AT as a development and public-health priority. This expansion indicates a strengthening evidence base and increasing maturity in national and

regional documentation, driven by global policy alignment, donor investment, and national planning. However, progress remains uneven and largely project-dependent, with limited longitudinal academic research to sustain learning over time. Consolidating these gains will require investment in permanent research infrastructure, stronger academic leadership, and robust data systems to shift AT research from episodic documentation toward a continuous, evidence-based discipline that can inform innovation, policy, and equitable access.

Table 4.4.3: Frequencies of Years of Publication

Year of Publication	Number of Reports
2025	7
2024	15
2023	14
2022	51
2021	26
2020	10
2019	8
2018	1
2017	2
2015	1
2010	1
2009	1
n.d	3

TYPES OF ASSISTIVE TECHNOLOGY REPORTS

Overall, the 140 reports were classified into 15 distinct report types (Table 4.4.4). The distribution indicates a strong dominance of Assessment Reports (40), representing the largest share of all documents. These reports typically focus on evaluating national, regional, or organizational capacities and progress in areas related to AT access, system readiness, and policy implementation. The next most common category is Organizational Reports (23), which include activity and donation updates, annual and progress reports, and institutional summaries. These reflect the operational and administrative documentation produced by implementing agencies, NGOs, and development organizations.

Human Rights Reports (20) form another substantial group, underscoring the increasing emphasis on rights-based monitoring of disability inclusion, accessibility, and AT. Similarly, Research Reports (18) highlight the growing evidence base being generated by academic and technical partners to inform policy and practice. Policy Reports (14) demonstrate ongoing policy formulation and strategic planning efforts across different governments and partner institutions, while Global Statistical Indicator Reports (10) represent international monitoring frameworks and data publications that support comparative analysis across selected WHO African regions. Less frequent categories provide specialized or event-specific insights and illustrate niche contributions to the overall evidence pool.

Overall, the available documentation is predominantly evaluative and organizational, complemented by a meaningful body of rights-based evidence. This profile indicates that AT research in Africa remains rich in descriptive and normative analysis but limited in academic, technical, and market-oriented inquiry. The dominance of assessments and organizational reports suggests a field still in a formative phase, focused on building foundational knowledge rather than generating experimental or scalable innovation evidence. To advance, Africa's AT research ecosystem must shift beyond documentation toward innovation, strengthening university-led research, cross-disciplinary studies, and economic analyses that can drive product development, local manufacturing, and inclusive policy reform.

Table 4.4.4: Distribution of Types of Reports

Report Type	Frequency
Assessment Report	40
Organizational Report	23
Human Rights Report	20
Research Report	18
Policy Report	14
Global Statistical Indicator Report	10
Market Report	4
Government Report	2
Meeting Report	2
Technical Report	2
Academic Thesis	1
Advocacy Report	1
Global Flagship Report	1
User Feedback Report	1
Victim Assistance Report	1

SUMMARY

1. AT evidence generation in Africa is extensive but unevenly distributed.
2. West and East Africa lead AT documentation, with Southern Africa showing steady institutional progress.
3. Central and North Africa remain under-represented and more reliant on externally led reporting.
4. AT research in Africa is shaped by strong regional and global collaboration.
5. Authorship of Africa-focused AT reports is geographically dispersed and externally influenced.
6. African authorship is strongest where AT systems and research capacity are more mature.
7. AT report production has accelerated markedly since 2020.
8. Growth in AT evidence remains project-driven rather than sustained.

5 ASSISTIVE TECHNOLOGY ACCESS IN AFRICA

5.1 INTRODUCTION

The section provides an overview of the barriers and contextually relevant enablers that persons with disabilities (persons with disabilities), their families and caregivers encounter in accessing AT. The section **synthesizes insights from 185 scientific articles and 140 reports** on AT. The adapted Levesque framework for Access to Healthcare[31] was used to guide the analysis, organization and interpretation of access to AT **across health, education, social protection, and employment sectors** (Figure 5.1.1).

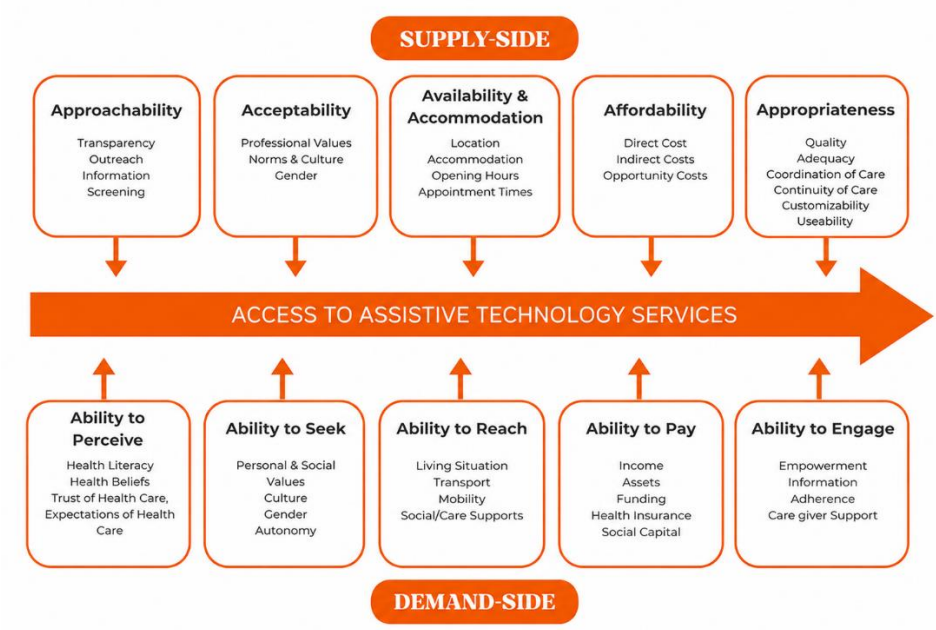


Figure 5.1.1: Access to assistive technology framework (adapted from Levesque's Access to Healthcare framework) [31]

The framework helps us understand access from both the system side (how services are organized and delivered) by examining five system dimensions of service accessibility comprising approachability, acceptability, availability, affordability, and appropriateness. These dimensions are paired with five **user** abilities to perceive, seek, reach, pay, and engage with services. This meant looking at whether youth knew services existed, whether services were friendly and respectful, whether products and providers were available and accessible, whether costs were manageable, and whether the AT provided truly met their needs.

The section is structured as follows:

- **Overview of Documents Reviewed:**
  - **Description of study samples**
  - **Geographic location of research**
- **Barriers and Enablers to AT Access**
- **Research Gaps for Phase Two**
- **Key findings/messages**
- **Recommendations**

5.2 OVERVIEW OF THE DOCUMENTS REVIEWED

DESCRIPTION OF STUDY SAMPLES

Table 5.2.1 provides an overview of the participant categories in the included studies. Most studies centered the voices and experiences of persons with disabilities, reflecting a strong emphasis on user perspectives across the evidence base. Educators and librarians formed the next-largest group, highlighting the importance of school and learning environments in shaping AT access and use. A considerable number of studies engaged mixed groups of stakeholders, suggesting that AT provision is widely understood as a multisectoral issue involving service providers, policymakers, and users. Fewer studies focused specifically on designers, manufacturers, or caregivers, revealing a gap in evidence on the perspectives of those who influence product development and day-to-day AT use. Rehabilitation professionals, NGOs, and government actors were represented to a limited extent, indicating opportunities for future research to capture system-level insights more comprehensively.

Table 5.2.1: Participant Categories Represented in Included Studies

Participant Category	Number of Studies	Percentage (%)
AT designers / manufacturers	4	2.16%
AT providers (OP/optometrists/wheelchair services)	6	3.24%
Persons with disabilities: (unspecified age groups, children with disabilities, young persons with disabilities, students with disabilities, elderly)	81	43.78%
Carers / caregivers	4	2.16%
General population	2	1.08%
Librarians / educators	17	9.19%
Multiple AT stakeholders (excluding persons with disabilities)	9	4.86%
Multiple AT stakeholders (including persons with disabilities)	45	24.32%
No participants (document analyses, policy reviews, etc.)	3	1.62%
NGO / government representatives	6	3.24%
Rehabilitation professionals	8	4.32%
Total	**185**	**100%**

- ***Studies involving persons with disabilities***

A total of 126 studies included persons with disabilities, and 45 of these also involved additional stakeholder groups. Although this review focused on young persons with disabilities aged 15–35 years, only one study[34] reported exclusively on this age group. A further four studies included young persons with disabilities alongside other stakeholders. In most cases, age groups were broad and overlapping, and data were not disaggregated in ways that allowed findings specific to young persons with disabilities to be isolated. Table 5.2.2 provides

the classification of the age categories of persons with disabilities reported in the scientific articles.

Table 5.2.2: Classification of Age Categories of Persons with Disabilities Reported on in the Scientific Articles

Age Category	Ages	Definition	No. of Studies	Example of Studies
Children with disabilities	0 – 15 yrs	Children and young adolescents with disabilities	3	[35–37]
Children and young persons with disabilities	0 – 18 yrs	Children and adolescents with disabilities	4	[38–41]
Young persons with disabilities only	15 – 35 yrs	Young persons with disabilities as defined in this review	1	[34]
Young persons with disabilities among multiple stakeholders	15 – 35 yrs	Young persons with disabilities and other stakeholders besides young persons with disabilities e.g., educators, AT providers etc.	4	[42–45]
Students with disabilities	Unspecified age categories	Largely includes young persons with disabilities at higher education institutions but may also include primary, secondary students and adults older than 35 yrs	41*	[46]
Adults with disabilities	18 – 65 yrs	Includes young persons with disabilities (young adults) and middle-aged adults	11	[47–49]
Adults with disabilities among other stakeholders	18 – 65 yrs	Adults with disabilities and other stakeholders besides adults with disabilities e.g., rehabilitation professionals, AT providers etc.	4	[42,50–52]
Elderly with disabilities	60+ yrs	Older adults	3	[53–55]
Persons with disabilities	All or unspecified age categories	Spans several age categories or refers to persons with disabilities without specifying age	35	[56–58]
Persons with disabilities among other stakeholders	Unspecified age categories	Persons with disabilities and other stakeholders besides persons with disabilities e.g., educators, AT providers etc.	18	[59–61]

* There is overlap between students with disabilities and other categories such as young persons with disabilities and young persons with disabilities among other stakeholders

GEOGRAPHIC LOCATION OF THE RESEARCH

Most studies were conducted in countries in Southern, East and West Africa, with less presentation in the North and Central African regions (Figure 5.2.1).

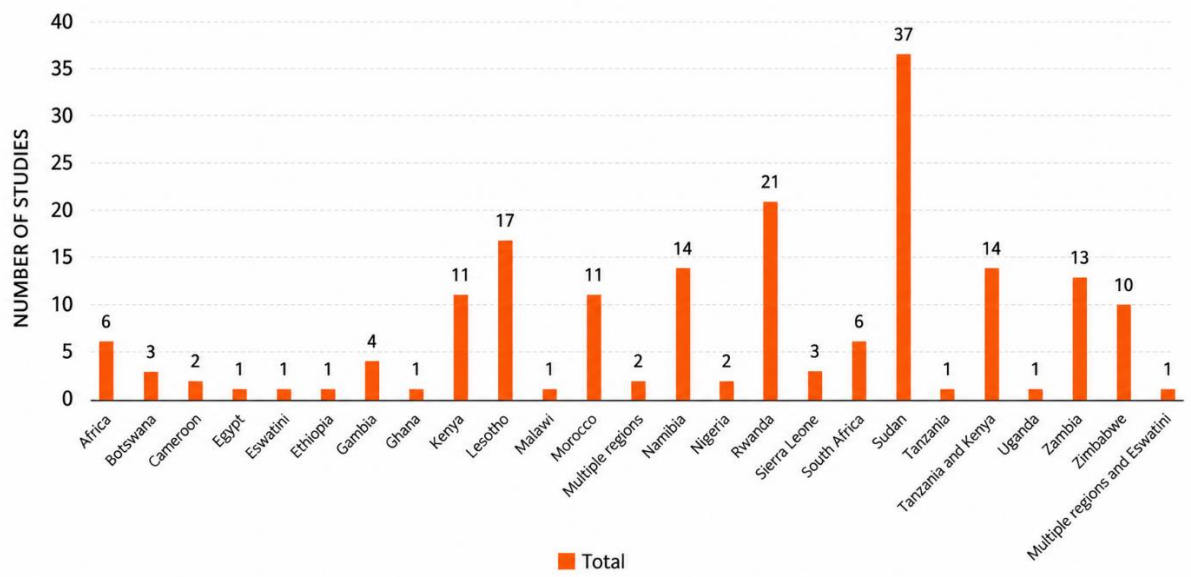


Figure 5.2.1: Geographic distribution of the research by country

RECOMMENDATIONS

These findings highlight a concentration of AT research among adult and student populations, with limited youth-focused evidence. Future studies should prioritize youth and transition-age groups (10–24 years), particularly in under-represented regions (North, Central, and parts of West Africa).

5.3 BARRIERS AND ENABLERS TO ASSISTIVE TECHNOLOGY ACCESS

BARRIERS PREVENTING YOUTH FROM RECOGNIZING THEIR ASSISTIVE TECHNOLOGY NEEDS

Perceiving the need for AT depends on individuals' perception and awareness of their functional limitations and understanding of how AT can enhance participation and independence. The evidence across countries highlights a consistent pattern: **young persons with disabilities remain largely invisible within systems that should support them**, primarily because they do not recognize themselves as potential AT users. This lack of recognition is shaped by overlapping influences—**cultural beliefs, stigma, knowledge gaps, and mistrust**—which appear across multiple regions, from East and West Africa to Southern Africa. Countries such as **Kenya, Malawi, Tanzania, and South Africa** show particularly strong interactions between cultural stigma and limited exposure to AT, reinforcing a cycle where families hide disability, providers misinterpret youth needs, and young people internalize negative perceptions.

Across several contexts—including **Ethiopia, Uganda, Lesotho, Ghana, and Nigeria**—youth-specific barriers emerge even more starkly in education settings, where low awareness

of AT options limits participation, academic attainment, and transition into employment. The widespread misperceptions that AT is either unnecessary or an indicator of more severe disability underscore how deeply stigma influences youth identity, help-seeking behavior, and willingness to use technology.

Table 5.3.1 demonstrates that **these barriers are not isolated issues but mutually reinforcing**, spanning cultural norms, family dynamics, provider behavior, and information systems. This reinforces the need for **multi-level strategies** that combine youth empowerment, community awareness, provider capacity building, and system-wide visibility of AT services.

Table 5.3.1: Barriers Preventing Youth from Recognizing Their Assistive Technology Needs

Barrier Category	Key Findings Relevant to Youth	Countries	References
Unrecognized Need	Low awareness of disability and short-term functional limitations as a condition requiring AT; underreporting of need; limited visibility of youth needs	**Uganda, Ethiopia, Senegal**	62–64
Cultural Beliefs & Stigma	Disability perceived as curse, punishment, misfortune; stronger stigma for intellectual disabilities; youth hidden or excluded	**Kenya, Malawi, Uganda, Sierra Leone, South Africa, Ethiopia**	65–74
Stigma Toward AT Devices	Fear of "catching" disability; families avoid mobility devices due to shame; prosthetics rejected as symbols of difference	**Nigeria, Malawi, Tanzania, Kenya, Ethiopia, South Africa**	51,66,69,71,73
Limited Knowledge of AT	Misunderstanding of AT purpose; fear of misuse; lack of device exposure; low awareness in universities; youth unaware of entitlements	**South Africa, Ethiopia, Kenya, Malawi, Tanzania, Lesotho**	50,71,75–82
Unrealistic Expectations & Mistrust	Expect AT to restore full "normality"; disappointment leads to abandonment; mistrust linked to poor previous service	**South Africa, Uganda, Ghana**	61,71,83,84

BARRIERS TO APPROACHABLE ASSISTIVE TECHNOLOGY SERVICES FOR YOUTH

Approachability considers whether young people can tell that AT services exist, that is how visible and well-communicated AT services are. The patterns across countries reveal that **youth face systemic barriers long before they reach an AT provider**, primarily because information about services is fragmented, unreliable, or entirely absent. In contexts such as Kenya, Ethiopia, Uganda, and South Africa, the lack of clear guidance on where to obtain AT means that young people—especially those without strong social networks—rely on informal channels that often delay or distort access. This creates an inequitable system where **youth who are digitally connected or socially supported benefit disproportionately**, while those in rural, low-income, or marginalized groups remain excluded.

Across Malawi, Liberia, Zambia, and several other countries, **provider awareness remains a critical bottleneck**, particularly for digital, communication, learning, and cognitive AT. This affects youth most strongly because their needs frequently fall into these "less visible"

categories. Even in higher education settings, gaps in disability data and bureaucratic assessment processes mean that students often go unnoticed or unsupported, reinforcing silent exclusion among those who need AT to succeed academically.

Community outreach efforts in Namibia, Sierra Leone, and South Africa show promise but remain inconsistent and under-resourced. Educators, medical professionals and community-based rehabilitation workers have limited knowledge and awareness of AT. As a result, many youths are **never identified early enough** for preventative or developmental interventions. At the same time, provider bias and opaque service practices—documented in Kenya, Zimbabwe, Sierra Leone, and South Africa—undermine young people's trust in AT systems. When procurement decisions are hidden, when counterfeit products circulate, or when users are excluded from decision-making, youth disengage and turn to informal or unreliable alternatives.

Table 5.3.2 highlights a system where **information asymmetry, weak data systems, provider limitations, and transparency gaps** create significant obstacles for youth attempting to understand, navigate, or trust AT services.

Table 5.3.2: Barriers Preventing Youth from Recognizing Their Assistive Technology Needs

Barrier Category	Key Findings Relevant to Youth	Countries	Key References
Information Gaps & Service Invisibility	Information about where to get AT, who is eligible, and what is available is often unclear or inaccessible. Even where training opportunities exist, few program s systematically raise awareness among young persons with disabilities. Many depend on word-of-mouth or social media to hear about AT, which disadvantages those who are less connected or more marginalized.	Kenya, Ethiopia, Uganda, South Africa, Nigeria, Malawi, Liberia, Zambia, "multiple African countries"	50,51,72,78,85–90
Limited Provider Awareness of AT (Including Digital AT)	Health workers, educators and service providers often lack understanding of AT options and their role, particularly for emerging digital and technologies for less visible impairments. This limits the likelihood that youth will be identified as potential AT users or referred appropriately.	Malawi, Liberia, Zambia, Kenya, Uganda, "several African countries"	78,90–93
Weak Data Systems & Low Policy Priority	Many countries lack reliable, up-to-date data on disability and AT, often relying on outdated or limited census data, or global estimates. It is difficult to understand how many young persons with disabilities need AT, types of AT required, or where services are most needed, leading to underestimation of AT's value and weak prioritization in policies and budgets. This contributes to underinvestment in youth-focused AT services and planning.	Nigeria, Liberia, Zimbabwe, Ethiopia, Uganda, Malawi, Tanzania, South Africa, "seven African countries", WHO African Region	62,66,94–98

Barrier Category	Key Findings Relevant to Youth	Countries	Key References
Lack of Disability/AT Data in Higher Education & Gatekeeping Through Assessments	Education institutions often lack systematic data on students with disabilities, leaving staff unaware of who needs AT or accommodations. Information about AT and support services circulates through informal peer networks. Formal assessment processes—often costly, distant, and bureaucratic—act as gatekeepers to funding or subsidized AP, barriers for students from low-income or rural backgrounds.	South Africa, Lesotho, Malawi, Tanzania, "Southern African higher education settings"	66,81,99–101
Limited Outreach & Weak Community Linkages	Community-based and outreach services to rural and isolated areas (including informal settlements) are sporadic. While outreach initiatives in some countries have helped to identify potential AT users, follow-up and quality control are inconsistent. Community, caregivers, and educators often responsible for identifying and referring youth lack training in AT, leading to missed referrals and unrealistic expectations.	Namibia, South Africa, Sierra Leone, Uganda, "other African community settings"	67,77,82,85,102–104
AT Service Provider Bias (Favoring "Visible" Disabilities)	AT service providers (including rehabilitation professionals) and education or workplace systems often prioritize physical impairments. For youth in schools, universities, and workplaces, this means that AT for communication, cognition, or mental health is often not considered.	South Africa, "Southern African higher education and workplaces"	50,105,106
Lack of Transparency & Trust in AT Services	Users frequently report opaque processes around procurement, pricing, product safety, and decision-making. Concerns include counterfeit devices, unclear cost structures, limited involvement of users in procurement decisions, and inconsistent service promises. These issues undermine trust in AT services, especially where they rely instead on personal relationships or informal providers.	Kenya, South Africa, Zimbabwe, Sierra Leone	66,67,105,107,108

RECOMMENDATIONS

Strengthen **institutional identification systems** and **frontline provider capacity—particularly among community health workers and primary care-level personnel** (who operate closest to youth)**—** to identify AT need, support referral, and enable access to **digital and cognitive AT** and **clear AT information**, ensuring young people are no longer "invisible" within education and employment systems.

ENABLERS OF IMPROVED PERCEPTION OF NEED AND APPROACHABILITY OF ASSISTIVE TECHNOLOGY SERVICES AMONG YOUTH

The enablers (Table 5.3.3) across countries reveal a clear pattern: when young people, their families, and their communities are exposed to accurate information, positive role models, and practical demonstrations of assistive technology, perceptions of AT shift from stigma and

dependency toward empowerment and opportunity. Awareness-raising initiatives—including disability equality training, inclusive education program s, peer-learning models, and community outreach—have consistently improved recognition of AT needs among youth, especially when interventions target both users and the social networks that influence their decisions.

Digital innovations such as chatbots, AT mapping applications, and online awareness campaigns show promise for youth, who rely heavily on digital platforms for information, peer engagement, and employment pathways. Where these tools are combined with trained community workers, standardized referral systems, and stronger national information structures, AT services become more visible, navigable, and trustworthy. Higher education institutions also emerge as an important enabler; disability units that provide sensitization workshops and digital AT exposure help students identify their needs earlier and facilitate self-referral.

At the system level, national leadership, updated disability and AT data, and coordinated awareness campaigns strengthen the broader environment in which youth make decisions about when—and whether—to seek AT. Countries that invest in these enablers demonstrate improved identification of AT needs, greater demand for services, and enhanced confidence in the system. Kenya provides promising evidence of the use of mobile phones as AT in schools.[109] Collectively, these findings show that meaningful change requires a combination of **youth empowerment, community engagement, digital innovation, and system-wide visibility**, ensuring that young persons with disabilities not only recognize the value of AT but can confidently approach services that support their learning, mobility, and entry into employment.

Table 5.3.3: Enablers of Improved Perception of Need and Approachability of Assistive Technology Services among Youth

Enabler Category	Description of Enabler	Countries Mentioned	Key References
1. Disability Acceptance & User Empowerment	Acceptance of disability improves openness to AT; awareness campaigns and user education help demystify disability and encourage self-identification of AT needs. Empowering youth and families strengthens demand-readiness.	Multi-country (general); Ethiopia; South Africa	22,67,79,83,85,110–113
2. Awareness-Raising Campaigns & Inclusion Education	Disability awareness e.g. disability equality training (DET) integrated into school curricula, university workshops, and community outreach increases exposure to AT and reduces stigma.	Ethiopia; South Africa; Multi-country	22,67,79,110,111
3. Peer Learning & Role-Model Interventions	Peer-led training, community learning groups, and youth-focused program s encourage disclosure and increase AT knowledge in safe environments.	South Africa; Ethiopia	22,79
4. Youth-Specific Digital Inclusion & Employment Initiatives	Youth-specific program s that combine awareness, digital skills, and employer partnerships—demonstrating the value of AT for employability and digital work.	Kenya; Multi-country	109,114

Enabler Category	Description of Enabler	Countries Mentioned	Key References
5. Disability Units & Higher Education Interventions	University and TVET Disability Units/Hubs effectively build awareness through workshops, inclusion campaigns, and AT demonstrations for students and educators.	South Africa; Ethiopia	79,110,115
6. Digital Tools for AT Information & Navigation	Innovations such as chatbots e.g. *Wheelpedia* in Nigeria and Kenya and regional AT mapping applications help youth access accurate AT information, locate providers, and understand available services.	Nigeria; Kenya; South Africa; Botswana	21,51,111,116
7. Community-Based Outreach & Trained Local Workers	Community workers trained in referral tools improve identification of youth in rural or isolated areas e.g., Shonaquip Social Enterprises *(SSE)* in South Africa; outreach increases visibility and trust.	South Africa; Botswana; Sierra Leone; Multi-country	21,67,71,77,102
8. Strengthening System Visibility Through National Awareness Efforts	National and regional awareness events and online webinars build professional and policymaker understanding of AT, improving institutional recognition and priority-setting.	Senegal; Regional Africa	113,117,118
9. Improved AT Data Systems & National Leadership	Policies tied to AT portfolios and improved data systems (census, rATA, clinical records) enhance visibility of youth needs and guide targeted communication and resourcing.	Nigeria; Liberia; Zimbabwe; Ethiopia; Multi-country	94–97
10. Standardized Referral Tools & Integrated Information Systems	Tools such as standard referral forms and national disability databases strengthen identification and streamline pathways to AT services for youth.	South Africa; Multi-country	94,95,99

RECOMMENDATION

Create transformative impact by empowering youth with AT knowledge, strengthening institutional and community referral systems, and investing in digital AT information platforms and national awareness initiatives—ensuring that young people recognise,

BARRIERS TO YOUTH SEEKING ASSISTIVE TECHNOLOGY IN AFRICA

Ability to seek refers to whether young people feel informed, confident, and supported enough to look for AT and navigate the system to get help. Evidence from across East, West, and Southern Africa demonstrates that young persons with disabilities do not fail to access AT because services are merely unavailable, but because many are unable to reach the point of seeking them in the first place (Table 5.3.4). Findings from **Tanzania, Uganda, and Kenya** show that help-seeking is driven by whether young people believe can meaningfully improve their functioning, participation, and future opportunities. Where youth experience prolonged unmet needs, fragmented services, or repeated exclusion from education or livelihoods, hope erodes and demand for AT is suppressed. This results in delayed engagement with AT systems, often until participation breakdowns become acute or irreversible.

Stigma emerges as a central structural barrier shaping youth demand for AT across **Kenya, Sierra Leone, Nigeria, Rwanda, Tunisia, South Africa**, and other contexts. Assistive products are frequently perceived as visible markers of disability, deterring help-seeking in schools, training institutions, and community settings where peer acceptance is critical. For children and adolescents, parents and caregivers act as de facto gatekeepers: evidence from South Africa indicates that shame and fear of labelling delay AT acquisition, while findings from **Ethiopia** and multi-country program reports show that direct exposure to AT benefits can rapidly shift parental attitudes and improve school participation. These findings highlight the need for interventions that target families and communities—not only individual youth—early in the access pathway.

Information failures further limit youth ability to seek AT, even in countries where products and services exist. Across **Ethiopia, Tanzania, Ghana, Nigeria, Zambia, Zimbabwe, Cameroon, Eswatini, and the DRC**, youth commonly report limited awareness of available assistive products, service points, and eligibility pathways. School-based studies in **Ethiopia and Tanzania** indicate that students are often familiar only with devices already provided and lack the confidence or support to use them in high-stakes academic settings. While digital platforms and peer networks are improving awareness in countries such as Nigeria and Ghana, these channels currently benefit more connected youth and risk widening inequities unless deliberately structured for inclusion.

Finally, the evidence underscores that youth ability to seek AT is systematically shaped by intersecting demographic and social inequalities. Gender disparities documented in **Nigeria, Rwanda, Uganda**, **Sierra Leone, and South Africa** show that young women face additional financial dependency, caregiving expectations, and normative barriers that reduce help-seeking and access to appropriate AT. Age-related effects observed in **Nigeria and Malawi** demonstrate that delayed recognition and support in early childhood increase later needs and costs. Low educational attainment, rural residence, and limited digital literacy compound these barriers across multiple settings. Collectively, these factors undermine youth confidence, agency, and self-advocacy, limiting their ability to engage with AT systems during foundational stages of education and transition into work.

Table 5.3.4: Barriers to the Ability to Seek Assistive Technology

Barrier Category	Key Findings Relevant to Youth	Countries Highlighted	Key References
Loss of hope and despondency	For young persons with disabilities, seeking AT is closely tied to hope for improved functioning, participation, and future opportunities. When young people experience prolonged unmet needs, ineffective services, or internalize disability-related loss, motivation to seek AT diminishes. Despondency can lead to withdrawal from education and social participation, delaying AT uptake until crises occur.	Tanzania; Uganda; Kenya	[53,119–121]

Barrier Category	Key Findings Relevant to Youth	Countries Highlighted	Key References
Stigma and social marginalization	Youth face strong stigma around disability and AP, which are often viewed as visible markers of difference. Fear of peer rejection, bullying, or discrimination discourages young people from identifying as potential AT users and their parents or caregivers from engaging with AT services, particularly in school and community settings.	Kenya; Sierra Leone; Nigeria; Rwanda; Tunisia; multi-country; South Africa; Ethiopia; multi-country	42,112,121–145
Knowledge and information gaps	Many youths lack basic awareness of available AP, service points, and eligibility pathways. AT knowledge is often limited to devices already in use, restricting exploration of alternatives. Inconsistent or hesitant use—especially during high-stakes situations such as examinations—suggests limited confidence, skills, or fear of device failure.	Ethiopia; Tanzania; Ghana; Nigeria; Zambia; Zimbabwe; Cameroon; Eswatini; DRC	79,133,134,136,138,141,142,144–149
Inequities linked to social and demographic factors	Youth experience intersecting inequities linked to age, gender, and social position that influence whether they seek AT. While evidence often focuses on receipt rather than seeking, underlying power dynamics—such as patriarchy and age-based dependency—may limit young people's agency in initiating help-seeking.	Multi-country (Africa); Nigeria; Rwanda	27,150,151
Gender inequalities regarding access	Young women and girls are consistently less likely than males to seek and access AT. Financial dependency, caregiving expectations, and gender norms restrict help-seeking. Where women do access AT, products tend to be fewer and less sophisticated. Community-based approaches may partially mitigate these barriers.	Nigeria; Rwanda; Uganda; Sierra Leone; South Africa; multi-country	40,85,150,152–154
Age-related barriers	Younger children are significantly less likely to seek or use AT than older children and adolescents. AT needs become more visible as functional demands increase with age, leading to delayed help-seeking. Missed early access may contribute to secondary complications and increased AT needs later.	Nigeria; Malawi	37,40
Education-related barriers	Low levels of education—among youth or their caregivers—limit awareness of AT	Nigeria; Rwanda;	40,150,151,155

Barrier Category	Key Findings Relevant to Youth	Countries Highlighted	Key References
	options, rights, and service pathways. School attendance increases the likelihood of AT use, while higher parental education and tertiary education among youth further enhance help-seeking and uptake.	LMICs (multi-country)	
Rural–urban disparities	Youth in rural settings face greater challenges in seeking AT due to poor service visibility, transport barriers, and difficult physical environments. For mobility-related AT, these constraints can discourage early help-seeking despite clear need.	Malawi; Nigeria; multi-country (Africa)	37,40,73
Low digital literacy	Limited digital literacy among youth restricts awareness of AT options, online referral pathways, and digital AT solutions. Conversely, digitally literate youth are better positioned to seek information, self-refer, and engage with emerging AT opportunities linked to education and employment.	Nigeria; Kenya; multi-country	51,156–158
Low self-esteem and internalized stigma	Long-standing stigma and exclusion undermine self-worth among young persons with disabilities, reducing confidence to seek AT. When young people perceive themselves as undeserving of improved quality of life, seeking AT services is unlikely, even when access points exist.	Nigeria; Lesotho	127,159,160

BARRIERS TO THE ACCEPTABLE ASSISTIVE TECHNOLOGY SERVICES

Acceptability considers whether AT services are respectful, youth-friendly, and culturally appropriate. Evidence across African countries shows that many AT services remain **insufficiently user-centered**, limiting their acceptability among young persons with disabilities. Young people frequently report that they are not involved in decisions about the design, selection, or customization of assistive products, particularly where devices are donated in bulk or procured through centralized systems in **Ethiopia, Uganda, Kenya, South Africa, Namibia, and Zimbabwe**. This lack of agency results in poorly fitting, inappropriate, or unsafe devices that are quickly abandoned, undermining young people's trust in AT systems. Limited opportunities for trial, comparison, or training—especially for first-time youth users—further weaken acceptability and constrain the integration of AT into learning, social participation, and early employment pathways.

Acceptability is also strongly shaped by the **attitudes and behaviors of providers**, particularly within schools, universities, health facilities, and public service institutions. Studies

from **South Africa, Uganda, Kenya, Sierra Leone, Nigeria, and Eswatini** reveal persistent negative perceptions of disability and AT among educators, administrators, and frontline service providers. Youth describe being discouraged from using devices in class or examinations, facing discriminatory teaching practices, or interacting with staff who lack the knowledge, confidence, or motivation to support AT use. Low morale among staff—linked to weak management support—further erodes service quality and reinforces environments where young people do not feel respected, understood, or valued.

Cultural and linguistic mismatches add another layer of complexity. Youth often encounter communication barriers where AT devices, training materials, and assessments do not reflect local languages, cultural symbols, or communication norms, particularly in **South Africa and Sierra Leone**. Gender and impairment bias also shape acceptability, with boys and young men receiving more attention for mobility devices, while girls, young women, and young people with cognitive or communication disabilities are often overlooked. Taken together, these factors create an ecosystem where young people's expectations, identities, and lived realities are misaligned with the design and delivery of AT services—underscoring the need for more responsive, youth-centered, culturally grounded, and gender-sensitive AT systems (Table 5.3.5).

Table 5.3.5: Barriers to Acceptable Assistive Technology Services

Barrier Category	Key Findings Relevant to Youth	Countries Highlighted	Key References
Limited user-centeredness in AT design and service delivery	Youth often have little influence on product design and selection; devices are frequently assigned without consultation; donated products restrict choice; lack of trial periods prevents informed decision-making; poor user engagement leads to rejection.	Ethiopia, Zimbabwe, South Africa, Uganda, Kenya, Namibia	34,71,95,122,125,127,161–164
Knowledge gaps reduce ability to participate in product selection	Young persons with disabilities or impairments—especially first-time users—often lack empowering information needed to meaningfully contribute to selection decisions; limited product comparisons and few opportunities to test devices reduce acceptability and increase mismatch.	Kenya, South Africa	122,125,165
Negative provider attitudes towards disability and AT	Youth report discriminatory attitudes from providers, lecturers, and administrators—undermining trust; providers may question the value of investing in AT for students; negative attitudes from educators impede AT use in classrooms and assessments; stigma from providers discourages service use.	South Africa, Sierra Leone, Nigeria, Uganda, Kenya, Eswatini	67,71,75,120,136,166–170
Low morale among frontline staff	Inadequate management support reduces staff willingness and motivation to provide youth-friendly AT services, resulting in poor user experience for young people with visual impairments.	Zimbabwe	171

Barrier Category	Key Findings Relevant to Youth	Countries Highlighted	Key References
Discrimination by impairment type or severity	Youth with less visible impairments (e.g., cognitive, learning) receive less attention and fewer AT options; resources tend to favor mobility or visual impairments; prognosis-based decisions exclude young people with higher support needs or those considered "not severe enough."	South Africa	24,101,172–174
Cultural and language mismatch between providers and youth	AT services often fail to reflect cultural practices or communication norms relevant to youth; AAC devices lack culturally appropriate symbols or local language options; language barriers during assessment and training reduce service acceptability.	South Africa, Sierra Leone	122,173,175
Gender-related concerns and lack of gender-sensitive services	AT services may feel unacceptable or unsafe for girls and young women due to cultural expectations or provider gender imbalance; youth also face services that are not gender- or age-responsive.	Sierra Leone, Eswatini, Multi-country	67,136,176

ENABLERS TO SEEKING AND ACCEPTANCE OF ASSISTIVE TECHNOLOGY SERVICES

Across African contexts, evidence shows that young persons with disabilities are more likely to seek and accept AT when their aspirations for independence and participation are recognized and supported. Hope—anchored in the belief that AT can restore function, improve educational performance, or open pathways to employment—emerges as a powerful motivator. Positive exposure to peers successfully using AT, whether in schools, digital spaces, or community settings, further strengthens young people's confidence and normalizes AT use, countering stigma that often begins early in childhood. These motivators signal the importance of designing youth-centered **early intervention** AT strategies that elevate relatable role models and demonstrate tangible gains in mobility, learning, and livelihoods.

Enabling environments also play a critical role. Awareness campaigns, inclusive messaging, and culturally responsive communication shift long-standing social norms around disability while equipping families and communities with accurate information. Digital literacy—especially among youth—creates new pathways for discovering AT options, navigating services, and participating in emerging digital job markets. Investments in digital tools, AT information platforms, and youth-focused training can therefore reduce information asymmetries and exponentially strengthen the ability of young people to seek AT.

Finally, acceptability of AT services is significantly enhanced when systems, providers, and products are user centered. Youth value services where their perspectives shape design choices, device selection, and the overall service experience. This calls for strengthening the AT ecosystem and local supply-chain. Evidence from **Kenya, South Africa, Zimbabwe, Namibia, Ghana**, and other settings demonstrates that user involvement increases device satisfaction, sustained use, and alignment with personal identity. Positive provider attitudes, gender- and culture-sensitive practice, and opportunities to trial devices further reinforce trust—an essential factor for young people who may be navigating stigma, uncertainty, or prior

negative experiences. Table 5.3.6 provides an overview of the enablers to seeking and acceptance of AT.

Table 5.3.6: Enablers to Seeking and Acceptance of Assistive Technology Services:

Enabler Category	Description of Enabler	Countries Mentioned	Key References
Hope, Motivation, and Aspirations for Independence	Hope of regaining lost abilities, improving participation, and achieving independence motivates individuals—including youth—to seek AT services and pursue pathways toward education, employment, and social inclusion.	Kenya, Senegal, Uganda, Tanzania, South Africa	42,53,64,83,119,177
Positive Exposure and Role Models	Seeing peers use AT successfully strengthens confidence, shifts perceptions of disability, and encourages families and youth to seek AT. Public visibility of AT users normalizes device use.	Ethiopia, “multiple African countries”	87,123
Awareness Campaigns and Inclusive Messaging	Community awareness campaigns, national AT strategies, and anti-stigma messaging improve recognition of AT benefits and counter misconceptions, creating a more supportive environment for youth to seek services.	South Africa, Kenya, “multi-country”	21,156,178,179
Digital Literacy and Access to Information	Increased digital connectivity and targeted digital literacy initiatives broaden awareness of AT options and link youth with information on devices, providers, and digital employment pathways.	Nigeria, Kenya, Ghana, “multi-country”	51,147,148
User-Centered Approaches to Assistive Technology	Embedding user perspectives throughout design, procurement, selection, and customization improves product appropriateness, enhances satisfaction, and promotes adoption. Trial periods and hands-on comparison empower users and strengthen decision-making.	Ghana, South Africa, Namibia, Zimbabwe, Liberia, Ethiopia, Kenya	21,122,125,156,164,180–185
Positive Provider Attitudes	Providers committed to person-centered practice, respectful communication, and quality service delivery build trust and improve perceived acceptability of AT services among youth and adults.	South Africa, Sierra Leone, Kenya	67,68,77,83,122,173
Cultural, Gender, and Language Sensitivity	Services that respect cultural norms, gender expectations, and language needs improve acceptability. Gender-sensitive design and communication-appropriate interfaces reduce rejection and increase adoption.	South Africa, Sierra Leone, Kenya, “Africa and Asia”, Nigeria	51,122,126,173,175,176,186,187

RECOMMENDATIONS

Prioritise **youth-centred AT ecosystems** by investing in digital literacy, awareness campaigns, and peer-led role-model initiatives that strengthen motivation and visibility of AT among young people. Strengthening **user-centred design and service delivery models**—including youth trial periods, participatory decision-making, and culturally/gender-sensitive practices—will significantly enhance acceptability and uptake.

Create catalytic impact by supporting **provider capacity building** and community-based programmes that position AT as a pathway to education, employment, and economic participation for Africa's youth.

BARRIERS TO REACHING ASSISTIVE TECHNOLOGY SERVICES

The **ability to reach** and revisit AT services depends on users' capacity to physically access and navigate available service points. Across Africa, young persons with disabilities face profound structural barriers to physically reaching and revisiting AT services (Table 5.3.7). Long distances to service points—often hundreds of kilometers—and the concentration of workshops in urban centers severely disadvantage rural youth. Inaccessible or unaffordable transport systems, combined with discriminatory practices and the need for accompaniment, further restrict mobility and lead to high out-of-pocket costs that many young people cannot absorb.

Fragile infrastructures—marked by unreliable electricity, poor internet connectivity, inaccessible public buildings, and conflict-affected environments—compound these mobility barriers and prevent consistent access to AT, especially digital and educational technologies. Even when youth arrive at service sites, physical inaccessibility of hospitals, rehabilitation units, libraries, or university buildings continues to limit service use.

Weak social and institutional support systems leave many young people navigating access alone. Limited school-based referral pathways, poorly trained staff, and fragmented community support structures mean that young people who could benefit from AT are not identified early and often miss critical windows for intervention.

Table 5.3.7: Barriers to Reaching Assistive Technology Services

Barrier Category	Key Findings Relevant to Youth	Countries Mentioned	Key References
Geographical Distance	Long distances to AT centers limit young people's ability to access assessments, fittings, and repairs; prolonged downtime of devices disrupts education and training; rural youth face systematic exclusion from follow-up and maintenance services.	Uganda, South Africa, Namibia, Tanzania, Malawi, Ghana, Ethiopia	34,55,69,84,91,95, 123,152,172,188,189
Transport Barriers	Inaccessible, unsafe, unaffordable transport prevents youth from reaching AT services or training program s; multiple vehicle transfers and discriminatory transport operators worsen travel burden; transport costs disproportionately hinder	Nigeria, South Africa, Ghana, Kenya, Malawi, Tanzania, Sierra Leone	67,68,73,84,112,114,124,127,189–195

Barrier Category	Key Findings Relevant to Youth	Countries Mentioned	Key References
	young persons with disabilities participating in education and digital-skills program s.		
Pandemic-Related Disruptions	COVID-19 shutdowns restricted mobility and closed AT services, leaving youth unable to access or repair essential devices; fears of infection discouraged travel to service points.	Multi-country	196
Socioeconomic & Environmental Contexts	Youth in conflict-affected, impoverished, or informal settlements face compounded barriers including unsafe travel, lack of electricity for charging digital AT, poor internet connectivity for e-learning, and mistrust of digital devices in militarized settings; rural youth report lower exposure to AT information.	Ethiopia, Ghana, Kenya, Uganda, Tanzania, Malawi, Namibia, Nigeria, Zimbabwe, South Africa; conflict-affected regions in Northern & Eastern Africa	27,69,74,85,97,99,101,123,144,150,152,163,168,169,191,197–201
Infrastructural Barriers at Service Points	Even when youth reach facilities, inaccessible buildings, libraries, and service areas hinder assessment and training; lack of ramps, wide doors, and elevators limits use of communication, mobility, and learning AT; inaccessible university libraries restrict academic participation.	Rwanda, Uganda, Zimbabwe, Tanzania, Sudan	97,144,197,202–205
Social & Institutional Support Gaps	Young people rely on peers, caregivers, or educators to physically reach AT and learning spaces; abandoned or unsupported youth face complete exclusion from AT access; limited referral capacity in schools/universities results in missed opportunities for early intervention.	Uganda, Tanzania, Sierra Leone, Kenya, Nigeria, South Africa, Malawi	40,67,112,203,206

BARRIERS TO AVAILABILITY AND ACCOMMODATION OF ASSISTIVE TECHNOLOGY SERVICES.

The **availability and accommodation** of AT services refer to whether the right services and products are there and are easy to reach. This covers location, opening hours, transport, waiting times, staffing, and whether AT services are physically accessible when youth need them. The AT services mentioned in the studies included AT assessment, fitting/trialing, provision, follow-up, rehabilitation, repair and maintenance.[181,199,207] Services not directly related to providing assistive devices or AT services include AT advocacy, fundraising, procurement, policy and research.[199]

Across African countries, young persons with disabilities face persistent structural barriers to accessing appropriately designed and adequately supplied AT services (Table 5.3.8). AT provision remains **highly centralized, urban-biased, and dependent on fragmented, donor-driven systems**, leaving rural and low-income youth with limited or no pathways to obtain or maintain essential devices. Learning institutions—key gateways for youth—struggle with **chronic shortages of functional AT, slow procurement cycles, and limited specialist staff**, resulting in delayed access, shared devices, or complete absence of appropriate technologies required for participation in education and training.

Supply systems rarely account for the diversity of youth needs. **Over-emphasis on mobility devices** and neglect of communication, cognitive, sensory, and digital AT disproportionately disadvantages youth whose disabilities are less visible. Frequent breakdowns, lack of repair

services, and poor accommodation within service sites—libraries, campuses, clinics—further compromise continuity of use. The absence of **local manufacturing capacity, weak regulatory structures, and unstable budgets** exacerbates inequities, while emergency situations such as COVID-19 expose the fragility of AT systems.

For young persons with disabilities, these systemic deficits translate into **long waiting times, inappropriate devices, disrupted learning trajectories, and reduced employability**. Addressing these challenges requires coordinated, multisectoral investment to decentralize AT services, strengthen institutional procurement systems, expand youth-relevant AT options, and build a skilled AT workforce capable of responding to diverse functional needs.

Table 5.3.8: Barriers to Availability and Accommodation of Assistive Technology Services

Barrier Category	Key Findings Relevant to Youth	Countries Mentioned	Key References
Centralized & Uneven Distribution of AT Services	Youth in rural and peri-urban areas face major disadvantages because workshops, rehabilitation centers, and disability units are concentrated in urban hubs; young people often cannot travel the long distances required for assessment, fitting, or repairs, leading to prolonged device downtime and interrupted participation in school or training.	South Africa, Namibia, Uganda, Malawi, Tanzania, Ethiopia, Ghana, Rwanda, Nigeria, Kenya	39,67,77,95,123,172,189,208,209
Limited AT Availability in Learning Institutions	Youth in secondary and tertiary institutions confront chronic shortages of AT, restricted to disability hubs with limited operating hours; AT is often shared, non-portable, or vandalized, leaving students unable to use technology consistently in class or at home. First-year–only or short-term provision exacerbates inequities.	South Africa, Uganda, Tanzania, Zimbabwe, Nigeria, Sudan, Rwanda	75,110,146,163,201,203,210,211
Shortage of Skilled AT Personnel & Training Infrastructure	Shortages of rehabilitation professionals, disability specialists, and AT-competent staff undermine consistent assessment, fitting, repairs, and follow-up for youth; shortages are most pronounced at PHC, district level, and in rural schools and universities.	Tanzania, Malawi, South Africa, Zimbabwe, Nigeria, Liberia, Sierra Leone	39,69,95,168,212–214
Mismatch Between AT Supply and Youth Needs	Available AT seldom aligns with youth-specific needs for education, communication, sensory support, or cognitive assistance; most stock is mobility-focused, outdated, or inappropriate in size, age relevance, or cultural/linguistic context. Limited trials restrict youth voice and choice, leading to poor fit and dissatisfaction.	South Africa, Ethiopia, Rwanda, Malawi, Uganda, Nigeria, Ghana, Zimbabwe	84,99,112,151,170,202,215,216
Fragmented, Donor-Dependent Supply Chains	Youth experience long delays in receiving devices due to procurement inefficiencies, donor-driven supply models, lack of ring-fenced AT budgets, and reliance on imported products. University students often wait entire semesters for essential AT.	South Africa, Namibia, Ethiopia, Ghana, Liberia, Sierra Leone, Nigeria	85,102,163,170,172,173,214

Barrier Category	Barrier Category	Key Findings Relevant to Y	Barrier Category	Key	Barrier Category	Key Findings R
Limited Local Manufacturing & High Costs	Youth are affected by high import duties, lack of affordable local production, and frequent shortages of spare parts, making devices unaffordable or impossible to repair; this especially limits access to high-tech or digital AT vital for education and employment.		Namibia, Sierra Leone, Liberia, Ethiopia, Nigeria, Zambia, Ghana		67,94,95,208,214,217	
Inadequate Infrastructure at Service Points	Youth struggle to access AT services located in physically inaccessible hospitals, libraries, and universities; steep stairs, narrow doors, lack of lifts/ramps, and inaccessible ICT labs limit usability of AT for education and training.		Rwanda, Uganda, Zimbabwe, Tanzania, Sudan, South Africa		97,110,144,197,204,205	
Institutional Support Gaps for Youth	Weak referral systems, limited staff training, and inadequate social support leave youth navigating AT access alone; peer or caregiver assistance becomes essential but inconsistent. Abandoned or unsupported youth face extreme exclusion.		Uganda, Tanzania, Sierra Leone, South Africa, Nigeria, Zimbabwe		40,67,112,203,206	

ENABLERS TO REACHING, AVAILABILITY, AND ACCOMMODATION OF ASSISTIVE TECHNOLOGY SERVICES

Emerging models across African countries demonstrate that **decentralization, community-based service delivery, and targeted digital innovations significantly enhance the ability of young persons with disabilities to reach and benefit from AT services**. Community outreach systems—such as mobile clinics, CBR program s, disability hubs in learning institutions, and rural repair/refurbishment services—have reduced travel burdens, improved follow-up, and increased early identification of AT needs. These approaches show strong promise when combined with task-shifting to rehabilitation technicians, systematic provider training, and integration of AT into national primary health care and education systems.

At the system level, **national policy commitments, AT integration into health and social protection systems, tax exemptions on AT inputs, and the establishment of national Priority Assistive Products Lists (APLs)** are strengthening procurement planning and improving availability. Countries investing in the rehabilitation workforce—through Prosthetics & Orthotics training reinstatement, community-worker upskilling, and AT literacy among educators—are better positioned to deliver responsive and equitable AT services that accommodate the diversity of youth needs.

Digital and locally appropriate innovations—including mobile-based coordination, AI-enabled AT tools, low-cost local production, and context-specific AT solutions—further expand access where connectivity and infrastructure allow. These approaches reduce dependence on donor-driven supply chains, shorten service delays, and improve product relevance and durability. Collectively, these enablers (Table 5.3.9) demonstrate that **locally adaptive, decentralized, and youth-responsive AT ecosystems can overcome entrenched access barriers**, offering clear policy guidance on where strategic investment will yield the greatest impact for Africa's young persons with disabilities.

Table 5.3.9: Enablers to Availability, Accommodation, and Ability to Reach Assistive Technology Services

Enabler Category	Description of Enabler	Countries Mentioned	Key References
Decentralization of AT Services	Bringing AT assessment, provision, follow-up, and repair services closer to communities through community outreach, mobile clinics, disability hubs, and PHC integration reduces travel distance and improves continuity of care for youth.	South Africa, Senegal, Benin, Uganda, Ethiopia, Rwanda, Malawi, Namibia	21,94,95,118,215,218
Community-Based Outreach & CBR Models	Outreach teams, CBR structures, and social enterprises deliver assessment and repair services in remote communities, including training local personnel—enhancing availability and timely access for youth.	South Africa, Botswana, Sierra Leone, Uganda	67,77,102,154
Strengthening Workforce Capacity (Task-Shifting & Training)	Training rehabilitation technicians, community workers, educators, and local organizations increases the pool of personnel who can prescribe, assemble, repair, and support AT, especially for youth in rural regions.	South Africa, Ethiopia, Rwanda, Liberia, Sierra Leone	94,181,214,219
Integration of AT into National Systems	Embedding AT within national health insurance, social protection, education systems, and priority-setting frameworks improves budgeting, planning, and equitable distribution, benefiting youth seeking and maintaining AT use.	Ethiopia, Rwanda, Malawi, Ghana, Namibia	79,95,150,151
Local Production & Context-Appropriate Innovation	Expanding low-cost local manufacturing, assembly, and DIY solutions improves product availability, reduces reliance on imports, and enhances relevance for youth's environments and cultural contexts.	Egypt, Uganda, Namibia, Ghana	54,95,220,221
Digital and Mobile Innovations	Use of mobile phones, digital platforms, AI technologies, tele-coordination, and alternative applications improves reach, reduces unnecessary travel, and supports remote troubleshooting.	Uganda, Kenya, Nigeria, South Africa	58,101,120,158
Institution-Based Disability Hubs & Support Units	Universities and schools providing disability units/hubs expand access to AT, streamline referrals, and support youth with disability through structured AT provision systems.	Tanzania, South Africa	146,204,222
Strengthened Supply Chain &	National APLs, tax exemptions, improved monitoring, and IT-based supply systems	Sierra Leone, Liberia,	85,95,199,214

Enabler Category	Description of Enabler	Countries Mentioned	Key References
Procurement Reform	enhance product availability and reduce delays, while criteria for prioritizing essential AT support more equitable allocation.	Malawi, Namibia, Ethiopia	
Supportive Care Settings	Residential care facilities or organized community living arrangements ensure stable access to AT and repairs, improving accommodation for youth unable to rely on families.	South Africa	112

RECOMMENDATIONS

Invest in decentralised, youth-focused AT delivery models, including community outreach, disability hubs in learning institutions, and mobile or digital coordination platforms that overcome distance and transport barriers. **Task shifting**—supported by shared tools and cross-sector coordination—offers a high-impact pathway to improve AT awareness, provision, and uptake at scale without relying on scarce specialist personnel. Practically, this includes supporting joint health–education technical working groups; integrating AT screening and referral into existing school health and community health platforms; enabling data-sharing between education and health information systems; and funding cross-sector training programmes that equip community health workers, educators, and youth peer facilitators with complementary AT roles. Strengthening **AT workforce development, local production capacity, and context-specific digital innovation** will further enhance availability, affordability, and sustainability of AT for young people. Targeted support for **national AT planning, supply chain strengthening, and Priority Assistive Product initiatives** can accelerate scalable, system-wide improvements across partner countries.

BARRIERS TO YOUTH'S ABILITY TO PAY FOR ASSISTIVE TECHNOLOGY

Across African countries, face several barriers that affect their ability to pay for AT (Table 5.3.10). **young persons with disabilities face profound financial exclusion**, making AT—an essential enabler of education, mobility, communication and employment—largely unaffordable. Evidence consistently shows that AT costs far exceed the income levels of young people and their families, while out-of-pocket payments remain the dominant financing mechanism. Even when partial subsidies or insurance schemes exist, **residual costs, transport fees, and repeated follow-up expenses** remain prohibitive for most young people. This financial burden is compounded by widespread unemployment among young persons with disabilities, meaning AT becomes a luxury rather than a gateway to opportunity.

Social protection and institutional funding systems are **fragmented, inconsistent, and often exclude youth**, particularly students and young adults who fall between eligibility categories. Centralized and bureaucratic application procedures further raise costs, forcing youth to travel long distances for assessments or documentation. Even in higher education, students frequently rely on limited, delayed or donor-driven funding for AT, leaving many without essential technologies during critical academic periods. The lack of transparent, youth-friendly funding pathways means young persons with disabilities often depend on unsustainable

coping strategies—borrowing devices, sharing equipment, or relying on family, NGOs or peers for stopgap solutions.

Ultimately, the evidence underscores a **systemic financing gap**: AT is treated as a discretionary expense rather than a basic requirement for equal participation. Without dedicated youth-focused financing mechanisms, streamlined subsidy systems, and stronger institutional support models, young persons with disabilities will continue to experience profound inequities in access to the technologies that underpin learning, employment and social inclusion.

Table 5.3.10: Barriers to Youth's Ability to Pay for Assistive Technology

Barrier Category	Key Findings Relevant to Youth	Countries Mentioned	Key References
Economic Vulnerability & High Out-of-Pocket Costs	Young persons with disabilities face severe economic exclusion, making even basic AT unaffordable; high-tech AT priced far beyond youth income; young people rely heavily on family contributions, loans, or charity to acquire or repair devices.	Uganda, Cameroon, Tanzania, Malawi, Ghana, Nigeria, South Africa, Zimbabwe, Kenya	40,84,91,112,120, 146,198,223,224
Gaps in Social Protection, Health Financing Mechanisms & Inadequate Institutional Funding	Existing financial mechanisms (insurance, grants, bursaries) often exclude youth or cover only partial costs; many cannot afford required co-payments; students frequently left without AT due to insufficient university funding.	Rwanda, Kenya, South Africa, Zimbabwe, Ghana, Uganda	80,120,151,169,224–226
Costly, Centralized & Burdensome Funding Application Processes	Youth face long-distance travel, administrative fees, and complex documentation requirements to access financial support, making applications unaffordable and deterring access to subsidized AT.	Kenya, Uganda, Malawi, South Africa	68,69,71,80,152,169,189,192,224,227
Restrictive Eligibility Criteria	Strict and narrow eligibility rules mean many youths cannot access support schemes; age- or impairment-specific entitlements exclude young adults; some lose benefits when they take up low-wage employment or do not qualify for bursary schemes.	Kenya, South Africa, Uganda, Tanzania, Nigeria	24,39,40,112,146, 183,224,228
Low Awareness of Funding Mechanisms	Youth often unaware of available grants, subsidies, insurance coverage, or regulated low-cost AT providers; lack of information contributes to unnecessary out-of-pocket spending.	Kenya, South Africa, Zimbabwe, Ghana, Sierra Leone	80,84,199,208,224 ,225
Dependence on Family, Donors & Temporary Access Schemes	Reliance on family, peers, NGOs, and temporary loans from disability units leaves youth with unstable AT access; devices often must be returned after studies; donor-provided AT lacks maintenance and sustainability.	Rwanda, Kenya, Tanzania, Uganda, South Africa, Ghana	75,80,112,146,151 ,224,229,230

BARRIERS TO AFFORDABLE ASSISTIVE TECHNOLOGY

Affordability of AT considers whether young people can afford the direct and indirect costs involved. This includes the price of AT devices, repairs, transport, and other expenses. Even "free" devices can be unaffordable once indirect costs are considered. Across African countries, **young persons with disabilities face severe affordability barriers** because AT prices—driven by import duties, weak local production, fragmented procurement, and donor dependency—far exceed their economic means. Even where subsidies exist, **out-of-pocket costs, bureaucratic funding pathways, and eligibility restrictions** exclude many young people who are already disproportionately unemployed and financially vulnerable. Schools, universities, and families often rely on **unsustainable donor models**, leaving youth with short-term or incomplete access to essential technologies, while inconsistent repair and maintenance systems further undermine continuity of use. Without systemic reform—particularly in financing, procurement, and subsidies—AT remains **a privilege rather than a guaranteed right**, limiting young people's participation in education, employment, and digital economies. Table 5.3.11 highlights the barriers to affordable AT for young persons with disabilities.

Table 5.3.11: Barriers to Affordability of Assistive Technology for Youth with Disabilities

Barrier Category	Key Findings Relevant to Youth	Countries Mentioned	Key References
High Cost of AT Products	AT devices—especially high-tech, digital, or specialized products—are unaffordable for most youth; even basic devices exceed household income, forcing reliance on sponsorship, informal markets, or low-quality substitutes.	Cameroon, Tanzania, Morocco, South Africa, Ghana, Tanzania, Zimbabwe, Malawi	80,146,171,188,198,201, 211,217,231
Indirect costs of AT	Costs of transport, additional costs of accompanying person, accommodation, repeated assessments, repairs, and time away from school or work, often exceed the cost of the device itself	Eswatini, Uganda, Tanzania, Malawi, Sierra Leone	41,68,124,152,191
Import Taxes, Tariffs & Expensive Supply Chains	Import duties, VAT, freight costs, and multiple intermediaries inflate AT prices; high structural costs are passed to young users; limited local production keeps prices high.	Kenya, Malawi, Sierra Leone, Zimbabwe, Namibia, Ghana	54,94,189,190,199,215,2 32,233
Costs of Maintenance, Repairs & Replacement	Ongoing costs for parts, servicing, and travel for repairs add significant long-term financial burden; youth often defer repairs, resulting in unsafe or abandoned devices that affect school/work participation.	Kenya, Rwanda, Uganda, Malawi, Namibia, Sierra Leone	61,67,68,71,151,189,224
Costly, Centralized & Bureaucratic Funding Pathways	Accessing subsidies or financial support requires travel, paperwork, medical assessments, and fees; many youths cannot afford the process itself, creating structural exclusion.	Kenya, Uganda, Malawi, South Africa	80,120,169,172,224,227

Barrier Category	Key Findings Relevant to Youth	Countries Mentioned	Key References
Funding Not Calibrated to AT Costs	Grants, bursaries, insurance, and school provisions do not match real AT cost; youth expected to "top up" or self-fund essential devices; institutional budgets insufficient for learner needs.	Namibia, South Africa, Tanzania, Zimbabwe, Ghana	102,110,169,201,211,225,234
Dependence on Donor & Charity-Based AT Provision	Youth access AT through unpredictable donations with no guarantee of repairs, replacement, or sustainability; creates inequity and insecurity in long-term access.	Zimbabwe, Namibia, Tanzania, Ghana, Zambia, Malawi, South Africa, Sierra Leone, Liberia	85,102,181,199,201,211,215,225,226
Low Policy Priority & Cost-Recovery Pressures	Weak government financing leaves youth reliant on out-of-pocket expenditure; hidden fees, underfunded systems, and austerity measures limit affordability; youth feel AT is treated as a privilege, not a right.	Kenya, Sierra Leone, South Africa, Zimbabwe, Ghana	67,68,80,120,171,172,211,227
Opaque Pricing, Procurement Inefficiencies & Lack of Governance	Inflated prices from monopolistic tenders, lack of price regulation, ad hoc institutional buying, and regional tariff inconsistencies raise end-user costs for youth.	South Africa, Kenya, Malawi, Namibia, Ghana	21,26,54,94,112,172,181,233

ENABLERS TO ABILITY TO PAY AND AFFORDABILITY OF ASSISTIVE TECHNOLOGY

Across the Mastercard Foundation's countries of focus in Africa[1], emerging financial enablers are beginning to shift AT access from a charity-dependent model toward more sustainable, rights-based financing (Table 5.3.12). National insurance schemes, disability grants, and targeted funds are increasingly covering portions of AT costs, reducing the direct financial burden on young persons with disabilities. At the same time, innovative models, including local production through 3D printing, cross-subsidization by social enterprises, and tax exemptions on AT imports, demonstrate promising pathways for lowering device prices and improving long-term affordability.

For youth, these changes are particularly significant: reduced costs, expanded financing mechanisms, and locally available products not only improve access to essential AT but also generate opportunities for skills development and employment within emerging AT innovation ecosystems. Strengthening these enablers through coordinated investment would accelerate equitable AT access and support youth economic participation across Africa.

[1] The seven African countries in which the Mastercard Foundation has a presence: Ethiopia, Ghana, Kenya, Nigeria, Rwanda, Senegal, Uganda

Table 5.3.12: Enablers to Ability to Pay and Affordability of Assistive Technology

Enabler Category	Description of Enabler	Countries Mentioned	Key References
Awareness & Access to Funding Mechanisms	**Awareness and uptake of grants, social protection, and insurance schemes** – Increased visibility of disability grants, national insurance coverage, and targeted AT funds improves affordability for youth, although gaps in awareness persist.	Rwanda, Kenya, South Africa	112,151,183,224
Financial Protection & Social Protection Mechanisms	**Partial or full insurance coverage for specific AT categories** – Inclusion of AT (e.g., prosthetics) in national health insurance reduces out-of-pocket costs. Increasing coverage as most young persons with disabilities cannot afford the remaining cost.	Rwanda	151
Policy & Fiscal Reforms	**Tax exemptions and fiscal incentives for AT imports and inputs** – Removal or reduction of import duties lowers the cost of devices and raw materials. **Policy measures promoting sustainable AT financing** – Integration of AT into insurance schemes, pooled procurement, and structured subsidy pathways lift financial burden from households.	Malawi, Rwanda, Ghana, South Africa Multiple countries across the region	21,112,151,215,235
Local Production & Innovation	**Local production and innovation reducing costs** – 3D printing, social enterprise manufacturing, and local fabrication models lower device costs and improve repairability.	Ghana, Malawi, Botswana, South Africa	21,215,235
Sustainable Provision Models	**Cross-subsidization models in social enterprises** – Profits from private sales subsidize low-cost AT for low-income users, including youth.	South Africa	21
Inclusion in national and rehabilitation budgets	**National costed plans and AT integration into sector budgets** – Inclusion of AT in national disability and rehabilitation plans improves predictability of funding.	Rwanda, Malawi	151,215
Partnerships	**Partnerships supporting innovation and production capacity** – Government–university–private sector partnerships stimulate AT innovation, reduce costs, and create opportunities for youth employment.	Ghana, South Africa, Botswana	21,235

RECOMMENDATIONS

Invest in strengthening and scaling social protection and financing mechanisms for young persons with disabilities—including awareness campaigns, simplified eligibility systems, and integration of AT into mainstream health, education, and employment financing to ensure that young people can reliably access grants, insurance benefits, and institutional funding for AT without prohibitive administrative or transport costs.

Support local production and innovation ecosystems by funding youth-led AT enterprises, expanding 3D-printing and low-cost fabrication hubs, and strengthening university–industry partnerships to reduce AT costs, build sustainable supply chains, and create meaningful employment and entrepreneurial pathways for young persons with disabilities.

Promote policy and fiscal reforms by partnering with governments to advocate for AT tax exemptions, pooled procurement, and inclusion of AT within costed national disability and rehabilitation plans to stabilise end-user prices, strengthen affordability, and shift countries away from fragmented, donor-dependent systems.

Enable workforce and market development by investing in training for rehabilitation technicians, AT service providers, and youth innovators, while simultaneously supporting regulatory and quality assurance systems to ensure safe, affordable products. This dual investment in people and products can expand AT availability and affordability while increasing job opportunities for young persons with disabilities.

BARRIERS TO ABILITY AND WILLINGNESS TO ENGAGE WITH ASSISTIVE TECHNOLOGY

Young persons with disabilities across African contexts face significant barriers to fully use or engage with assistive technology, not only because of product functionality but due to deeper emotional, cultural, and social factors that shape acceptance (Table 5.3.13). AT devices that clash with young people's identity, aesthetics, or aspirations often generate feelings of stigma, shame, or misalignment with desired self-presentation—leading to limited use or complete abandonment. When AT signals dependency, sickness, or low social status, youth disengage, reinforcing exclusion from education, livelihoods, and community life.

Cultural symbolism and social meaning strongly influence engagement: some devices are viewed positively as symbols of power or care, while others carry negative associations such as pity or diminished capability. Youth agency is further restricted when they are not involved in AT selection or informed about how devices work. Limited product knowledge, inadequate training, and insufficient follow-up undermine confidence and long-term use, particularly for high-tech AT.

Table 5.3.13: Barriers to Ability and Willingness to Engage with Assistive Technology

Barrier Category	Description of Barrier (Youth-Relevant Key Findings)	Countries Mentioned	Key References
Negative attitudes & stigma	Youth may reject AT when it conflicts with their desired identity, self-image, or sense of capability. Identity-related rejection of AT varies by impairment type, with the strongest effects observed for highly visible mobility and communication devices. Devices that symbolize sickness, pity, or "otherness" reduce willingness to engage. Emotional responses are shaped by social context and cultural norms.	Kenya, Uganda, South Africa	42,53,55,112,126
Poor aesthetics & undesirable design features	Noisy, bulky, unattractive, or culturally inappropriate devices cause shame or embarrassment among youth, lowering daily use and acceptance, particularly in schools or public spaces.	Rwanda, South Africa, Sierra Leone	65,67,149,236
Negative meaning attributed to AT	Devices act as visible markers of disability. Youth may avoid AT that signals dependency, loss of status, or a stigmatized identity. Some devices (e.g., sticks) can convey positive meaning for elders but not youth.	Uganda, South Africa	53,55,112
Mismatch between device and cultural identity	AT that does not align with cultural norms of dignity, beauty, masculinity or femininity is rejected or used inconsistently by young people.	Uganda, Kenya	53,126
Limited product knowledge & training	Youth lack sufficient understanding of device functions, maintenance, and safe use—especially high-tech AT—reducing confidence, agency, and long-term engagement. Training from providers is often minimal or absent.	Uganda, Ethiopia, Tanzania, Rwanda, South Africa, Nigeria, Ghana, Sierra Leone	85,101,146,148,166,168,170,203,234,236–239
Concerns over durability, safety & functionality	Youth question the sturdiness and safety of devices, especially innovative or locally produced models. Fear of breakage and risk discourages active engagement.	Kenya	126
Symbolic value of AT influencing engagement	AT received from family or peers may be cherished and used more; devices from clinical settings may carry stigma of illness and be rejected. Youth especially respond to the emotional and relational meaning of AT.	Uganda	53,55

BARRIERS TO APPROPRIATE ASSISTIVE TECHNOLOGY

Appropriateness of AT considers whether the AT matches the young person's needs and preferences. This includes whether the device is well-fitted, safe, personalized, and supported with training and follow-up. Across the Mastercard Foundation's seven countries of focus, low

appropriateness of AT stems primarily from systems-level shortcomings rather than an individual "misuse" problem (Table 5.3.14). Devices are frequently mismatched to young people's physical, psychological, educational and social realities: they are too heavy, uncomfortable, poorly fitted, outdated, or cognitively demanding to use, and often provided without proper assessment or training. For youth in schools, TVET and universities, this translates into AT that does not support learning or participation, increases fatigue and anxiety (for example during exams), and reinforces stigma rather than building confidence and independence.

These problems are compounded by gaps in provider competencies, fragmented and poorly coordinated care pathways, and environments that are simply not designed for AT use. Service providers and educators often lack up-to-date skills in assessment, prescription and digital AT, while weak referral, follow-up, maintenance and repair systems leave young people with broken or unsafe devices and no realistic way to have them fixed. At the same time, products are frequently ill-suited to African contexts—reliant on stable electricity and internet, vulnerable to rough terrain and crime, or incompatible with crowded informal housing—meaning that even "good" devices quickly become unusable in practice.

Finally, heavy reliance on unregulated donations and fragmented procurement systems drives a "one-size-fits-all" model where products, not users, dictate provision. Without enforced quality standards, user satisfaction monitoring or accountability mechanisms, low-quality and inappropriate devices are routinely imported, distributed and celebrated as "gifts", while governments quietly shift responsibility away from public systems. For policy and investment actors, this evidence signals that improving appropriateness for young persons with disabilities requires simultaneous action on user-centered assessment and design, provider training, environmental adaptation, regulated donation and procurement practices, and lifelong, coordinated AT care rather than isolated, once-off device hand-outs.

Table 5.3.14: Barriers to appropriateness of AT services.

Barrier Category	Key findings Related to Youth	Countries Mentioned	Key References
Inappropriate to users' physical & psychological needs	Many young people receive devices that are heavy, painful, cosmetically unacceptable, or poorly matched to their functional, emotional and self-expression needs, limiting mobility, education, social participation and employment, and reinforcing stigma rather than confidence.	Sierra Leone, South Africa, Ethiopia, Kenya, Uganda, Rwanda, Zimbabwe, Senegal, multi-country	34,42,62,75,85,90,92,101,121,125,126,129–131,152,163,164,197,240–244
Poor fit, comfort & postural support	Youth frequently use poorly fitted wheelchairs, prostheses and seating that cause pain, pressure injuries and fatigue, restrict participation in school and community life, and lead to dissatisfaction and abandonment.	Ethiopia, Uganda, South Africa, Sierra Leone, Rwanda, Zimbabwe, Ghana, Malawi, Namibia, multi-country	34,53,71,74,91,123,149,152,162,172,181,183,197,245

Barrier Category	Key findings Related to Youth	Countries Mentioned	Key References
Mental strain & psychological stress	For students and young adults, complex interfaces and constant troubleshooting create high cognitive load; some avoid using digital AT in high-stakes situations (e.g. exams) despite recognizing its benefits, reducing effective use.	Tanzania	119,146
Outdated & obsolete devices	In schools and universities, youth often rely on old or obsolete hardware and software (JAWS versions, Braille note takers, magnifiers, hearing aids) that lack needed features, undermining learning, engagement and independence.	Tanzania, Lesotho, Ethiopia, Uganda, DRC (and other countries via situational analyses)	115,145,169,170,201,203
Complex devices & inadequate training	Young users are frequently given complex digital or specialized AT with minimal or one-off training; many must "teach themselves by trial and error," which limits confidence, reinforces technophobia and reduces sustained use.	Kenya, Tanzania, Uganda, Ethiopia, South Africa, Ghana, Nigeria, Côte d'Ivoire, Lesotho, Zimbabwe, multi-country	62,85,90,92,93,96,99,101,125,146,148,159,164,166,168,170,197,203,234,238,239,241–244,246,247
Inadequate user assessment	Many youths receive devices without proper assessment (or only a narrow medical assessment), resulting in mismatched products; where structured assessment is provided, satisfaction and functional outcomes are much higher.	Malawi, Zimbabwe, multi-country; positive examples in South Africa, Namibia	74,93,95,132,134,162,172,181,183,215,241
Poor state of repair & maintenance	Broken or poorly maintained devices are common; youth often continue using unsafe products or go without AT because repair services, spare parts and backup devices are unavailable or unaffordable.	Malawi, Rwanda, Sierra Leone, Uganda, Tanzania, Ghana, Zimbabwe, Liberia, multi-country	27,62,64,90,92,93,96,151,152,159,162,164,189,192,197,215,221,241–245,247–249
Gaps in provider skills & competencies	Health workers, educators, lecturers, librarians and IT staff often lack AT-specific skills, especially for digital, communication and cognitive AT, leading to poor prescription, limited support and under-use by youth in schools, TVET and universities.	South Africa, Tanzania, Ghana, Uganda, Lesotho, Nigeria, Zambia, Zimbabwe, Ethiopia, multi-country	67,69,74,75,112,115,169,170,173,177,191,201,213,217,225,226,238,243,250–272
Limited contextual appropriateness (environment & safety)	Devices are often unsuited to youth living in informal settlements, rural areas or unsafe urban environments—affected by lack of electricity, poor internet, harsh	Multi-country (Africa-wide), including South Africa, Nigeria, Ghana, Kenya, Tanzania, Namibia, Lesotho	61,65,73,84,91,95,101,112,125,146,152,159,162,168,245,273

Barrier Category	Key findings Related to Youth	Countries Mentioned	Key References
	terrain, inaccessible buildings and crime risk—making even "good" products unusable in practice.		
Product-driven donations (conundrum of donated products)	Youth often depend on donated devices, but donation programs are frequently product-driven rather than user-centered, resulting in poor fit, lack of training, limited follow-up and environmentally unsuitable products, while also allowing governments to offload responsibility.	Sierra Leone, Zimbabwe, Kenya, Lesotho, Nigeria, Côte d'Ivoire, Senegal, multi-country	27,62,64,96,121,125,129–131,159,162,164,190,214,232
Fragmented, poorly coordinated & discontinuous care	Fragmented responsibilities across sectors (health, education, social services) and weak referral and follow-up systems mean that young people experience gaps between school and home, childhood and adulthood, and clinic and community, undermining continuity of appropriate AT use.	South Africa, Malawi, Namibia, Ghana, Nigeria, Rwanda, Liberia, Sierra Leone, Tanzania, Kenya, Zimbabwe, multi-country	62,90,92,93,95–97,120,122,159,162,164,170–173,175,197,201,214,241–244,247,251,274,275
Poor quality, weak standards & uncertain satisfaction	Low or unenforced quality standards enable poor-quality devices (often via donations or informal markets) that break easily and limit function; youth are often "grateful for anything", so satisfaction surveys report moderate scores that mask serious functional and quality deficits, and routine satisfaction monitoring is rare.	Multi-country (including Sierra Leone, Malawi, Mozambique, Nigeria, Ethiopia, Rwanda, Zimbabwe, Malawi, Tanzania, Namibia)	62,67,85,90,92,93,96,159,164,173,189,190,197,214,232,241–244,247,252–272,276

ENABLERS TO ABILITY TO ENGAGE AND APPROPRIATENESS OF ASSISTIVE TECHNOLOGY SERVICES

Assistive technology engagement and appropriateness improve markedly when systems are designed around users' lived realities rather than around products or providers. Evidence across African settings shows that when devices are functional, safe and fashionable, and can be customized to users' bodies, roles and environments, they become empowering tools that support autonomy, participation and dignity rather than symbols of stigma. User involvement in design, choice, modification and maintenance—combined with strong peer, family and community support—builds ownership, agency and sustained use, especially for tech-savvy young persons with disabilities.

Policy- and system-level enablers (C5.3.15) include structured, ongoing training for users, carers and frontline workers; community-based and digitally supported follow-up; and integrated, best-practice donation models that sit inside national AT systems rather than alongside them. Investments in modular, context-appropriate and locally repairable products,

underpinned by enforced quality standards and regulation, allow countries to pair affordability with safety and relevance. Together, these enablers point to a shift from ad hoc, product-driven provision towards coordinated, quality-assured ecosystems in which young persons with disabilities can confidently adopt, adapt and sustain the assistive technologies they need across home, school, work and community life.

Table 5.3.15: Enablers to Ability to Engage and Appropriateness of Assistive Technology Services

Enabler Category	Description of Enabler	Countries Mentioned	Key References
Functionality of assistive products	Devices that enhance independence, safety and participation in valued activities (school, work, social life) motivate ongoing use and positive engagement, especially when designs are attractive and contemporary.	Uganda, Ethiopia, multi-country (Africa)	42,55,123,149,277
User involvement	Involving users in design, selection, modification and procurement (including using local materials) strengthens ownership, identity expression and reduces abandonment.	Uganda, Kenya, South Africa, Sierra Leone, multi-country	53,55,126,183,189,190,220,278
Effective training on use and care	Structured, ongoing training for users, carers and frontline staff on how to use, care for and troubleshoot devices (including via chatbots and blended models) improves confidence, safety and long-term engagement.	Uganda, Sudan, Tanzania, Rwanda, Kenya, Nigeria, South Africa, Zimbabwe, multi-country	51,99,112,125,146,170,202–204,239,279
Support from peers, family and community	Peer role models, informal peer training, and support from family, carers and community networks help users learn, problem-solve and stay engaged with their devices.	Kenya, South Africa, Uganda, Tanzania, Sierra Leone, Namibia, multi-country	83,85,95,112,125,146,179,203,280
Customization	Adjusting devices for fit, posture, comfort, weight, looks and specific functional needs (including user-led tweaks) increases satisfaction, safety and long-term use.	Ghana, Sierra Leone, Uganda, Kenya, Ethiopia, Morocco, multi-country	21,34,36,59,154,162,183,190,281
Modularity and local adaptation	Modular designs, environmental adaptations (e.g. ramps, solar power, no-flat tires) and culturally acceptable solutions allow devices to be tailored to varied African contexts.	South Africa, Nigeria, Rwanda, Tanzania, Uganda, multi-country	21,122,162,168,175,219,282,283
Strengthening maintenance and repair systems	Locally maintainable, repairable products, plus trained mechanics and structured maintenance systems, extend device life and keep users safely engaged.	Ethiopia, Sierra Leone, Liberia, multi-country	74,86–88,124,185,284–288

Enabler Category	Description of Enabler	Countries Mentioned	Key References
Best-practice donation models integrated into systems	Donation programs that follow WHO service steps (assessment, fitting, training, follow-up, repair) and sit inside national systems can deliver high satisfaction and functional outcomes.	Zimbabwe, Kenya, regional (multi-country, OADCPH)	86–88,94,121,125,129–131,162,181,185,284,285
Coordinated, continuous and community-based care	Ecosystem approaches combining outreach, CBR/CHW follow-up, digital tracking, satisfaction surveys and cross-sector collaboration improve continuity, appropriateness and user engagement over time.	South Africa, Uganda, Malawi, Rwanda, Zambia, Sierra Leone, multi-country	62,71,90,92,93,95,96,122,154,159,164,172,175,197,214,241–244,247
Standards, regulation and quality-assured local manufacturing	Enforced quality standards, regulation of providers and support for quality-assured local manufacturing/assembly improve safety, contextual fit and affordability, encouraging use and trust.	Ghana, Nigeria, Mozambique, Rwanda, Ethiopia, multi-country	54,94,149,179,214,289

RECOMMENDATIONS

1. Invest in youth-centred AT innovation and co-design ecosystems: Support programmes that involve young users in AT design, testing and customisation; expand local manufacturing hubs (including modular and 3D-printing models); and promote integration of universal design and emotional design principles to improve acceptability and reduce abandonment.

2. Strengthen AT skills development through training, peer-learning and community-based service models: Fund scalable training platforms for users, carers, educators and frontline workers (e.g., CBR/CHWs), while supporting peer-led models, digital learning tools (e.g., chatbots), and youth-focused maintenance and repair entrepreneurship.

3. Enhance systemic quality and continuity of AT services: Support governments and partners to establish quality standards, digital tracking systems, and coordinated referral pathways; invest in repair networks and maintenance infrastructure; and promote best-practice donation models aligned with national systems to ensure long-term appropriateness and sustainability.

5.4 RESEARCH GAPS FOR PHASE TWO

This review highlights substantial gaps in understanding how young persons with disabilities in Africa recognize their AT needs, navigate service systems, and engage with AT across their education, social, and employment journeys (Table 5.4.1). Evidence is fragmented, **rarely youth-specific**, and often misses the relational, cultural, and institutional dynamics that shape AT access. Evidence is especially thin for **out-of-school youth**, **rural youth**, and those with **invisible disabilities** (psychosocial, cognitive, learning). Few studies have mapped entire service journeys from awareness → assessment → provision → repair, especially for youth.

Table 5.4.1: Research Gaps for Phase 2 (Structured by Levesque Dimensions)

Levesque Dimension	Key Research Gaps (Youth-Focused)
Ability to Perceive	• How youth-specific stigma shapes recognition of AT needs. • How youth recognize or fail to recognize their AT needs. • Factors influencing youth acceptance, rejection, and discontinuation of AT. • How youth information ecosystems operate and how trust or misinformation shapes perceptions.
Approachability	• How youth understand the link between disability, AT, and employability. • How youth find AT information and what prevents navigation of systems. • Institutional barriers in TVET, higher education, and employment settings. • How youth judge device usefulness and why devices are abandoned. • Workforce competencies for identifying youth with less-visible disabilities.
Ability to Seek	• How youth recognize, interpret, or dismiss the need to seek AT. • How families/caregivers influence AT-seeking decisions. • Trusted information sources and effects of misinformation. • Youth perspectives on gatekeeping, disclosure, and eligibility processes. • Impacts of delayed or foregone AT access on education and employment. • How intersecting disadvantages shape ability to seek AT.
Acceptability	• How youth conceptualize agency in AT decision-making. • Drivers of provider attitudes and their impact on youth outcomes. • Influence of cultural, linguistic, gender, and identity factors. • Acceptability barriers for youth with less-visible impairments. • How youth–provider dynamics create trust, pride, embarrassment, or reluctance.
Ability to Reach	• How rural–urban inequities affect awareness, follow-up, and maintenance. • How poverty, conflict, and informal living conditions shape travel decisions. • Effects of inaccessible infrastructure on willingness to return for services. • Role of caregivers, educators, peers, and community workers in enabling or hindering access.
Availability & Accommodation	• How youth navigate shortages, delays, and centralized services. • Effects of breakdowns in repair and follow-up on participation. • How procurement systems shape youth access and decision-making power. • Youth experiences of supply chain fragility and emergency disruptions.
Ability to Pay	• How youth make financial trade-offs related to AT, travel, and repairs. • Effects of awareness of funding schemes on pursuit of AT. • How eligibility criteria and documentation exclude youth. • Effects of donor/family/loan-based access on independence and transitions. • How social determinants create affordability inequities.
Affordability	• Administrative and financial barriers in AT financing pathways. • How affordability shapes AT choices (e.g., low-quality or second-hand devices). • Budget limitations in education/training institutions and their impact. • Acceptability and sustainability of public, private, donor, and blended financing models. • Youth perspectives on costs across the AT lifecycle. • Perceptions of local production and innovation in rural/low-income areas.
Ability to Engage	• How youth interpret the social meaning and identity implications of AT. • Youth perspectives on design needs e.g., aesthetics, customization, and emotional design. • How decision-making power is shared during selection, fitting, and training. • Youth-specific training needs, especially for high-tech devices. • How cultural and gender norms shape engagement.

Levesque Dimension	Key Research Gaps (Youth-Focused)
Appropriateness	• How different groups of youth experience appropriateness and long-term use. • How cultural norms, stigma, and identity shape AT acceptance or modification. • Causes of variable assessment quality and effective models for improving provider skills. • How youth navigate outdated or complex digital AT in low-resource settings. • Sustainable models for repair, maintenance, and replacement. • Training needs that support youth entrepreneurship and employment.

5.5 KEY FINDINGS/MESSAGES

1. **Young persons with disabilities remain structurally invisible within AT systems across Africa.**
   Fragmented information pathways, weak and inconsistent data systems, and poor coordination across education, health, and community settings prevent early identification of AT needs. As a result, many young people enter adulthood without ever being recognized as potential AT users, limiting participation in education, training, and employment.
2. **Stigma—towards both disability and assistive products—systematically suppresses youth demand.**
   Negative social perceptions shape how young people see themselves, how families prioritize support, and how providers assess need. Fear of labelling, social exclusion, or being perceived as "dependent" leads to delayed help-seeking and non-use, even where services or devices exist.
3. **AT systems are difficult to navigate, creating barriers long before youth reach a provider.**
   Unclear information, centralized service points, weak outreach, and inconsistent referral pathways mean that access often depends on chance, personal networks, or digital connectivity—rather than rights-based, predictable systems. These navigation failures disproportionately exclude rural and low-income youth.
4. **Provider awareness and system bias limit access for youth with less visible impairments.**
   AT provision remains heavily skewed toward mobility devices, while communication, cognitive, learning, and digital AT—critical for educational attainment and employability—are frequently overlooked. Limited provider training and weak cross-sector collaboration further restrict identification and referral.
5. **Availability and appropriateness of AT are persistent challenges undermining continuity of use.**
   Device shortages, limited product diversity, outdated or inappropriate stock, and weak repair and maintenance systems result in long waiting times, poor fit, and frequent device abandonment. These gaps disrupt schooling, vocational training, and early employment pathways.
6. **Affordability is the most binding constraint on sustained youth AT access.**
   High out-of-pocket costs, indirect expenses (transport, assessments, repairs), restrictive eligibility criteria, and fragmented financing mechanisms leave most young people dependent on families or donors. Even when devices are subsidized, ongoing costs make long-term use unaffordable.
7. **Acceptability hinges on youth agency and respectful service environments.**
   Many AT services remain provider-driven, culturally misaligned, and insufficiently youth-centered. Limited involvement of young people in decision-making, poor communication, and lack of follow-up erode trust and contribute to low uptake and high abandonment rates.
8. **Weak national leadership and poor data obscure the true scale of youth AT need.**
   In many countries, the absence of coordinated national AT leadership, youth-disaggregated data, and integrated planning leads to chronic under-investment, fragmented delivery, and limited accountability for outcomes related to youth inclusion.
9. **Exposure to positive role models, peer learning, and aspirational pathways drives demand.**
   Where young people see clear links between AT use, independence, educational success, and

employment, willingness to seek and use AT increases markedly. Peer visibility and youth-led engagement consistently shift perceptions from stigma to opportunity.

10. **Digital, decentralized, and community-anchored AT ecosystems offer the strongest pathway to scale and equity.**
    Evidence across contexts shows that combining digital information tools, decentralized service delivery, peer-based models, workforce development, and integrated financing can address multiple access barriers simultaneously, offering scalable solutions aligned with youth empowerment and employment outcomes.

5.6 RECOMMENDATIONS

RECOMMENDATIONS FOR PRACTICE FROM THE STUDIES

1. Strengthen Training, Skills Development & Workforce Capacity

- Train and upskill local AT service providers, including therapists, rehabilitation technicians, educators, librarians, community-based workers, and peer supporters, with structured, competency-based, and continuous professional development program s.[152,217,235,278,280,290,291]
- Include hands-on, context-specific, and user-centered training across AT products, including maintenance and repair skills.[71,245,290]
- Build peer-based training and mentorship systems, especially in wheelchair and mobility training.[245,281]

2. Improve Awareness, Demand Creation & User Engagement

- Conduct community-level awareness campaigns to address stigma, improve understanding of AT benefits, and increase user self-efficacy.[42,80,84]
- Sensitize educators, librarians, and parents on AT use and its role in inclusive learning.[205,225,226]
- Promote culturally responsive AT interventions through co-design with users and communities.[59]

3. Improve AT Provision & Support Structures

- Ensure user training in safe use, maintenance, and repair of devices to sustain long-term use.[112,290]
- Develop inclusive training spaces and demonstration labs for AT skills development.[59,168]
- Expand the range of AT available, beyond mobility to include hearing, vision, communication, cognition, and self-care.[24,292]

4. Strengthen Service Delivery Models

- Adopt task-shifting and team-based models using generalist and specialist providers.[173]
- Strengthen referral systems and improve local access through decentralized service delivery.[84,293]
- Scale up existing successful AT service models and local good practice.[173]

RECOMMENDATIONS FOR POLICY FROM THE STUDIES

1. Strengthen AT Policy, Standards, and Regulatory Frameworks

- Develop or update national AT policies, service standards, and guidelines—including wheelchair and mobility policies, priority product lists, and procurement frameworks.[59,162,173,212]
- Develop and enforce country technical specification of AT or product norms, minimum quality standards, provider regulations, and quality control.[54,94,203,214]
- Enact disability-inclusive laws that mandate AT availability in schools, universities, health facilities, and workplaces.[115,207,225]

2. Increase Funding & Budget Allocation for AT

- Integrate AT into Universal Health Coverage (UHC) and social protection schemes.[179]
- Ring-fence national and institutional budgets for AT procurement, repairs, replacement, and staffing.[95,169,173]

- Subsidize the cost of AT for families, learners, and workers, especially high-tech devices.[60,84,294]
- Promote equitable policy and funding mechanisms that decentralize services and sustain AT access beyond donor cycles.[224]

3. Strengthen Local Production & Market-Shaping

- Support local manufacturing, refurbishment, and innovation ecosystems to reduce costs and improve availability.[84,207]
- Remove tax and import barriers for essential AT components.[207]

4. Improve Governance & Systems Strengthening

- Establish national AT coordination bodies, such as prosthetics/orthotics committees.[95,293]
- Improve national AT data systems, including needs assessments, workforce mapping, and outcome tracking.[171,293]
- Ensure intersectoral collaboration across health, education, social development, and labor sectors.[59,173]

5. Improve Inclusive Infrastructure & Accessibility

- Enforce infrastructural accessibility standards (ramps, signage, ICT accessibility, etc.) across schools, universities, and public institutions.[84,205]
- Ensure institutional policies guide AT integration, training, and inclusion.[99,169,211]

RECOMMENDATIONS FOR RESEARCH FROM THE STUDIES

1. Generate Local Evidence on AT Needs, Gaps & Impact

- Conduct comprehensive needs assessments to inform planning, budgeting, and procurement.[24,171]
- Explore gaps in AT provision across impairment groups beyond mobility.[24,292]
- Undertake rigorous evaluations of AT interventions, peer program s, and training models.[245,281]
- Perform cost-benefit analyses and return on investment evaluations related to AT.[95]

2. Strengthen Research on Contextual Factors & User Experiences

- Investigate stigma, cultural barriers, and user perspectives to inform culturally relevant AT interventions.[42,59]
- Explore accessibility barriers in higher education, including digital and e-learning challenges.[99,115]

3. Support Research Capacity & Knowledge Sharing

- Develop disability- and AT-inclusive research toolkits co-created with OPDs, youth, and community workers.[292]
- Promote South–South and international research collaborations and exchange program s.[59,68]
- Encourage librarians, educators, and academic staff to engage in AT-related research to strengthen evidence.[295]

6 ASSISTIVE TECHNOLOGY POLICY LANDSCAPE IN AFRICA

6.1 INTRODUCTION

This section provides an overview of the AT policy landscape in Africa, based on a structured review of 98 national, regional, and multi-country policy instruments from 38 countries developed between 1981 and 2024. In addition, 23 peer-reviewed studies were identified among the screened scientific literature that were eligible as it reported on policy data. These documents, spanning across 2013-2025, were included for analysis within the policy landscape section. The analysis examines how AT is positioned across laws, policies, strategies, action plans, and technical guidelines, offering insight into the maturity and coherence of AT governance across the continent.

This section is structured as follows:

- **Policy and Strategy Development**
- **Legislative Anchoring and Alignment with Global Frameworks**
- **Scope of AT Policies**
- **Target Audience**
- **Policy Implementation**
- **Policy Communication and Awareness**
- **Policy Implementation and Coordination**
- **Summary of Policy-Related Evidence from Scientific studies**
- **Key Findings**
- **Recommendations**

6.2 POLICY AND STRATEGY DEVELOPMENT

A clear pattern emerged across countries in how AT policies, strategies, and legal instruments were developed. While most documents did not describe formal research methodologies such as Delphi or structured focus groups, the development processes were consistently characterized by extensive stakeholder engagement, consultative processes, and strong alignment with international frameworks.

FOCAL POINTS AND LEAD POLICY DEVELOPERS

Across multiple countries, the development of AT policies and strategies was primarily government-led, most often through Ministries of Health or related social sector departments. In Kenya, Malawi, Rwanda, Ethiopia, and Liberia, health ministries coordinated national assessments, consultations, and technical working groups to shape strategies and roadmaps. Similarly, in Nigeria, Tanzania, and Sierra Leone, government ministries and regulatory bodies convened participatory processes in collaboration with partners such as OPDs, NGOs, and development agencies South Africa and Lesotho relied on ministerial committees and national steering groups to guide broad consultative processes, while in Botswana and Uganda, government planning frameworks and technical assessments served as the foundation for policy content. Where development methods were stated, government entities consistently acted as focal points, supported by external stakeholders and, in some cases, WHO-aligned technical tools.

STAKEHOLDERS INVOLVED IN POLICY DEVELOPMENT

The development of AT policies and strategies across countries was characterized by deliberate multi-stakeholder collaboration. Governments led most processes, but policy formulation was co-created with a broad spectrum of partners to ensure legitimacy, inclusiveness, and technical rigor.

A diverse set of actors was consistently involved, including:

- Government ministries — particularly health, education, social development, and ICT.
- Organizations of persons with disabilities (OPDs/DPOs) — representing users and communities.
- Non-governmental organizations (NGOs) and civil society groups.
- Private sector suppliers and manufacturers of assistive products; and
- International agencies — such as WHO, ATscale, CHAI, USAID, UNOPS, and other development partners.

This co-production approach was evident in several countries:

- In Zimbabwe, the AT List was developed collaboratively by the National AT Technical Working Group, ATscale, CHAI, UN agencies, and OPDs, ensuring both technical expertise and user perspectives.
- In Malawi, the Centre for Social Research worked closely with OPDs and policymakers to shape the Assistive Products List, blending academic evidence with community priorities and government leadership.
- Similar models of joint planning and validation were observed in Kenya, Sierra Leone, Tanzania, and Ethiopia, where national technical working groups convened multiple sectors to co-develop strategies and plans.

This multi-stakeholder co-creation (Table 6.2.1) reflects a shift away from top-down policy formulation toward inclusive, participatory processes that center both decision-makers and end users in shaping policy.

Table 6.2.1: Key Stakeholders Consulted in AT and Disability Policy Development in Africa (by WHO Subregion)

WHO Sub-region / Country	Key Stakeholders Consulted	Implied Roles
EASTERN AFRICA		
Kenya	AT TWG, CHAI, USAID, OPDs, MoH	Co-production and validation
Uganda	MoH, DPOs, NGOs, UNDP	Advisory and technical
Ethiopia	RTWG, NGOs, WHO	Co-production
Tanzania	TWG, NGOs, WHO	Co-production and validation
Rwanda	persons with disabilities, DPOs, ministries	Evidence and validation
SOUTHERN AFRICA		

WHO Sub-region / Country	Key Stakeholders Consulted	Implied Roles
South Africa	SAFCD, SADA, SANDA, government departments	Advisory and co-production
Zimbabwe	AT TWG, OPDs, WHO	Co-production and validation
Malawi	NGOs, OPDs, users, ministries	Co-production and advisory
Lesotho	NACC DMC, NC, persons with disabilities, academia	Technical and validation
Eswatini (Swaziland)	OPDs, public/private sector	Advisory
Botswana	Implementation partners	Oversight
WESTERN AFRICA		
Nigeria	DPOs, ministries, NSC, NAD, WHO	Advisory and validation
Sierra Leone	OPDs, WHO, NGOs	Advisory and technical
Côte d'Ivoire	MoH, DPOs, WHO	Advisory
Niger	FNPH (Nigerien Federation of persons with disabilities), NGOs, UNHCR	Validation
Central Africa		
DRC	Government ministries, NGOs, DPOs	Co-production and validation
Northern Africa		
Morocco	Ministries, civil society	Co-production
Libya	Implementation partners	Oversight
Cross-Regional / Other		
Various African States	NGOs, governments, OPDs	Advisory

Across all WHO subregions, the Ministries of Health, OPDs, and TWGs consistently acted as the core coordinating stakeholders.

- In Eastern and Southern Africa, stakeholder engagement centered on co-production and technical validation, supported by international partners such as WHO and CHAI.
- Western and Central Africa reflected a stronger emphasis on advisory and technical collaboration, often involving NGOs and donor agencies.
- In Northern Africa, participation was largely government-driven, with limited community-based engagement.

This cross-regional mapping highlights Africa's growing movement toward multi-stakeholder co-production, though the depth of OPD participation and technical autonomy varies across regions.

POLICY DEVELOPMENT METHODOLOGIES

The development of AT policies and strategic frameworks across African countries has been characterized by highly participatory, evidence-informed, and multi-sectoral approaches. While processes varied by country and institutional capacity, several consistent methodological patterns emerged across the dataset.

- ***Consultation***

Across most countries, consultative and participatory methodologies formed the backbone of AT policy development. In Kenya, the *Persons with Disabilities National Policy (2024)*[296] was developed through "several years of intense, expansive, and exhaustive consultations," while *Malawi's National Medical Rehabilitation Policy (2020)*[297] and *National Assistive Products List (2018)*[298] were shaped through a consultative process involving public, private, and non-governmental actors. Sierra Leone's *AT Policy (2021–2025)*[299] adopted a fully participatory approach, validated by WHO, the World Bank, OPDs, and NGOs. Similarly, South Africa's *White Paper on the Rights of Persons with Disabilities (2016)*[300] was informed by extensive community-based consultations, bilateral engagements, and multiple rounds of public comment.

These approaches ensured legitimacy, inclusivity, and alignment with the principles of the UN Convention on the Rights of persons with disabilities (UNCRPD), fostering both national ownership and contextual relevance.

- ***Evidence Base Informing Policy Development***

Countries drew on a combination of participatory, technical, and legislative evidence to inform the design and content of their AT policies and strategies. The evidence base typically included the following core components:

  - Consultative and participatory processes: National and regional stakeholder workshops, bilateral consultations, focus group discussions, and validation meetings were widely used to ensure inclusivity and consensus-building (e.g., Kenya, Malawi, Eswatini, South Africa, Uganda).
  - Desk reviews and policy scans: Reviews of national disability legislation, sectoral policies, and international frameworks were conducted to ensure alignment with constitutional mandates and global commitments (e.g., Botswana, Zimbabwe, Kenya, South Africa).
  - Situational and system analyses: Structured assessments of rehabilitation and AT systems were undertaken to identify gaps, capacity constraints, and implementation priorities. Many countries used WHO-endorsed tools, including STARS and STARS–Rehabilitation Maturity Model (RMM), alongside national AT landscape analyses (e.g., Rwanda, Tanzania, Burundi, Uganda, Ethiopia).
  - Surveys and field-based assessments: Empirical data collection complemented system analyses, including sub-national surveys and service-mapping exercises to identify geographic and population-level gaps (e.g., Kenya; Democratic Republic of the Congo).

- Legislative and institutional processes: In some contexts, AT policy development was embedded within formal legislative and parliamentary pathways, supporting institutionalization and cross-sectoral integration (e.g., Nigeria, Sierra Leone).
- Technical partner engagement: International agencies, academic institutions, and Organizations of persons with disabilities (OPDs) provided technical assistance, facilitated consultations, and supported expert review and validation processes.

Depth of application varied across countries, with several implementing multi-phase, tool-informed processes that combined system assessment with consensus-building and formal validation. Examples include Ethiopia, Uganda, Burundi, Nigeria, and Côte d'Ivoire, where national strategies were grounded in comprehensive situational analyses and iteratively refined through expert and stakeholder engagement.

Collectively, these approaches reflect a hybrid evidence model that integrates participatory dialogue, empirical system assessment, and legislative alignment, strengthening the legitimacy, technical quality, and implementation readiness of AT policies across diverse African contexts.

- ***Use of Technical Working Groups and Ministerial Committees***

Technical Working Groups (TWGs) or Ministerial Task Teams coordinated policy drafting, review, and validation in selected countries. In Liberia, the *National AT Roadmap (2021–2023)*[301] was developed by a TWG following a national capacity assessment and stakeholder workshop. Ethiopia's TWG oversaw its *National Rehabilitation and AT Strategic Plan (2021–2025),*[302,303] ensuring cross-sectoral participation from government, academia, and professional associations. Zimbabwe's National AT Technical Working Group (AT-TWG) worked closely with WHO, CHAI, ATscale, and OPDs to develop the Assistive Products Priority List (2017)[304] and National AT Strategy (2024–2025).[305] Such working groups ensured continuity across assessment, drafting, and validation phases, promoting national technical ownership.

- ***Multi-Stage Validation and Iterative Review Processes***

Many countries adopted multi-stage validation processes to ensure coherence, inclusivity, and alignment with national priorities. Rwanda's *National Policy of Persons with Disabilities (2021)*[306] was validated through national surveys and consultations at provincial and sector levels. Morocco's *2017–2021 National Action Plan*[307] involved more than 25 stakeholder workshops, civil society consultations, and benchmarking exercises. Madagascar (2015–2019)[308] used a sequenced participatory model involving sectoral consultations, interministerial committee meetings, and prioritization workshops. Similarly, Benin (2020–2024)[309] applied a government- endorsed methodology that combined literature reviews, thematic working groups, and validation sessions. This iterative design enhanced both technical precision and national consensus, supporting policy implementability and accountability.

- ***Youth involvement and consultation in Policy Development***

Across African disability and AT policy documents, youth and young persons with disabilities are inconsistently represented and rarely engaged as distinct stakeholders during policy formulation. The review of 2020–2024 policy documents from Zimbabwe, Nigeria, Kenya, Malawi, Uganda, Tanzania, South Africa, and Ethiopia shows that while youth are often

mentioned as a target group in education, training, or employment initiatives, their direct participation in development processes is limited.

Countries such as Zimbabwe and Nigeria provide clearer examples of inclusion. Zimbabwe's *National Disability Policy (2021)*[310] explicitly acknowledges children, youth, and adults with disabilities among participants in provincial consultations, while Nigeria's *Framework for the National Access to Work Scheme (2024)*[311] lists the Youth With Albinism Network as a stakeholder – demonstrating targeted engagement of organized youth groups.

In contrast, other policies (e.g., *Kenya's Persons with Disabilities Policy 2024*[296], *Tanzania's National Rehabilitation Strategic Plan 2021–2026*)[312] refer broadly to OPDs without disaggregating youth involvement. Substantively, several strategies identify youth as beneficiaries of AT for learning, vocational access, and employment (e.g., *Kenya*, *Malawi*, *South Africa*). Some, notably in Uganda and Ethiopia, also highlight the role of youth in innovation, manufacturing, and repair ecosystems, signaling growing awareness of youth as contributors to the AT value chain. However, these references remain programmatic rather than participatory, with no dedicated youth consultation mechanisms, indicators, or leadership roles identified.

Youth inclusion in AT policy development across African countries remains largely indirect and symbolic (Tables 6.2.2 – 6.2.4). While youth are acknowledged as potential users, innovators, and economic participants, they are seldom represented in decision-making or co-creation structures. This evidences a systemic gap and a missed opportunity for leveraging Africa's large youth demographic in shaping equitable and sustainable AT systems.

- ***Youth Inclusion in Assistive Technology and Disability Policy Development in Africa (by WHO Subregion)***

Table 6.2.2: Eastern Africa

Country	Policy / Strategy Document (Year)	Youth Reference	Level of Participation / Engagement
Kenya	*Persons with Disabilities Policy* (2024)[296]	Youth referenced as beneficiaries in education, skills development, and employment access.	**Indirect representation** — youth engaged through OPDs; no youth-specific consultation mechanism.
Uganda	*National Rehabilitation and Assistive Technology Strategic Plan* (2024/5–2029/30)[313]	Youth recognized as part of innovation and training initiatives in rehabilitation and AT ecosystems.	**Programmatic inclusion** — youth positioned as contributors to innovation rather than policy co-creators.
Ethiopia	*National Rehabilitation and Assistive Technology Strategy* (2021)[314]	Youth mentioned in the context of capacity building and employment.	**Indirect inclusion** — no evidence of direct youth participation during consultations.
Tanzania	*National Rehabilitation Strategic Plan* (2021–2026)[312]	Youth referenced under inclusive education and skills development.	**Implicit inclusion** — youth identified as beneficiaries; no distinct youth consultation mechanism.

Table 6.2.3: Southern Africa

Country	Policy / Strategy Document (Year)	Youth Reference	Level of Participation / Engagement
South Africa	*White Paper on the Rights of persons with disabilities* (2016)[300]	Recognizes young persons with disabilities as a priority group for inclusive education, leadership, and economic participation.	**Indirect representation** — youth included as a target group but not as policy leaders or direct contributors.
Zimbabwe	*National Disability Policy* (2021)[310]	Children and young persons with disabilities explicitly identified as participants in national and provincial consultations.	**Direct and explicit participation** — youth acknowledged as part of consultative and validation processes.
Malawi	*National Policy on Equalization of Opportunities for Persons with Disabilities*[315]	References youth and learners with disabilities in inclusive education and vocational training.	**Indirect reference** — youth identified as beneficiaries, not participants in the policy process.

Table 6.2.4: Western Africa

Country	Policy / Strategy Document (Year)	Youth Reference	Level of Participation / Engagement
Nigeria	*Framework for the National Access to Work Scheme* (2024)[311]	Youth With Albinism Network listed among stakeholders in policy formulation.	**Targeted inclusion** — representation through a youth-led organization engaged in structured consultation.

- ***Emerging Innovations in Methodology***

Across the continent, a new generation of AT and disability policies reflects an important evolution in methodological sophistication. Recent processes have moved beyond traditional consultations and assessments toward integrated, mixed methods approaches that blend participatory inquiry with data analytics and systems thinking. These emerging methods reflect a regional commitment to embedding evidence, inclusivity, and adaptability into policy design as illustrated in the examples below:

- *Participatory systems analysis and journey mapping* (Uganda, 2024)[313]
- *SWOT and landscape analyses* (Ethiopia, 2021–2022)[302,314]
- *Financial and digital mapping* (Namibia, 2023)[316]
- *Theory of Change* frameworks in WHO Cooperation Strategies (Senegal, 2024).[317]

Collectively, these methodological innovations mark a paradigm shift in AT policy formulation in Africa-from descriptive, process-oriented approaches to adaptive, learning-based frameworks that integrate multiple forms of knowledge. They also reflect an emerging regional ethos: policies must not only be participatory and inclusive but also analytically robust,

empirically grounded, and continuously refined through implementation feedback. This evolution positions African AT policy development at the forefront of global best practice in evidence-informed and context-sensitive design.

6.3 LEGISLATIVE ANCHORING AND ALIGNMENT WITH GLOBAL FRAMEWORKS

Across several African countries, AT and rehabilitation policy instruments were strategically embedded within both national legislative processes and international normative frameworks, creating a dual layer of legitimacy and accountability.

- In Nigeria, Sierra Leone, and Ghana, policy instruments were formalized as Acts of Parliament, signaling a legislative rather than purely policy-level pathway. These Acts referenced readings and certification by parliamentary committees, formal endorsement by legislative bodies, and alignment with constitutional provisions. For example, Nigeria's *Discrimination Against Persons with Disabilities (Prohibition) Act (2018)*[318] and Ghana's *Persons with Disability Act (2006)* [319] both explicitly link to the UNCRPD, providing a legal foundation for AT access, non-discrimination, and institutional accountability. Although these Acts did not always elaborate on participatory drafting steps, their legal anchoring effectively codified rights, obligations, and sectoral responsibilities—particularly in education, health, employment, and social inclusion.
- In parallel, many national policies and strategies (e.g., Ethiopia, Rwanda, Kenya, DRC, South Africa) demonstrated strong alignment with international and regional frameworks, including:
    - The UNCRPD and its General Comments
    - WHO's Assistive Technology (GATE) and Rehabilitation 2030 initiatives
    - The World Program of Action Concerning Disabled Persons
    - The World Health Assembly Resolution WHA71.8 on improving access to AT

These frameworks were often cited in introductory or situational analysis sections as the normative rationale for national policy development, as well as in strategic priority sections to set targets and benchmarks. For instance, Ethiopia's *National Rehabilitation and AT Strategy (2021)*[314] references the UNCRPD and WHA71.8 as guiding frameworks for service delivery models, while Liberia's *2021-2023 Roadmap to Increase Access to Assistive Technologies*[301] align their strategic objectives with WHO's GATE initiative. Similarly, Kenya and South Africa embed these references to legitimize national priorities within globally recognized standards. By embedding national instruments in both legislative structures and global commitments, governments strengthened:

- Political and legal enforceability (through Acts and parliamentary processes), and
- Strategic coherence and accountability (through alignment with UN and WHO frameworks).

This dual alignment reflects a norm diffusion process, where global frameworks inform domestic legislation and policy, while legal codification enhances the durability and enforceability of AT-related rights and obligations.

6.4 SCOPE OF AT POLICIES

The analysis of 98 policy and legal documents from 38 countries indicates that AT policies across Africa consistently focus on four core areas: access, supply, innovation (including research, development, and manufacturing), and regulation, though emphasis and depth vary widely by context. Access and supply dominate the policy landscape and appear in almost all countries, reflecting a strong priority on ensuring that assistive products reach end users through public provision, social protection, and integration into health, education, and employment systems. Innovation and local production are commonly referenced but remain largely aspirational, with limited evidence of operational mechanisms. Regulatory attention is present in most policies, but typically at a high level, with few fully developed frameworks. Overall, the policy landscape reflects strong intent to expand access, emerging interest in production and innovation, and comparatively weaker regulatory and governance maturity. Table 6.4.1 summarizes the scope of AT policy focus areas across countries, with illustrative examples.

Table 6.4.1: Scope of AT Policies

Focus Area	No. of Countries	Key Elements	Description of Policy Emphasis	Representative Policy Quotes
Access	**37**	Availability, Affordability, Equity, Inclusion, Rights-based framing	Policies consistently position access as a guaranteed right, with most countries committing to making assistive products available at population level, removing physical, financial, or service delivery barriers. Access language is the most universal and most rights-oriented across all countries.	"A person with disability has the right to access the physical environment and buildings on an equal basis with others." — Nigeria, Discrimination against Persons with Disabilities (Prohibition) Act (2018)[318] "Assistive devices must be provided by the government for free and where this is not possible, the cost... must be regulated to foster affordability." — Zimbabwe, National Disability Policy (2021)[310] "Ensure availability and affordability of assistive devices at subsidized cost." — Rwanda, National Disability Policy (2021)[306] "Over the next five years, accessibility will be improved through the introduction of assistive and learning support technologies, and training for teachers and students with special needs." — Federal Ministry of Education Sector Development Program VI (2021) [320]
Supply / Provision	**33**	Procurement, Service delivery, Centralized supply chains, public financing, Workplace provision, National	Supply is framed as a system-building priority: integrating AT into medical supply chains, school/workplace accommodation systems, or national procurement lists. Policies often acknowledge supply shortages and commit to	"The Commission shall... procure assistive devices for all disability types." — Nigeria, Disability Act (2018)[318] "Integrate the supply of assistive devices into the national KEMSA system." — Kenya, AT Strategy (2022–2026)[321] "Procure and distribute assistive devices through the National Medical Supply Agency and promote local

Focus Area	No. of Countries	Key Elements	Description of Policy Emphasis	Representative Policy Quotes
		stock systems	mechanisms for distribution, funding, and device management.	manufacturing." — Sierra Leone, AT Policy (2021)[299]
Regulation / Standards / Legal aspects	**30**	Product standards, Tax/customs policy, Quality assurance, Import rules, Certification, AT legislation	Regulatory focus ranges from high-level compliance (rights-based) to technical regulation (standards, customs exemptions, quality control). Many countries acknowledge policy gaps and call for standardization, but few describe functioning regulation already in place.	"Prosthesis, appliances and artificial limbs imported for the use of disabled persons shall be exempted from duties." — Libya, Law No. 3 (1981)[322] "Develop national guidelines, minimum norms and standards for the provision of assistive devices." — Malawi, Disability Act (2012)[323] "To participate in public tenders, each assistive product must be certified by the Kenya Pharmacy and Poisons Board." — Kenya, Market Entry Guide.[324]
Manufac-turing / Local products	**23**	Fabrication workshops, Industrial hubs, Tax incentives, Production capacity building, Workforce training	A growing subset of countries frames local production as a cost-control and sustainability strategy, often linked to job creation and repair capacity. Some policies offer fiscal incentives; others build prosthetics/orthotics workshops or refer to industrial-scale production hubs.	"The Minister… shall endeavor to provide investment incentives to local manufacturers of technical aids and appliances." — Kenya, Persons with Disabilities Act (2003)[325] "Local industrial hubs where… assistive technologies are manufactured and distributed must be established." — Zimbabwe, National Disability Policy (2021)[310] "Scale up local production and fabrication of assistive products in both private and public sector." — Uganda, AT Strategy (2024–2029)[313]
Innovation / Research & Develop-ment/ Technolog y	**16**	Design, Developmen t, Local production, Research, Digital inclusion, Technology adaptation	Innovation appears less frequently and is mostly strategic rather than operational — referenced in terms of future goals, technology co-creation, research priorities, industrial hubs, or digital accessibility. A small number of countries embed innovation into national AT ecosystems.	"Design and develop appropriate technologies, assistive devices and learning materials." — Lesotho, National Disability & Rehabilitation Policy (2009)[326] "Partner with the private sector to advance innovation and production of AT products and components." — Ethiopia, AT Strategic Plan (2021–2025)[314] "Promote innovative digital and technology solutions to empower persons with disabilities." — Rwanda, National Disability Policy (2021)[306]

6.5 TARGET AUDIENCE

National and regional policy instruments across the African region demonstrate increasing breadth in how target populations for rehabilitation and AT are defined. Table 6.5.1 groups national policies into five target-population categories. Most early policies focus on persons with disabilities only, reflecting foundational rights-based approaches. A second group

expands this to include priority sub-populations such as children, youth, women, and older adults, signifying a stronger equity focus. More recent instruments adopt a whole-population / functional-difficulty framing, extending benefits to people with chronic disease, injury, mental health conditions, and age-related decline.

Additional policies target specific sectors (education, employment) or focus on market-entry stakeholders (manufacturers, importers), reflecting growing attention to implementation systems and ecosystem development. Overall, the categorization demonstrates broadening policy scope from disability-specific toward more inclusive, system-oriented approaches.

Table 6.5.1: Target Group Categories

Target-Group Category	Countries
Persons with disabilities only	Angola; Benin; Botswana; Cape Verde; Comoros; Eswatini; Gambia; Ghana; Kenya; Lesotho; Libya; Madagascar; Malawi; Mali; Morocco; Namibia; Niger; Nigeria; Rwanda; South Africa; South Sudan; Togo; Uganda; Zimbabwe
Persons with disabilities + Priority Sub-Groups (youth/women/older persons etc.)	Zimbabwe; Kenya; South Africa; Ethiopia; Namibia; Nigeria; Eswatini; Malawi; South Sudan; Rwanda; Senegal; Madagascar; Mozambique
Whole-Population + persons with disabilities (functional difficulty / life-course)	Sierra Leone; WHO Africa Region; Côte d'Ivoire; Uganda; Tanzania; Kenya; Rwanda; Burundi; Liberia; Senegal; Ethiopia; DRC; Malawi; Namibia; South Africa
Sector-Based Beneficiaries (education/employment/institutional)	South Africa; Ghana; Kenya; Nigeria; Seychelles
Market-Entry Stakeholders (suppliers, producers, importers)	Kenya; Nigeria; Egypt; South Africa; Multi-country regional reports

Below is a chronological picture of how target-group framing has evolved across the African policy landscape, showing movement from narrowly defined persons with disabilities-only approaches to broader functional-difficulty / whole-population models, with intermediate expansion to priority sub-groups.

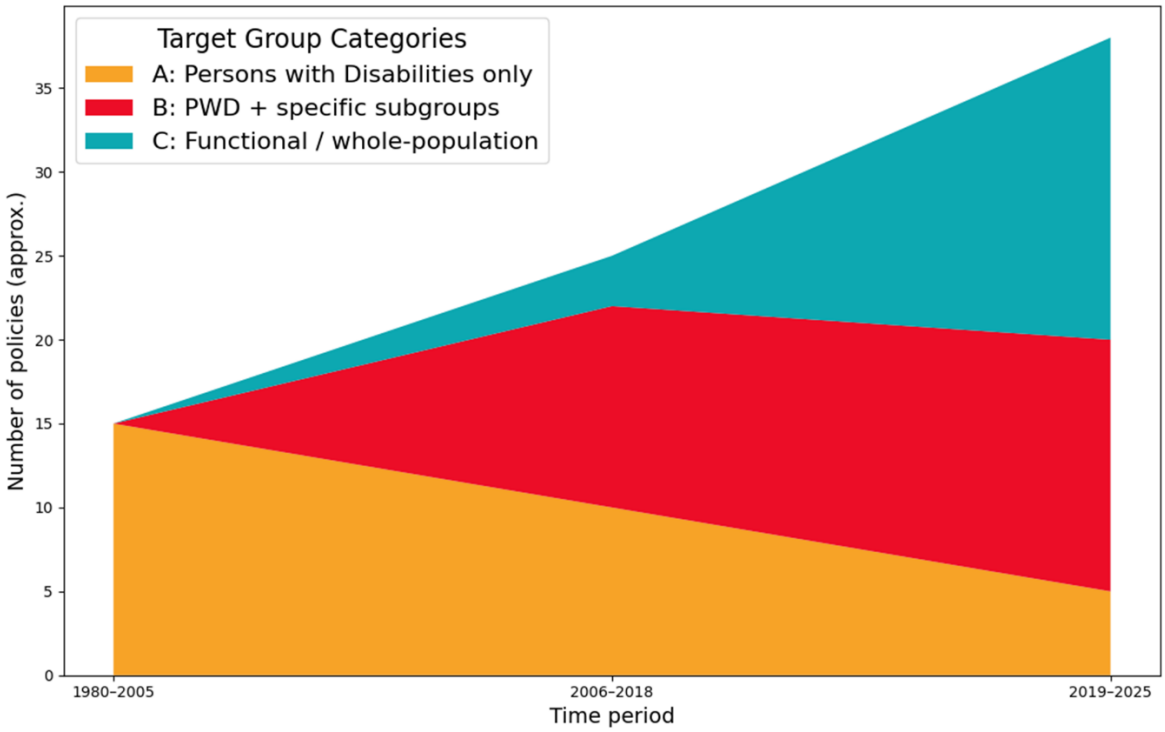


Figure 6.5.1: Evolution of target-group categories over time across the African policy landscape

Figure 6.5.1 illustrates a clear transition in how national policies define their target populations over time. In the early period (1980–2005), persons with disabilities-only overwhelmingly dominated, reflecting a narrow rights-based framing centered solely on persons with disabilities. During 2006–2018, persons with disabilities + subgroups expanded rapidly, as policies increasingly recognized children, youth, women, older adults, and other vulnerable groups. Over this period, B grew to similar prominence to A, after which it stabilized rather than continuing to increase. From 2019–2025, Category C (functional / whole-population) rose sharply, becoming the dominant framing. This shift reflects the growing recognition that rehabilitation and assistive technology benefit a wide range of people with chronic diseases, age-related decline, mental health needs and temporary impairment.

Overall, Category A shows steady decline, Category B rises then stabilizes, and Category C exhibits the most rapid growth, now representing the primary policy orientation. This trajectory indicates a broadening conceptualization of target populations—from disability-specific to increasingly inclusive, population-wide approaches aligned with contemporary global guidance.

6.6 POLICY IMPLEMENTATION

A review of policy implementation themes across the 98 documents shows that African countries are increasingly adopting structured, multisectoral approaches to operationalizing disability and AT commitments. The stated objectives across the dataset show remarkably consistent patterns that cut across countries, languages, and document types. Despite differences in national capacity and context, most African disability and AT-related policies converge around four overarching objective domains: 1) Strong alignment with CRPD

principles; 2) AT and Rehabilitation are increasingly seen as essential health and development services; 3) Multi-sectoral coordination is now a mainstream objective; 4) Economic inclusion and labor-market participation are growing priorities.

Most policies prioritize rights-based inclusion and non-discrimination, aligning national frameworks with CRPD principles and aiming to ensure equal participation of persons with disabilities in society. A second dominant focus is the expansion of access to rehabilitation and AT, including objectives related to availability, affordability, quality, workforce development, and integration of AT into health, education and social systems. Many documents also emphasize strengthening governance and coordination, calling for improved institutional leadership, regulatory standards, multi-sectoral planning, and robust monitoring and evaluation mechanisms. Finally, a substantial proportion of policies target socio-economic inclusion, seeking to increase access to inclusive education, employment, skills development, social protection and livelihood opportunities. Together, these objectives reflect a continental shift toward comprehensive, multisectoral disability inclusion and system-level strengthening of AT access.

6.7 POLICY COMMUNICATION AND AWARENESS

Our analysis reveals that communication and awareness mechanisms are a central but uneven component of disability and AT implementation strategies across African countries. The thematic mapping shows seven dominant modes of communication: media and communication campaigns, advocacy and awareness program s, institutional or training dissemination, multi-format accessibility, participatory stakeholder engagement, community-based outreach, and partnership-driven advocacy (Table 6.7.1). Overall, advocacy and public awareness campaigns remain the most common method, frequently used to challenge stigma and promote inclusion through education and information drives. Media-based strategies—such as radio, television, and print—are also widely employed to increase visibility, particularly in Kenya, Uganda, and Rwanda, although they often lack mechanisms for feedback or behavioral evaluation. Participatory and partnership models (as seen in Namibia, Eswatini, and Zimbabwe) reflect a growing recognition of the importance of inclusive and co-produced communication processes that empower persons with disabilities and their representative organizations.

Table 6.7.1: Thematic Summary - Cross-Country Policy Communication and Awareness Mechanisms

Theme	Representative Countries / Policies	Core Communication Mechanisms	Purpose / Focus	Common Gaps
1. Media & Communication Strategies	Kenya, Uganda, Rwanda, WHO (Regional)	Media campaigns, national communication strategies, press and radio program s	Raise visibility and social inclusion	Limited two-way feedback or impact tracking
2. Advocacy & Awareness Campaigns	South Africa, Zimbabwe, Gambia, South Sudan	Advocacy drives, education campaigns, national information program s	Change social attitudes, promote inclusion	Rare evaluation of outcomes

Theme	Representative Countries / Policies	Core Communication Mechanisms	Purpose / Focus	Common Gaps
3. Institutional / Training Dissemination	South Africa, Kenya	Workplace training, inter-departmental communication	Build institutional capacity and compliance	Limited community engagement
4. Multi-Format / Accessible Dissemination	Nigeria (University)	Braille, audio, multilingual text, accessibility channels	Ensure accessibility for diverse disability groups	Rarely adopted elsewhere
5. Participatory Dissemination	Namibia, Zimbabwe, Eswatini	OPD and community participation, stakeholder dialogue	Empower beneficiaries and ensure co-production	Resource constraints and uneven uptake
6. Community-Based Outreach	Tanzania, South Sudan	Community health workers, outreach visits, village forums	Reach rural and marginalized populations	Often informal or unmonitored
7. Partnership & Policy Advocacy	Ethiopia, Liberia, Eswatini	Public–private partnerships, donor and NGO collaboration	Align advocacy and implementation through multi-sector partnerships	Reliant on external partners and funding

6.8 POLICY DISSEMINATION

Few countries explicitly prioritize multi-format and accessible dissemination (e.g., Braille, audio, or multilingual translation), with Nigeria providing one of the few comprehensive examples. Community-based and outreach approaches (notably in Tanzania and South Sudan) demonstrate effective localization of communication through health workers and community networks but remain inconsistently applied. Across all themes, a key gap persists: most policies describe what communication should occur but rarely outline how it will be operationalized, funded, or monitored for impact. This highlights an opportunity for strategic investment in evidence-based, participatory, and accessible communication systems that can enhance implementation reach, accountability, and inclusion across the continent.

The following tables describe the use of media platforms, national information systems, and coordinated communication tools to distribute policy content and raise awareness among the public.

MASS MEDIA AND INFORMATION DISSEMINATION

Table 6.8.1 illustrates the policies that prioritize structured media dissemination to ensure wide-scale public access to disability and AT information. Dissemination occurs through formal partnerships with national broadcasters, press outlets, and digital media networks, enabling governments to circulate policy messages, awareness materials, and updates across large audiences. However, few policies specify mechanisms for monitoring the *reach, accessibility, or feedback* of these dissemination activities.

Table 6.8.1: Mass Media and Information Dissemination

Country	Policy / Reference	Verbatim Quote
Kenya	*Persons with Disabilities (Amendment) Bill, 2019*[327]	"The Council shall collaborate with the Media Council of Kenya and media houses to create awareness through program s on matters relating to the rights of persons with disabilities."
Uganda	*National Policy on Disability*[328]	"Developing a media and communications strategy to support the dissemination of disability-related information to all sectors."
Rwanda	*National Policy of Persons with Disabilities and Strategic Plan (2021–2024)*[306]	"A number of stakeholders required to implement the policy include media, faith-based organizations, and communities."
Africa (Regional)	*WHO Framework for Improving Access to Assistive Technology in the African Region*[329]	"Member States should promote awareness and advocacy for assistive technology and rehabilitation services."

ADVOCACY AND CAMPAIGN DISSEMINATION

Across the reviewed documents, advocacy and public awareness campaigns emerge as the most used mechanism for disseminating policy commitments related to disability and AT. Countries rely on national and community-level initiatives—ranging from education drives and public talks to targeted awareness program s within health and education systems—to increase visibility, shift public attitudes, and clarify rights. While these efforts strengthen understanding of disability inclusion, they are often implemented through top-down structures and may lack dedicated resources for sustained, locally adapted engagement. Table 6.8.2 summarizes how this approach appears across selected policy documents.

Table 6.8.2: Advocacy and Campaign Dissemination

Country	Policy / Reference	Verbatim Quote
South Africa	*Education White Paper 6 – Special Needs Education* [300]	"A national advocacy and information program will be implemented to support the inclusion model and disseminate information across provinces and schools."
Zimbabwe	*National Assistive Technology Strategy 2024–2025*[305]	"Conduct education and awareness campaigns on AT."
Gambia	*persons with disabilities Act, 2021*[330]	"The Advisory Council is required to raise public awareness regarding the potentials, contributions and rights of persons with disabilities and to promote their rights and dignity."
South Sudan	*National Disability Action Plan 2020*[331]	"To promote advocacy and awareness creation through partnership and leadership at community and national levels."

INSTITUTIONAL AND TRAINING DISSEMINATION

A second dominant dissemination pathway across the documents involves the internal transfer of disability-related policy knowledge within organizations, public institutions, and workplaces. This approach centers on embedding inclusive practices through staff training, HR guidelines, departmental communication, and ongoing awareness-building inside institutional systems. By circulating clear directives and capacity-building materials, governments aim to strengthen alignment, improve compliance, and normalize disability inclusion across administrative and professional environments. Table 6.8.3 illustrates how this internal dissemination strategy is framed in selected policy documents.

Table 6.8.3: Institutional and Training Dissemination

Country	Policy / Reference	Verbatim Quote
South Africa	*Technical Assistance Guidelines (TAG) on the Employment of persons with disabilities* [332]	"The only way to overcome fears, myths and negative attitudes about the abilities of employees and applicants with disabilities is through vigorous education and training."
South Africa	*persons with disabilities in the Workplace* [333]	"Overcoming negative attitudes is through vigorous education and awareness-raising within the private and public sectors."
Kenya	*Disability Policy and Guidelines for the Public Service* [334]	"Communication and awareness are key strategies for ensuring that disability policy is implemented and understood across all departments."

INCLUSIVE AND MULTI-FORMAT DISSEMINATION

The below table illustrates another dissemination approach identified in the documents that focuses on making policy information accessible to all population groups through multi-format and inclusive communication channels. This involves proactively providing materials in alternative formats—such as Braille, audio, or multiple languages—to ensure persons with sensory, linguistic or literacy barriers can engage with policy content on equal terms. Although this reflects global best practice in equitable dissemination, examples remain limited across national policies. Table 6.8.4 highlights one such application.

Table 6.8.4: Inclusive and Multi-Format Dissemination

Country	Policy / Reference	Verbatim Quote
Nigeria	*Disability Policy (University)* [335]	"The university shall make sure the policy is available via multiple formats (e.g., text, audio, Braille) and languages to ensure accessibility to all staff and students."

PARTICIPATORY DISSEMINATION

A further dissemination pathway centers on actively involving persons with disabilities, their representative organizations, and community partners in sharing and interpreting policy information. Rather than treating dissemination as a one-way transfer, this participatory approach positions beneficiaries as co-creators and co-disseminators, strengthening

relevance, accountability, and cultural fit. By embedding OPDs and community actors in communication processes, policies gain legitimacy and local resonance—though success relies on adequate capacity, coordination, and sustained engagement. Table 6.8.5 provides examples of how this participatory model is framed across selected documents.

Table 6.8.5: Participatory Dissemination

Country	Policy / Reference	Verbatim Quote
Zimbabwe	*National Disability Policy (NDP)* [310]	"The NDP directs all stakeholders to ensure that persons with disabilities and their representative organizations play an active role, including in the design, implementation and monitoring of initiatives."
Namibia	*Disability Budget Brief 2023/24* [316]	"Actively involve persons with disabilities in the budget-making process to ensure that their needs are truly reflected in the National Budget."
Eswatini	*National Disability Plan of Action (NDPA) 2024–2028* [336]	"It is expected that development partners, civil society, and the private sector would also contribute... establishing a partnership framework for communication and dissemination."

COMMUNITY OUTREACH DISSEMINATION

Table 6.8.6 outlines examples of another dissemination mechanism, which involves sharing policy information through grassroots networks, local outreach activities, and existing community and health structures. This decentralized approach relies on community health workers, social service networks, and local leadership to circulate information in ways that are contextually grounded and able to reach rural or underserved populations. While effective for widening access, these community-based dissemination pathways are often informal and not consistently documented.

Table 6.8.6: Community Outreach Dissemination

Country	Policy / Reference	Verbatim Quote
Tanzania	*National Assistive Technology Strategy 2024–2027* [337]	"Strengthen community-based services through outreach strategies integrating community health workers."
South Sudan	*National Disability Action Plan 2020* [331]	"To promote advocacy and awareness creation through partnership and leadership at community and national levels."

PARTNERSHIP-BASED POLICY DISSEMINATION

The final dissemination pathway observed in the documents involves leveraging partnerships with NGOs, private sector actors, and international development agencies to circulate policy information and advance implementation efforts. These inter-sectoral collaborations broaden the reach of dissemination, enhance credibility, and enable resource-sharing for activities such as advocacy, innovation, and public communication. However, reliance on external partners

can introduce dependency on donor priorities and funding cycles. Table 6.8.7 highlights how partnership-based dissemination is framed across selected policies.

Table 6.8.7: Partnership-Based Policy Dissemination

Country	Policy / Reference	Verbatim Quote
Ethiopia	*National Rehabilitation and Assistive Technology Strategic Plan 2021–2025* [314]	"Partner with the private sector to advance innovation and production of AT products and components."
Liberia	*National Roadmap to Increase Access to Assistive Technologies 2021–2023* [301]	"Advocacy for inclusion of AT in insurance and/or social welfare schemes."
Eswatini	*National Disability Plan of Action (NDPA) 2024–2028* [336]	"Establishing a partnership framework for communication and dissemination."

6.9 POLICY IMPLEMENTATION AND COORDINATION

The reviewed documents reveal a clear evolution in how African countries approach the implementation of disability, rehabilitation, and AT policies. Across the 98 reviewed policy and strategy documents, countries in Africa demonstrate a growing sophistication in the way disability, rehabilitation, and AT policies are operationalized. Implementation is no longer viewed as an administrative afterthought but as a structured, multi-level process anchored in formal coordination mechanisms, integrated service models, and cross-sectoral collaboration. The emerging approaches reveal a collective shift from policy intent to action — reflecting governments' efforts to institutionalize disability inclusion through enduring governance systems and multi-stakeholder partnerships. Four dominant patterns can be identified across the region: institutional coordination, integrated service delivery models, partnership mobilization, and decentralized execution. These approaches, while varying in form and maturity, share a common objective: to translate policy commitments into tangible and sustainable outcomes for persons with disabilities.

INSTITUTIONAL COORDINATION THROUGH COMMITTEES, COUNCILS, AND TASK FORCES

A defining feature across African disability and rehabilitation policy implementation is the establishment of institutional coordination structures — including national committees, advisory councils, and inter-ministerial task forces. These structures formalize oversight and harmonize policy action across multiple ministries, replacing fragmented project-based coordination with enduring institutional mechanisms.

For example, Tanzania's National Rehabilitation Strategic Plan (2021–2026)[312] created a *National Multidisciplinary Steering Committee for Rehabilitation* to guide national implementation, while Malawi's Disability Act (2012)[323] and Eswatini's National Disability Plan of Action (2024–2028)[336] established *National Advisory and Coordinating Committees* chaired by high-level ministries. Similarly, Zimbabwe's National Disability Policy (2021)[310] mandated the creation of *disability focal units* across all government departments, coordinated by the *Ministry of Public Service, Labor and Social Welfare*. These frameworks demonstrate the maturation of national governance systems — shifting from reliance on donor-driven projects

to structured state-led coordination. However, the effectiveness of these mechanisms often depends on the legal authority, technical capacity, and sustained funding of the coordinating entity. In contexts where such capacity is weak (e.g., Malawi and Kenya), committees risk existing only on paper, limiting their influence on actual service delivery.

INTEGRATED SERVICE MODELS: HUB-AND-SPOKE AND COMMUNITY-BASED REHABILITATION

A second and equally significant trend is the implementation of integrated service delivery models that link national policy frameworks with frontline service systems. These approaches aim to make rehabilitation and AT services part of a coordinated continuum of care, often drawing on models such as *hub-and-spoke* or *community-based rehabilitation (CBR)*. Uganda's National Rehabilitation and Assistive Technology Strategic Plan (2024/5–2029/30)[313] exemplifies this approach through its *hub-and-spoke model*, positioning regional referral hospitals as hubs and general hospitals as spokes to ensure service continuity and referral linkages. Namibia's National Disability Council Act and Lesotho's National Disability and Rehabilitation Policy (2011)[326] embed *CBR* as the principal delivery strategy, supported by district-level systems that integrate rehabilitation into community and primary healthcare.

These integrated service models bridge the gap between policy and practice — ensuring that disability inclusion reaches communities, schools, and health facilities. They align strongly with WHO's *Rehabilitation 2030* principles, yet their success relies on decentralized funding, workforce availability, and coordination across health, education, and social sectors.

PARTNERSHIP MOBILIZATION: GOVERNMENT–CIVIL SOCIETY–PRIVATE SECTOR TRIADS

A growing implementation pattern involves partnership mobilization, where governments engage civil society, the private sector, and international partners to jointly deliver and sustain disability and rehabilitation initiatives. This tri-sectoral model extends coordination beyond government ministries to include actors with complementary resources and technical expertise.

Ethiopia's National Rehabilitation and Assistive Technology Strategic Plan (2021–2025)[314] explicitly calls for partnerships with the private sector to strengthen service delivery and promote local AT innovation. Liberia's National Roadmap to Increase Access to AT (2021–2023)[301] embeds implementation within collaborations between ministries, insurance schemes, and donor partners, while South Sudan's National Disability Action Plan (2020)[331] positions partnership and leadership between government, civil society, and private stakeholders as a central implementation pillar.

This partnership model reflects a regional transition toward networked governance, enabling resource mobilization, co-production of solutions, and enhanced accountability. However, sustained impact depends on formalizing these relationships through clear mandates, predictable funding flows, and institutionalized public–private collaboration frameworks.

DECENTRALIZED EXECUTION THROUGH REGIONAL AND LOCAL STRUCTURES

Finally, many policies emphasize decentralized execution, recognizing that effective implementation requires proximity to communities and integration with local governance systems. Countries such as Kenya, Uganda, Rwanda, and Lesotho illustrate this shift from centralized policymaking to regional and district-level implementation.

In Kenya, county governments are responsible for policy delivery under the coordination of the *National Council on Disability*, ensuring that interventions align with devolved governance

structures. Uganda's National Policy on Disability (2006)[328] channels implementation through *community and local authority networks*, while Rwanda's Health Sector Strategic Plan V (2024–2029)[338] institutionalizes coordination via the *Health Sector Working Group* chaired by the *Permanent Secretary of Health*. Likewise, Lesotho's district-based CBR systems operationalize inclusion at community level, supported by national technical guidance.

This decentralized approach promotes local ownership and responsiveness, allowing interventions to adapt to context-specific needs. However, uneven capacity and funding across regions can hinder consistency. As such, strong linkages between national coordination bodies and subnational implementers are essential for maintaining coherence and impact. Table 6.9.1 provides examples of the implementation and coordination approaches of selected African countries.

Table 6.9.1: Implementation and Coordination Approaches

Country	Policy / Reference	Verbatim Quote (Implementation / Coordination)	Key Mechanism / Structure
Kenya	Disability Mainstreaming Guidelines[339]	"Implementation of the stipulated commitments will be overseen by a standing Committee on disability, appointed by the NACC CEO."	Standing Committee with budgetary allocation
Uganda	National Policy on Disability[328]	"Implementing interventions through community and local authority networks."	Decentralized local implementation networks
Swaziland (Eswatini)	NDPA 2015–2020[340]	"Establishing a statutory body, the National Disability Advisory Council (NDAC), with significant responsibilities for coordinating, monitoring and overseeing implementation."	National Disability Advisory Council
Libya	Law No. 3 of 1981[322]	"A National Committee for Assistance and Care to Disabled Persons shall be set up under supervision of the People's General Committee for Social Security."	Central National Committee
Malawi	National Policy on Equalization of Opportunities[315]	"An appropriate and efficient administrative structure shall be put in place to manage, coordinate and oversee implementation."	Coordinating administrative structure involving ministries and DPOs
Malawi	Disability Act No.10 of 2012[323]	"Establishment of a National Advisory and Coordinating Committee on Disability Issues to oversee implementation, monitoring, and evaluation."	National Advisory & Coordinating Committee
South Africa	Policy on Screening, Identification, Assessment and Support[341]	"Establishes and regulates the School-based and District-based Support Teams… aimed at maximizing support provision."	Coordinated multi-tiered education support teams
Rwanda	National Policy of persons with disabilities (2021–2024)[306]	"The implementation plan of this policy is made of four years… comprising the key strategic objectives made of different interventions."	Four-year implementation plan with budgeted sectoral coordination

Country	Policy / Reference	Verbatim Quote (Implementation / Coordination)	Key Mechanism / Structure
Zimbabwe	National Disability Policy[310]	"Disability focal units will be set up in all government ministries and agencies… the Ministry of Public Service, Labor and Social Welfare is in charge of implementation, monitoring and evaluation."	Ministry-led coordination with inter-ministerial focal units
Tanzania	National Rehabilitation Strategic Plan (2021–2026)[312]	"Establish a National Multidisciplinary Steering Committee for Rehabilitation to provide high-level guidance and oversee the implementation."	National Steering Committee + RTWG subgroups
Ethiopia	National Rehabilitation and Assistive Technology Strategic Plan (2021–2025)[314]	"A National Comprehensive Rehabilitation Task Force will be established… consisting of key line ministries, professional associations, and disability organizations."	National Task Force (multi-sectoral governance)
Ethiopia	National Rehab & AT Services Management Guideline[303]	"Establishing a functional senior management team (SMT) that meets regularly to manage and execute overall activities."	Senior Management Team for implementation oversight
Kenya	persons with disabilities (Amendment) Bill, 2019[327]	"County governments shall implement national policies… and adopt affirmative action in procurement."	National–county shared implementation with devolved coordination
Malawi	National Medical Rehabilitation Policy[342]	"Strengthen effective stakeholder coordination and joint planning at all levels."	Multi-level coordination framework
Uganda	National Rehabilitation & Assistive Technology Strategic Plan (2024/5–2029/30)[313]	"Hub-and-spoke organization design… with regional referral hospitals as hubs and general hospitals as spokes."	Tiered (hub-and-spoke) service delivery model
Tanzania	National AT Strategy (2024–2027)[337]	"Establish a National Coordination Framework for AT within the PMO-LYED with linkages to sector ministries."	National Coordination Framework (AT)
South Africa	National Strategic Framework on Reasonable Accommodation[343]	"Reasonable accommodation support in the public sector must be approached from three perspectives… employees, clients, and rehabilitation access."	Sectoral coordination under UDAP framework
South Sudan	National Disability Action Plan 2020[331]	"The plan recognizes partnership as core between governments, civil society, and private sector to witness implementation."	Multi-stakeholder coordination with leadership of persons with disabilities
Kenya	Rehabilitation & AT Strategy 2022–2026[321]	"Reorganization of rehabilitative services, governance and leadership, financing, and national supply chain."	Four new governance arrangements

Country	Policy / Reference	Verbatim Quote (Implementation / Coordination)	Key Mechanism / Structure
Ethiopia	Prosthetic & Orthotic Service Strategic Plan (2014–2018)[344]	"Develop multi-sectoral collaboration platforms (technical working groups, regular review meetings, collaborative forums, MOUs)."	Technical Working Group coordination
Nigeria	National Assistive Technology Scale-Up Plan[345]	"Establish a national coordinating mechanism for all stakeholders in the AT sector to galvanize action towards AT scale-up."	National and zonal coordination mechanisms
Madagascar	National Plan for Inclusion of Persons with disabilities (2015–2019)[308]	"The inter-ministerial committee on disability established in 2014 will serve as the coordinating body."	Inter-ministerial committee and disability observatory
Rwanda	Health Sector Strategic Plan V (2024–2029)[338]	"The HSWG chaired by the Permanent Secretary of the MOH will meet quarterly to review and improve coordination."	Health Sector Working Group coordination
Namibia	National Disability Council Act[346]	"Various ministries… given responsibility of implementing this policy. The government will adopt Community-Based Rehabilitation (CBR) as the main strategy."	Ministry-specific implementation roles + CBR model
Botswana	National Policy on Care for Persons with disabilities[347]	"A National Co-ordinating Committee on Disability will be formed."	National Coordinating Committee
Lesotho	National Disability and Rehabilitation Policy[326]	"Develop district Community Based Rehabilitation (CBR) systems to ensure integration of essential PHC services."	District-level CBR implementation
Ghana	Persons with Disability Act 2006[319]	"Establishing the National Council on Persons with Disability to monitor, evaluate and coordinate all disability-related policies."	National Council with regional/district offices

IMPLEMENTATION SUPPORTED BY POLICY INCLUSION

Based on the 98 policies reviewed, 14 countries (Uganda, Rwanda, Sierra Leone, Liberia, Ethiopia, Burundi, Côte d'Ivoire, DRC, Namibia, South Africa, Nigeria, Tanzania, Morocco, Zimbabwe) now include some form of economic or financial analysis (Table 6.9.2) — ranging from structured costing and gap analyses to qualitative cost–benefit or return on investment (ROI) frameworks. However, over 70% of national frameworks still lack systematic cost–benefit modelling or economic justification.

Table 6.9.2: Economic Analyses and Costing in National AT and Disability Policies

Country	Policy / Year	Type of Analysis / Costing	Details / Verbatim Quote	Status
Uganda	*National Rehabilitation & Assistive Technology Strategic*	Ingredient costing + planned cost–benefit analysis	"Resources estimated using an ingredient costing approach… Two scenarios: HR-focused (US$221.5m) and infrastructure-focused (US$187.3m).	■

Country	Policy / Year	Type of Analysis / Costing	Details / Verbatim Quote	Status
	Plan (2024/5–2029/30) [313]		Conduct cost–benefit analysis for rehabilitation and AT interventions including OOP costs and social welfare."	
Rwanda	*Health Sector Strategic Plan V (2024–2029)*[338]	Costing & financing gap analysis	"The One Health Tool is used for costing… total cost RWF 5.9–6.9 trillion… financing gap RWF 1.22–2.18 trillion."	
Sierra Leone	*Assistive Technology Policy & Strategic Plan (2021–2025)* [299]	Activity-based costing	"Implemented using NPSPC Tool (Excel-based, open-source) for activity-based costing… total investment $2.4 million (2021–2025)."	
Liberia	*National Roadmap to Increase Access to Assistive Technologies (2021–2023)*[301]	Activity-based costing	"Detailed activity-based costing methodology used… total cost $1,695,865."	
Ethiopia	*National Rehabilitation & AT Strategic Plans (2021–2025; 2022–2026)*[302]	Comprehensive costing	"Costing approach identified all activities, inputs, and unit costs… total estimated ETB 9.8 billion (~USD 208 million)."	
Burundi	*Strategic Plan for Rehabilitation (2023–2027)*[348]	Cost assessment	"Assessment of costs by activity… estimated total BIF 6.492 billion (USD 2.28 million)."	
Côte d'Ivoire	*National Strategic Plan for Development of AT (2025–2030)* [349]	Activity-based costing	"Using activity-based costing approach… total cost 960,946,400 CFA francs."	
DRC	*National Strategies for Mobility & Technical Aids (2017, 2020)* [350]	Indicative costing	"Governance $150k; Training $200k; Products $1.5m; Services $250k — total $2.1m. Economic benefits: reduced healthcare costs, increased productivity."	
Namibia	*Disability Budget Brief (2023/24)* [316]	Economic adequacy & equity analysis	"Disability grant N$1400 covers 9.3% of Cerebral Palsy costs, 25.5% for Down's Syndrome… below poverty threshold. Recommends comprehensive cost-of-disability analysis."	
South Africa	*National Strategic Framework on Reasonable Accommodation (2020)* [343]	Qualitative cost–benefit analysis	"Cost–benefit for reasonable accommodation must weigh costs to households vs contribution of persons with disabilities to the economy."	
South Africa	*Education White Paper 6 (2001)* [351]	Funding efficiency & economic rationale	"System of educational provision is inefficient and inequitable… proposes a 20-year phased funding model for inclusive education."	
Nigeria	*National AT Scale-Up Plan (2022)*[345]	Costing + planned ROI & market-shaping analysis	"Total cost ₦12.6 billion (USD 30.3m) … plan to develop ROI analytical	

Country	Policy / Year	Type of Analysis / Costing	Details / Verbatim Quote	Status
			framework and execute market-shaping activities."	
Tanzania	*National Rehabilitation Strategic Plan (2021–2026)*[312]	Planned cost-effectiveness studies	"Undertake review/report on cost-effectiveness of investing in national AP production and workforce cadre establishment."	🟨
Morocco	*National Action Plan for the Promotion of Disability Rights (2017–2021)* [307]	Feasibility & financial studies	"Study feasibility of financial/tax measures for professional integration and incentives for workplace adaptations."	🟨
Zimbabwe	*National AT Strategy (2024–2025)* [305]	Planned costing	"Costing of the AT plan to be done later to reflect stakeholder input."	🟧
Swaziland (Eswatini)	*NDPA (2015–2020; 2024–2028)*[340] [336]	Funding formula & budgeting	"Determine needs-based funding formula… detailed costing still to be conducted."	🟧
South Sudan	*National Disability Action Plan (2020)*[331]	Budget total only	"Implementation requires $40.4 million; government allocated 1% of budget."	🟧
Kenya	*Persons with Disabilities National Policy (2024)*[296]	Resource gap analysis	"Periodic resource analysis to identify funding gaps and develop mobilization strategies."	🟧
Malawi	*National Medical Rehabilitation Policy (2020)*[297]	Funding needs only	"MR services among least funded areas… calls for sustainable financing strategy."	🟧

Legend

🟩 **Formal / Completed Analysis:** Full costing, cost–benefit, ROI, or equity analysis conducted.

🟨 **Planned / Feasibility Analysis:** Studies planned or partially described.

🟧 **Costing or Budget-Only Exercise:** Quantified cost estimate or funding mention without analytical component.

SWOT ANALYSIS: ASSISTIVE TECHNOLOGY POLICY IMPLEMENTATION

The SWOT analysis (Figure 6.9.1) underscores that African countries have built a solid institutional foundation for implementing AT policies — particularly through national coordination mechanisms and integrated service models. These strengths provide a platform for sustained progress if coupled with stronger financing, monitoring, and capacity-building systems. However, weaknesses in costed planning, supply-chain reliability, and workforce distribution continue to constrain implementation quality. Externally, the landscape is favorable: WHO and ATscale frameworks supply clear methodologies, and digital health investments offer new efficiencies. The principal threats are economic instability, fragmentation across donors and ministries, and insufficient regulation of AT markets.

To convert opportunity into sustained impact, countries should prioritize institutional strengthening, financing coherence, workforce development, and regulatory reform, while leveraging regional partnerships and digital ecosystems to scale inclusive rehabilitation services.

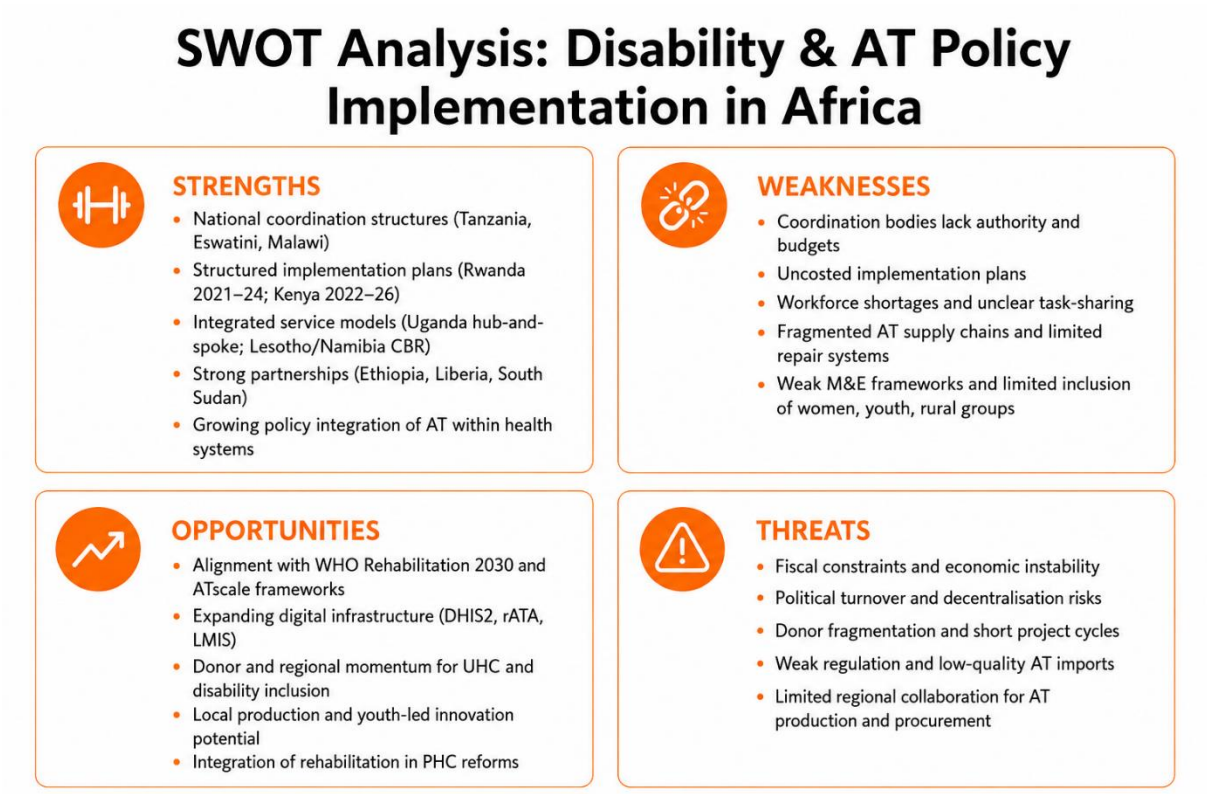


Figure 6.9.1: SWOT analysis AT policy implementation in Africa

Table 6.9.3 summarizes key AT policy implementation gaps identified across the reviewed documents and aligns them with practical remedial actions from WHO Rehabilitation 2030 and ATscale guidance. The table links observed weaknesses in governance, financing, service delivery, supply chains, workforce, monitoring, and equity to established global tools, providing a pragmatic bridge between policy intent and system-level implementation.

Table 6.9.3: Potential Remedial Actions for Identified Policy Implementation Gaps

Identified Gaps	Examples from Included Documents	Proposed Remedy from WHO Rehabilitation 2030 / ATscale
Coordination bodies lack authority or resources	Committees exist (e.g., *Tanzania* Steering Committee; *Eswatini* DPMO + Inter-ministerial; *Malawi* Advisory Committee) but with unclear mandates or budgets.	Strengthen governance through formal Terms of Reference (TORs), clear mandates, budget lines, and routine performance reviews as per WHO *Rehabilitation 2030* governance pillar.
Devolution misaligned with capacity and funding	*Kenya* devolves policy to counties; *Uganda*, *Lesotho*, and *Namibia* rely on local networks/CBR with minimal resourcing.	Align national and subnational responsibilities through conditional grants and capacity-building support for local implementation units.
Implementation plans lack costing and prioritization	*Rwanda* has a costed plan, but most other countries list unfunded actions.	Adopt WHO's *Costed National Rehabilitation Strategic Plan (NRSP)* template and ATscale's investment

Identified Gaps	Examples from Included Documents	Proposed Remedy from WHO Rehabilitation 2030 / ATscale
		case model to link actions with multi-year financing.
Service integration under-specified (hub-and-spoke or CBR)	*Uganda* (hub-and-spoke) and *Lesotho/Namibia* (CBR) name integration models without operational detail.	Define referral pathways, care packages, and service responsibilities at each health system level following WHO's *Integrated Service Delivery Framework*.
AT supply chain fragility and maintenance gaps	Most policies mention AT provision but lack supply, repair, and distribution systems.	Institutionalize AT within national procurement systems using WHO's *Priority Assistive Products List (APL50)*, *Assistive Product Specifications (APS)*, and ATscale's local production and repair guidance.
Absence of standards, accreditation, and reimbursement protocols	Quality assurance and provider accreditation rarely described.	Develop national AT quality and safety standards aligned with WHO APS and link accreditation to financing eligibility.
Limited digital integration for monitoring and logistics	Minimal inclusion of AT indicators in DHIS2 or device-tracking mechanisms.	Integrate AT and rehabilitation indicators into national Health Information Systems (HIS) and apply WHO's *rATA* and LMIS interoperability guidelines.
Workforce shortages and unclear task-sharing	Reliance on community health workers with little supervision or defined scope.	Apply WHO's *Rehabilitation Competency Framework* and develop national task-sharing protocols and continuing professional development pathways.
Training misaligned with deployment	CPD activities proposed but not tied to funded or prioritized service positions.	Implement workforce planning linked to national service expansion targets and HRH costing tools.
Weak community outreach operations	Outreach referenced (e.g., *Tanzania*, *South Sudan*) without operational standards or resourcing.	Establish national outreach protocols defining frequency, caseloads, supervision, and financing, consistent with WHO's *Community-Based Rehabilitation Guidelines*.
User support and device maintenance overlooked	Repair, user training, and consumable supply rarely planned.	Bundle device fitting, training, and follow-up services into AT provision in line with ATscale's *Service & Repair Model*.
Monitoring and evaluation frameworks underdeveloped	Indicators, baselines, and ownership not defined (*Rwanda* partial M&E via HSWG).	Use WHO's *Rehabilitation M&E Framework* to define measurable indicators, assign responsibilities, and embed reporting cycles.
Equity and inclusion principles not operationalized	Vulnerable populations identified but not targeted.	Apply WHO's *PROGRESS-Plus Equity Framework* in policy implementation to define targeting criteria and outreach adjustments.
Limited participation of OPDs and users in implementation	OPDs engaged during design, absent in monitoring or procurement.	Institutionalize user participation within coordination, procurement, and evaluation processes following WHO's *Participatory Governance* model.

Identified Gaps	Examples from Included Documents	Proposed Remedy from WHO Rehabilitation 2030 / ATscale
Weak implementation research and learning systems	Pilots rarely paired with evaluation or scale-up criteria.	Apply WHO's *Implementation Research Framework* to embed learning agendas, feedback loops, and adaptive scale-up criteria.

IMPLEMENTATION ENABLERS AND SYSTEM STRENGTHENING FACTORS

Across more than 30 African countries, the evidence indicates a generally favorable enabling environment for the implementation and scale-up of disability and AT policies. While capacity and financing gaps persist, multiple institutional, technical, and systemic enablers are already in place. These enablers cluster around five interrelated domains.

- ***Governance and Leadership***

Clear institutional anchoring, legal mandates, and coordination mechanisms underpin implementation readiness in many contexts. Dedicated disability or rehabilitation units, national councils, and multi-sectoral Technical Working Groups (TWGs) support policy coherence, accountability, and continuity across assessment, planning, and validation phases. Where governance structures are stable and formally embedded within government systems, they provide a strong foundation for sustained implementation, although their effectiveness depends on adequate resourcing and cross-sectoral authority.

- ***Financing and Incentive Structures***

Several countries have introduced fiscal measures and incentives that support disability inclusion and AT provision, including tax exemptions, employer incentives, and integration of AT within health financing mechanisms. Where disability and AT priorities are aligned with broader national development or health-financing frameworks, implementation traction is stronger. However, the sustainability of these mechanisms remains contingent on improved budget tracking and systematic inclusion of AT across sectoral budgets.

- ***Partnerships and Multi-sectoral Collaboration***

Collaboration across government ministries, Organizations of persons with disabilities (OPDs), civil society, development partners, and the private sector consistently emerges as a critical enabler. Countries with established platforms for cross-sectoral engagement demonstrate stronger coordination, resource mobilization, and innovation. These partnership models align closely with WHO Rehabilitation 2030 principles and create opportunities for shared accountability and scale.

- ***Human Resources and Capacity Development***

Investments in workforce development—including professional training, continuous development, and academic pipelines—are essential to implementation sustainability. Existing rehabilitation training program s, motivated public-sector workforces, and service delivery networks provide a foundation for scale-up. Nonetheless, uneven distribution of skills, workforce shortages, and retention challenges continue to constrain effective implementation.

- ***Monitoring, Data, and Innovation Systems***

An increasing number of countries recognize the importance of monitoring and evaluation (M&E), digital systems, and routine data collection to track progress and inform decision-making. Emerging data platforms, digitized service records, and defined performance indicators strengthen accountability and support evidence-informed implementation. Data systems remain uneven, but digital innovation represents a growing cross-cutting enabler.

IMPLEMENTATION BARRIERS AND PERSISTENT GAPS

Common challenges include fragmented governance and unclear mandates, chronic underfunding and donor dependence, severe shortages in rehabilitation and AT human resources, and pervasive data gaps that limit monitoring and accountability. Attitudinal barriers, inaccessible infrastructure, and limited local AT production further exacerbate inequities in access and affordability.

The findings indicate that policies are largely in place, but implementation capacity has not kept pace. Strengthening governance effectiveness, fiscal prioritization, workforce capacity, and intersectoral alignment will be critical to converting policy intent into scalable, sustainable impact—echoing the global implementation challenges identified under WHO Rehabilitation 2030.

The following table (Table 6.9.4) summarizes common governance and coordination weaknesses identified across national and regional policy documents. Despite increasing political commitment to disability and AT systems, many countries continue to face fragmented leadership structures, overlapping institutional mandates, and weak coordination platforms. These systemic gaps undermine policy coherence, slow implementation progress, and limit the effectiveness of rehabilitation and AT service delivery.

Table 6.9.4: Governance and Coordination Weaknesses (Fragmented leadership structures, overlapping mandates, and weak coordination mechanisms impede implementation).

Country	Barrier Description / Verbatim Summary	Reference
Kenya	"Poor coordination between MDAs and counties… lack of integration between rehabilitative cadres."	Rehabilitative Services and Assistive Technology Strategy 2022–2026[321]
Liberia	"AT sector is neglected, under-resourced, and donor-driven… no national policy or strategic plan exists."	National Roadmap to Increase Access to Assistive Technologies 2021–2023[301]
Tanzania	"Rehabilitation data is not integrated in HMIS… workforce under-developed and missing core rehabilitation disciplines."	National Rehabilitation Strategic Plan 2021–2026[312]
Ethiopia	"Lack of governance structure for rehabilitation services."	National Rehabilitation and AT Strategic Plan 2021–2025[314]
Malawi	"Implementation hampered by weak inter-ministerial coordination."	National Medical Rehabilitation Policy 2020[342]
Eswatini	"Only 13 per cent of planned activities completed due to inadequate coordination."	National Disability Plan of Action 2024–2028[336]
Sierra Leone	"MoHS lacks governance mechanisms and systems to capture information on AT needs."	Assistive Technology Policy and Strategic Plan 2021–2025[299]

Country	Barrier Description / Verbatim Summary	Reference
Africa (Regional)	"Weak governance and insufficient regulatory capacity."	WHO Framework for Improving Access to Assistive Technology in the African Region (2021)[329]

Table 6.9.5 highlights the widespread and persistent financing constraints that undermine disability, rehabilitation, and AT policy implementation across African countries. Chronic underfunding, absence of dedicated budget lines, and heavy reliance on external donors create structural fragility, limiting long-term sustainability and scalability. These financial gaps not only restrict service delivery but also delay the institutionalization of robust national AT systems.

Table 6.9.5: Chronic Underfunding and Donor Dependence (Persistent financing gaps and reliance on donor funding limit sustainability).

Country	Barrier Description / Verbatim Summary	Reference
Malawi	"Limited funding for medical rehabilitation… inadequate and limited assistive devices."	National Medical Rehabilitation Policy 2020[342]
Eswatini	"Inadequate funding and inadequate coordination of disability program s."	National Disability Plan of Action 2024–2028[336]
Burundi	"Partner-dependent rehabilitation financing; lack of domestic allocation."	Strategic Plan for Rehabilitation 2023–2027[348]
Namibia	"Overall spending on disability is relatively low."	Disability Budget Brief 2023/24[316]
Liberia	"Under-resourced and donor-driven sector."	National Roadmap to Increase Access to Assistive Technologies 2021–2023[301]
Nigeria	"Government funding for AT is low and disaggregated."	National AT Scale-Up Plan 2022[345]
Tanzania	"Rehabilitation does not have an allocated budget line."	National Rehabilitation Strategic Plan 2021–2026[312]

In Table 6.9.6, the critical human resource shortages that continue to impede rehabilitation and AT service delivery across the region is outlined. Countries consistently report insufficient workforce numbers, limited multidisciplinary expertise, and major gaps in professional training and regulatory standards. These deficits severely constrain implementation capacity and limit the reach, quality, and continuity of essential rehabilitation and assistive technology services.

Table 6.9.6: Severe Human Resource Shortages (Rehabilitation and AT workforce is small, poorly distributed, and under-skilled).

Country	Barrier Description / Verbatim Summary	Reference
Ethiopia	"Insufficient multidisciplinary workforce."	National Rehabilitation and AT Strategic Plan 2021–2025[314]
Tanzania	"Workforce under-developed and missing core rehabilitation disciplines."	National Rehabilitation Strategic Plan 2021–2026[312]
Burundi	"Only three orthopedic technicians nationwide… absence of quality standards."	Strategic Plan for Rehabilitation 2023–2027[348]
Uganda	"Rehabilitation workforce characterized by low numbers and deficient infrastructure."	National Rehabilitation & AT Strategic Plan 2024/5–2029/30[313]
Sierra Leone	"Shortage of skilled human resources."	Assistive Technology Policy and Strategic Plan 2021–2025[299]

Table 6.9.7 summarizes the pervasive data and information system gaps that undermine effective monitoring, planning, and decision-making in disability, rehabilitation, and AT sectors across the region. Many countries lack integrated health information systems, reliable disability statistics, or mechanisms to track AT needs and service coverage. These deficiencies weaken accountability and prevent governments from generating the evidence required for strategic investment and system strengthening.

Table 6.9.7: Data Deficits (Weak information systems hinder monitoring, planning, and evidence-based decision-making).

Country	Barrier Description / Verbatim Summary	Reference
Tanzania	"Rehabilitation data not integrated into HMIS."	National Rehabilitation Strategic Plan 2021–2026[312]
Eswatini	"Absence of a management information system."	National Disability Plan of Action 2024–2028[336]
Sierra Leone	"MoHS lacks systems to capture information on AT needs."	Assistive Technology Policy and Strategic Plan 2021–2025[299]
South Sudan	"Unreliable statistics on persons with disabilities."	National Disability Action Plan 2020[331]
Africa (Regional)	"Inadequate data and monitoring structures."	WHO Framework for Improving Access to Assistive Technology (2021)[329]

The attitudinal and environmental barriers that continue to undermine disability inclusion across the region are highlighted in Table 6.9.8 Negative societal perceptions, entrenched stigma, and physical inaccessibility persist across public spaces, institutions, and service environments, limiting full participation for persons with disabilities. These conditions reinforce exclusion and weaken the impact of policy reforms aimed at advancing rights, accessibility, and social integration.

Table 6.9.8: Attitudinal and Environmental Barriers (Negative perceptions, stigma, and inaccessible environments hinder inclusion and participation).

Country	Barrier Description / Verbatim Summary	Reference
South Africa	"Paternalistic attitudes and a piece-meal approach… prejudice and social stigma, isolation, lack of access to support networks."	Policy on Disability (n.d.)[352]
Lesotho	"Environmental, institutional, attitudinal and economic barriers between persons with disabilities and mainstream society."	National Disability and Rehabilitation Policy 2011[326]
Ghana	"Inaccessible public buildings; derogatory language prohibited to address negative attitudes."	Persons with Disability Act 2006[319]
Rwanda	"Most health facilities are old and substandard."	Health Sector Strategic Plan V (2024–2029)[338]

Table 6.9.9 outlines the structural market barriers that constrain the availability and affordability of AT across African countries. High import costs limited or non-existent local manufacturing capacity, and fragmented procurement systems collectively drive up prices and restrict access. These constraints create a dependency on external suppliers and prevent governments from building resilient, sustainable AT supply chains.

Table 6.9.9: Limited Local Production and High Costs (High import costs, lack of manufacturing capacity, and poor procurement systems restrict AT access).

Country	Barrier Description / Verbatim Summary	Reference
Zimbabwe	"Exorbitant costs associated with AT products, absence of local manufacturing capacity."	National Assistive Technology Strategy 2024–2025[305]
Nigeria	"Limited local production; reliance on imports; weak regulatory systems."	National Assistive Technology Scale-Up Plan 2022[345]
Senegal	"No validated list of assistive products; fragmented procurement; ATs not included in insurance coverage."	National Policy Letter on Assistive Technologies (Draft)[353]
Ethiopia	"Mismatch in demand and supply of AT products."	National Rehabilitation and AT Strategic Plan 2021–2025[314]

6.10 MONITORING AND EVALUATION ACROSS NATIONAL AT AND DISABILITY POLICIES

Monitoring and evaluation (M&E) systems are increasingly embedded within national disability and AT policies across Africa. Many countries now specify governance arrangements, indicator frameworks, and review cycles to support oversight, accountability, and performance tracking. While this reflects growing system maturity, the depth, consistency, and resourcing of M&E mechanisms remain uneven across contexts.

CORE MONITORING & EVALUATION ENABLERS

- **Governance and Coordination**
  Many policies assign M&E oversight to formal governance structures, including

national disability councils, line ministries, or multi-sectoral technical committees. These bodies are typically responsible for compliance monitoring, reporting, and policy review, providing institutional accountability for implementation.

- **Indicators and Data Systems**
  Recent AT and disability strategies increasingly include indicator matrices with defined baselines and targets, with some integration into national health and administrative data platforms (e.g. DHIS2, HMIS, LMIS). Where such integration exists, it strengthens routine tracking and alignment with national information systems.
- **Reporting and Review Cycles**
  Several countries specify regular reporting frequencies (annual or biennial) and structured review milestones (mid-term and end-term). These cycles support course correction and longer-term accountability, particularly within multi-year strategic plans.
- **Stakeholder Participation**
  A subset of policies explicitly requires the participation of OPDs, civil society, or academic bodies in monitoring, indicator validation, or independent oversight. This strengthens transparency and rights-based accountability, although coverage remains inconsistent.
- **Regional and Continental Frameworks**
  Monitoring is further reinforced by regional and international frameworks, including WHO regional progress reviews and cross-country monitoring initiatives led by development partners. These platforms enable benchmarking and comparative learning across countries.

KEY TRENDS AND GAPS

Overall, newer AT and disability strategies—particularly in East, Southern, and West Africa—demonstrate more structured and explicit M&E systems than earlier policy instruments. However, several gaps persist:

- Integration of AT indicators into national data systems is emerging but not yet standard practice.
- Economic and cost-effectiveness monitoring is rare, with limited linkage between M&E and budget tracking.
- Older disability legislation often references monitoring in principle without specifying indicators, data sources, or review timelines.
- OPD involvement in M&E is increasing but remains uneven across countries.

In summary, M&E capacity for AT and disability policy implementation is strengthening, but further investment is required to standardize indicators, integrate financial tracking, and institutionalize participatory monitoring approaches.

6.11 SUMMARY OF POLICY-RELATED EVIDENCE FROM SCIENTIFIC STUDIES

A qualitative synthesis of peer-reviewed literature identifies five recurrent systemic barriers to equitable AT access across African contexts (Table 6.11.1). While most countries demonstrate normative alignment with the CRPD and WHO guidance, the literature

consistently highlights a policy–practice divide, driven by weak enforcement, under-resourced systems, and limited accountability.

Table 6.11.1: Key Policy and Systemic Barriers Identified in the Literature

Thematic Area	Core Issues Identified	Illustrative Evidence (References)
Policy & Governance Gaps	Outdated or incomplete policies; weak enforcement; limited accountability; poor translation of national commitments to institutional and subnational levels	CRPD ratified but discrimination persists[124]; policy guarantees not implemented in practice[190]; lack of sanctions for non-compliance[174]; absence of institutional disability policies[169]
Outdated / Missing Regulatory Frameworks	Obsolete guidelines; absence of national AT policies; definitional inconsistencies (e.g. AT, disability, reasonable accommodation)	Outdated prosthetics framework[95]; lack of wheelchair policy[162]; no formal AT definition[238]; unclear employer guidance[354]
Service Delivery & Systems Weaknesses	Fragmented service pathways; centralized procurement; weak repair and follow-up systems; rural access constraints; donor-dependent provision	Incomplete WHO service steps[172]; repair standards unmet due to budget constraints[172]; rural service gaps[73]; random donor provision without assessment[214]
Financing & Economic Barriers	Insufficient and poorly tracked funding; limited insurance coverage; lack of costed plans; absence of economic evaluation	Budget commitments not realised[75]; partial device subsidies[151]; tax waivers proposed[215]; high AT costs due to weak price regulation[225]; lack of cost–benefit analysis[95]
Human Resources & Capacity Constraints	Severe workforce shortages; limited pre-service AT training; fragmented and institution-driven capacity development	No accredited prosthetics training[95]; AT not embedded in undergraduate curricula[172]; training left to individual institutions[291]
Participation, Rights & Inclusion	Low awareness of rights; limited user participation; inclusive education and employment policies not operationalized	Users unaware of policies[95]; participation improves policy relevance[174]; non-accommodative universities[280]; inaccessible infrastructure despite policy commitments[205]

Across all five domains, the literature portrays systems that are policy-rich but implementation-poor. Normative alignment with international frameworks is widespread,[172,181] yet equitable AT access is constrained by outdated regulations,[95] insufficient financing,[151] weak monitoring and outcome measurement,[355] and limited user participation.[95]

Strengthening evidence-based governance, economic evaluation, workforce development, and participatory accountability mechanisms emerged as critical to translating rights into measurable and scalable impact.

6.12 KEY FINDINGS

- **AT policy activity has accelerated significantly since 2016, but implementation maturity lags policy intent.**
  Across 38 countries, there has been a rapid increase in AT-specific strategies and plans aligned to WHO and UN frameworks; however, many documents remain aspirational, with limited operational detail, financing, or monitoring mechanisms to support delivery.

- **Policy development is increasingly inclusive and multi-stakeholder, with governments retaining leadership.**
  Most AT policies are government-led—primarily by Ministries of Health—while being co-developed with OPDs, NGOs, private sector actors, and international partners. This reflects a shift toward participatory co-production, enhancing legitimacy and national ownership.
- **Technical Working Groups (TWGs) are a dominant and effective policy coordination mechanism.**
  TWGs and ministerial committees are widely used to coordinate assessment, drafting, validation, and revision processes. Where adequately resourced, these structures strengthen continuity and technical coherence across the policy cycle.
- **Strong alignment with global frameworks does not consistently translate into enforceable national systems.**
  Most policies reference the UNCRPD, WHO GATE, Rehabilitation 2030, and WHA71.8, yet many lack enforceable standards, clear mandates, or accountability mechanisms, resulting in persistent policy–practice gaps.
- **Access and supply dominate the policy landscape, while regulation and innovation remain underdeveloped.**
  Nearly all countries prioritize access to AT and public-sector provision, but fewer have mature regulatory frameworks, quality assurance systems, or operational strategies for innovation and local manufacturing.
- **Target populations are expanding from disability-only to whole-population, life-course approaches.**
  There is a clear transition from narrowly defined “persons with disabilities” frameworks toward inclusive, functional-difficulty models that recognize AT needs across ageing, chronic disease, injury, and mental health—aligning with contemporary global guidance.
- **Youth are widely recognized as beneficiaries but rarely engaged as policy co-creators.**
  Although young persons with disabilities are frequently referenced in education, employment, and skills initiatives, direct youth participation in policy design and decision-making remains limited, representing a missed opportunity for demographic and economic leverage.
- **Implementation approaches are becoming more structured and multi-level.**
  Countries increasingly use institutional coordination bodies, integrated service models (e.g. hub-and-spoke, community-based rehabilitation), partnerships, and decentralized execution through regional and local systems to operationalize AT policies.
- **Financing remains the weakest link in the AT policy ecosystem.**
  Only a minority of countries include formal costing, economic analysis, or return-on-investment assessments. Most policies lack dedicated budget lines, rely on donor funding, or include unfunded action plans—constraining sustainability and scale.
- **Monitoring, evaluation, and learning systems are improving but remain uneven and underpowered.**
  While newer strategies increasingly include M&E frameworks and digital integration (e.g. DHIS2, LMIS), most lack standardized indicators, financial tracking, and feedback loops needed to support adaptive implementation and accountability.

6.13 RECOMMENDATIONS

The policy foundations for AT systems in Africa are largely in place. The greatest opportunity lies in using AT as a catalytic platform for youth employment, by investing in implementation, skills, local production, and inclusive labor-market participation.

1. **Invest in youth-inclusive AT policy implementation, not new policy drafting.**
   Prioritize funding for operationalizing existing AT and disability policies—especially at subnational and institutional levels—where implementation gaps most directly limit youth access to education, skills training, and employment pathways.
2. **Embed young persons with disabilities as co-creators in AT governance and decision-making.**
   Support the formal inclusion of youth-led disability organizations within Technical Working Groups (TWGs), coordination committees, and validation platforms to move youth from “beneficiaries” to policy and system shapers.
3. **Link AT policy implementation to youth skills development and jobs in the AT value chain.**
   Invest in program s that connect national AT strategies to youth employment in manufacturing, repair, fitting, digital design, logistics, and innovation hubs, areas already referenced but weakly operationalized in policy.
4. **Support local AT production, repair and maintenance ecosystems.**
   Catalyze public–private partnerships aligned with national policies to expand local fabrication, maintenance, and refurbishment of assistive products—creating accessible, skilled jobs for young people while reducing import dependence.
5. **Strengthen transitions from inclusive education to decent work through AT access.**
   Target investments at the education–employment interface by ensuring AT provision, reasonable accommodation, and digital accessibility are integrated into TVET, higher education, and school-to-work transition program s.
6. **Build youth-focused AT workforce pipelines.**
   Fund accredited training, apprenticeships, and certification pathways in rehabilitation and AT services—particularly in countries facing acute workforce shortages—to align youth employment objectives with national capacity gaps.
7. **Integrate AT indicators into national data and labor-market systems.**
   Invest in strengthening M&E systems so AT access, workforce participation, and employment outcomes for young persons with disabilities are visible within DHIS2, LMIS, and education–labor data platforms.
8. **Anchor investments in multi-sectoral partnerships with clear accountability.**
   Align funder support with existing government-led coordination structures (e.g. TWGs, councils, inter-ministerial committees), while tying funding to clear mandates, budgets, and youth-specific deliverables.
9. **Position AT as an economic enabler, not a welfare add-on.**
   Frame and fund AT interventions as productivity- and employment-enhancing investments—supporting evidence generation that demonstrates how AT enables youth participation in education, entrepreneurship, and formal labor markets.

7 Assistive Technology Landscape In Africa Based On Reports

7.1 Introduction

This section presents an integrated **synthesis of evidence from a scoping review of over 140 AT–related reports across Africa**, including national capacity assessments, policy and investment documents, program reports, market analyses, and manufacturer profiles published between 2009 and 2025. It also reviews market need and fulfilled market need information from seven and six policy documents respectively, and market size information from eight AT manufacturer websites. The section is structured as follows:

- **Key Stakeholders Documented in AT Reports**
- **Available AT Products in Africa Documented in AT Reports**
- **Assistive Technology Market**
- **Economic Opportunities in the At Ecosystem**
- **Manufacturers in AT Reports**
- **Summary**
- **Key Findings**
- **Recommendations**

The section explores how AT markets intersect with economic opportunities, particularly for young persons with disabilities, across production, repair, digital innovation, entrepreneurship, and employment. Taken together, the analysis traces Africa's transition from fragmented, donor-driven AT provision toward more coordinated, multi-actor, and locally anchored systems, while highlighting persistent gaps and setting out strategic policy directions to strengthen market value, affordability, access, and inclusive economic participation.

7.2 Key stakeholders documented in assistive technology reports

This section examines who the key stakeholders are and how they interact within Africa's evolving AT ecosystem. It is structured around two core subsections:

- description of AT stakeholders
- role of stakeholders as reported in AT reports

Together, these subsections move beyond listing actors to show how Africa's AT landscape is transitioning from fragmented, project-based interventions toward more coordinated, multi-actor systems.

Description of assistive technology stakeholders

The stakeholder patterns reveal uneven ecosystem maturity across African sub-regions, shaped by differences in institutional capacity, innovation readiness, and historical reliance on external actors. Regions with more diverse stakeholder engagement tend to demonstrate greater adaptability and local ownership, while those dominated by a narrower set of actors remain more dependent on coordination and external support. The analysis underscores the importance of tailored regional strategies (Table 7.2.1), rather than uniform continental approaches, and highlights the critical role of regional and continental bodies in bridging

fragmentation, enabling learning, and supporting system coherence across highly varied contexts.

Table 7.2.1: Regional Distribution of Stakeholder Categories

African Sub-Region	Dominant Stakeholder Categories	Key Observations
West Africa	Government • Civil Society • International Partners	Strong donor presence and policy alignment (Nigeria, Ghana, Sierra Leone, Senegal).
East Africa	Government • Civil Society • Private Sector • Academia • International Partners	Rapid innovation hubs and academic-policy linkages (Kenya, Rwanda, Uganda, Tanzania).
Central Africa	Government • Regional Bodies • Faith-Based Actors	Regional integration via OADCPH; faith institutions filling service gaps (Cameroon, DRC).
Southern Africa	Government • Private Sector • Academia • Civil Society	Mature ecosystems with social enterprises and academic leadership (South Africa, Zambia, Zimbabwe).
North Africa	Government • Civil Society • International Partners	State-centered systems evolving toward inclusion frameworks (Algeria, Tunisia, Mauritius).
Continental / Regional	Regional Bodies • International Partners • Academia	Policy coordination, training, and monitoring through WHO AFRO, OADCPH, FATO, ACAT.

ROLE OF STAKEHOLDERS AS REPORTED IN ASSISTIVE TECHNOLOGY REPORTS

Role of patients and families, healthcare professionals, civil society/OPDs and Faith-based institution stakeholders in the AT landscape

Evidence from patients, families, healthcare professionals, and civil society organizations provides the clearest insight into real-world enablers and barriers to AT access. Reports from Malawi,[90] Ethiopia,[86–88,185,284,285] and Sierra Leone[356,357] consistently highlight challenges related to affordability, weak supply chains, and shortages of trained personnel, alongside locally driven solutions such as repair, recycling, and co-design with users. Across multiple countries, families, community-based rehabilitation networks, and organizations of persons with disabilities play a critical role in filling service delivery gaps,[134,358] while youth engagement and peer networks improve uptake and relevance.[268,359] Faith-based institutions further extend access in underserved areas through mission-run rehabilitation services.[86,138] Collectively, these findings underscore the importance of coordinated action across households, community workers, health professionals, civil society, and faith actors in enabling contextually appropriate and sustainable AT access.

Role of government, international partners/donors, regional/continental bodies, and academic and training institutions

Across Africa, governments are increasingly formalizing AT policy and legislative frameworks, as reflected in national assessments and product standards from Liberia (2021),[92] Nigeria (2021),[96] Sierra Leone (2023),[288] and Kenya (2021; 2024).[89,187] Regional coordination through WHO AFRO and OADCPH has strengthened governance alignment, with ministers of health adopting shared AT targets and OADCPH supporting cross-country training, procurement, and supply systems.[98,218,289,360] Academic institutions—including Addis Ababa University, Makerere

University, and Stellenbosch University—provide critical evidence to inform these frameworks,[97,113] while international partners such as CHAI, HI, CBM, and the Mastercard Foundation support with technical assistance and financing, including co-authored national assessments.[96,242,288] Together, these efforts indicate a more coherent AT policy environment, though progress remains constrained by persistent gaps in funding, workforce capacity, and local production.

The role of the private-sector and enterprise actors, governments, and development partners in maintaining Economic Opportunities and Initiatives for Employment and Entrepreneurship

Economic opportunities linked to AT, particularly for young persons with disabilities, are increasingly recognized by governments, private-sector actors, and development partners. National strategies in Zimbabwe[249,361] and enterprise models in Ethiopia[86–88,285] highlight local manufacturing, repair, and procurement as pathways for small-scale entrepreneurship and skills development. Nigeria's Investment Case for AT (2022)[160] further quantifies market potential for domestic production, reinforcing calls for public–private investment frameworks, while initiatives supported by the Mastercard Foundation link youth and small enterprises to inclusive innovation.[149] Private-sector engagement is also expanding through digital and financial institutions, including Safaricom PLC in Kenya[209] and I&M Bank in Rwanda (2022).[137] Collectively, these examples demonstrate that AT is increasingly positioned as a driver of inclusive industrial growth, digital innovation, and employment creation for young persons with disabilities.

7.3 Available AT Products in Africa documented in AT reports

This section examines how AT is categorized, prioritized, produced, innovated, and sustained across African countries and regions. It is organized around five interlinked subsections:

- AT Categories and Types by Country and Region
- National Priority Assistive Product Lists of Eight African Countries
- Production of Local Assistive Technology across Africa
- Innovation and Digital Tools Supporting Assistive Technology Across Africa
- Sustainability, Production, and Maintenance of the AT Ecosystem in Africa's

Assistive technology categories and types by country and region

The AT landscape is marked by high demand, uneven access, and persistent system gaps (Table 7.3.1). Mobility AT dominates the evidence base, appearing in roughly 70% of reports with wheelchairs, walking aids, prosthetics, and orthotics forming the core of provision across all regions. Vision and hearing AT are also frequently cited but remain constrained by affordability, limited specialist services, and reliance on imports. Communication and cognitive AT appear mainly in education and digital initiatives, while self-care and environmental adaptations are least documented, reflecting gaps in occupational therapy and accessible infrastructure. Overall, AT needs are widely recognized but inconsistently integrated into health, education, and social protection systems, highlighting the need for coordinated policy action and targeted investment across Africa.

Table 7.3.1: AT Categories and Types by Country and Region

WHO AT Category	Countries with Reported Use	Typical AT Items Identified	Observation	References
Mobility	East Africa: (Ethiopia, Kenya, Uganda, Rwanda, Tanzania, Malawi, Sudan, Mauritius) West Africa: (Sierra Leone, Nigeria, Ghana, Liberia, Côte d'Ivoire, Senegal) Central Africa: (DRC, CAR) Southern Africa: (Zimbabwe, Lesotho, South Africa, Mozambique, Zambia, Angola)	Wheelchairs, crutches, canes, walkers/rollators, tricycles, orthoses (AFO, KAFO, spinal), prostheses, standing frames, clubfoot braces	Most referenced category; strongly linked to rehabilitation and national priority needs. Supply gaps widespread.	Assistive Technology Country Capacity Assessment Ethiopia (2019) [242]; AT Country Capacity Assessment Sierra Leone (2019) [241]; Situation Assessment of Rehabilitation in Rwanda (2021) [274]; Disability Inclusion in Nigeria: Rapid Assessment (2020)[127]; Assistive Technology Country Capacity Assessment Liberia (2020)[92]; Assessment of National Capacities in AT – Senegal (2021)[64]; ATCCA Mozambique (2019)[244]; Zimbabwe AT Priority List (2024)[249]
Vision	East Africa: (Ethiopia, Kenya, Rwanda, Tanzania, Sudan, Mauritius) West Africa: (Sierra Leone, Nigeria, Ghana, Côte d'Ivoire) Southern Africa: (Zimbabwe, Angola, South Africa, Mozambique)	Spectacles, magnifiers, white canes, Braille tools, DAISY players, talking/touch watches, screen readers	Strongly education-linked category; mainly imported with poor affordability in most countries.	Priority Assistive Products List of Sierra Leone (2021)[356]; Côte d'Ivoire APL – Liste Nationale Des Aides Techniques Prioritaires (n.d.)[362]; Priority Assistive Products List Nigeria (2022)[363]; Zimbabwe Assistive Products Priority List (2024)[249]; ATCCA Ethiopia (2019)[242]
Hearing	East Africa: (Kenya, Rwanda, Tanzania, Uganda, Sudan, Mauritius) West Africa: (Sierra Leone, Nigeria, Côte d'Ivoire) Southern Africa: (Zimbabwe, Angola, South Africa)	Digital hearing aids, batteries, FM/loop systems, cochlear implants, alerting devices	One of the least supplied AT domains; high unit cost and lack of audiology workforce persist across regions.	Priority Assistive Products List Nigeria (2022)[363]; Priority Assistive Technology Products List of Sierra Leone (2021)[356]; Côte d'Ivoire APL (n.d.)[362]; Zimbabwe Assistive Products Priority List (2024)[249]; ATCCA Rwanda (2019)[197]
Communication	East Africa: (Kenya, Rwanda, Uganda, Tanzania, Sudan, Mauritius)	Communication boards, AAC devices, AAC apps, speech-generating devices,	Mostly appears in education-focused reports.	Kenya Assistive Technologies Essential Product List (2024)[89]; Priority Assistive

WHO AT Category	Countries with Reported Use	Typical AT Items Identified	Observation	References
	West Africa: (Sierra Leone, Nigeria) Southern Africa: (Zimbabwe, South Africa)	tablets with AAC software, sign-language interpretation technologies	Implementation limited by device cost and absence of specialized AAC professionals.	Products List Nigeria (2022)[363]; Priority Assistive Technology Products List Sierra Leone (2021)[356]; Zimbabwe AT Priority List (2024)[249]
Cognition	East Africa: (Rwanda, Tanzania, Uganda, Sudan, Mauritius) West Africa: (Nigeria, Côte d'Ivoire) Southern Africa: (Zimbabwe, Angola)	Pill organizers, simplified phones, assistive apps, GPS tools, emergency alarms, visual timers	Least frequently documented AT category. Appears mainly in disability inclusion, digital access, and ageing-focused reports.	Côte d'Ivoire APL (n.d.)[362]; Kenya Essential AT Products List (2024)[89]; Priority Assistive Products List Nigeria (2022)[363]; Zimbabwe AT Priority List (2024)[249]
Self-Care / Daily Living & Environmental Adaptation	East Africa: (Ethiopia, Kenya, Rwanda, Tanzania, Malawi, Uganda, Sudan, Mauritius) West Africa: (Sierra Leone, Nigeria, Côte d'Ivoire, Liberia) Southern Africa: (Zimbabwe, South Africa, Angola, Mozambique)	Bath/toilet chairs, anti-decubitus cushions/mattresses, adapted feeding utensils, commodes, incontinence products, ramps, grab bars, cooking tools, therapeutic footwear	Moderately reported category; often tied to rehabilitation and CBR services. Supply is inconsistent and mostly import-dependent.	Liberia National Priority APL (2021)[287]; Priority Assistive Products List Sierra Leone (2021)[356]; Côte d'Ivoire APL (n.d.)[362]; Kenya AT Essential Product List (2024)[89]; Zimbabwe Assistive Products Priority List (2024)[249]; ATCCA Ethiopia (2019)[242]

NATIONAL PRIORITY ASSISTIVE PRODUCT LISTS OF EIGHT AFRICAN COUNTRIES

Eight African countries have developed national Priority Assistive Product Lists (APLs) (Table 7.3.2), signaling a shift toward government-led prioritization of AT aligned with the WHO Global Priority Assistive Products List. Across Ethiopia (2021),[63] Kenya (2024),[89] Liberia (2021),[287] Nigeria (2022),[363] Sierra Leone (2021),[356] Zimbabwe (2024),[249] Côte d'Ivoire (n.d.),[362] and the DRC (2024),[364] mobility AT dominates, reflecting the high burden of physical impairments, while vision and hearing products are widely included, supporting integration into health and education systems. Several countries—particularly Kenya, Nigeria, Sierra Leone, Zimbabwe, and Côte d'Ivoire—have expanded their lists to include communication, cognitive, and self-care AT, indicating a growing life-course approach to inclusion. Overall, APL development marks progress away from donor-driven provision toward more systematic AT planning, though sustained updates and financing remain essential to translate prioritization into equitable access and use.

Table 7.3.2: National Assistive Technology Priority List of Eight African Countries

Country	Report	Mobility	Vision	Hearing	Communi-cation	Cognition	Self-care	Total
EAST AFRICA								
Ethiopia	*National Priority Assistive Technologies and Products List (2021)*[63]	Wheelchairs, crutches, walking frames, prostheses, orthoses	Eyeglasses, magnifiers, braille tools, white canes, screen readers	Hearing aids, FM systems, alarm signalers	AAC apps, DAISY players, communication boards	Learning and memory aids, emergency alarms	—	42
Kenya	*Assistive Technologies Essential Product List (2024)*[89]	Walking sticks, wheelchairs, prostheses, orthoses, ramps	Spectacles, magnifiers, braille devices, white canes	Hearing aids, loops, captioning systems	AAC software, communication boards, voice devices	Reminders, tablets, GPS trackers	Bath/toilet chairs, feeding aids, incontinence products	53
WEST AFRICA								
Liberia	*National Priority Assistive Products List (2021)*[287]	Crutches, wheelchairs, tricycles, prostheses, orthoses	Eyeglasses, magnifiers, braille tools	Hearing aids, FM systems, alert devices	Communication boards, AAC apps	Smartphones, GPS tools, alarms	Shower/toilet chairs, feeding aids	33
Côte d'Ivoire	*Liste nationale des aides techniques prioritaires évolutives (n.d.)*[362]	Wheelchairs, tricycles, orthoses, prostheses, walkers	Eyeglasses, magnifiers, white canes, braille devices	Hearing aids, loops, captioning tools	AAC software, pictogram tools	Pillboxes, smart devices, alarm systems	Bath/toilet chairs, incontinence supports, ramps	48
Nigeria	*Priority Assistive Products List (APL) (2022)*[363]	Walking aids, wheelchairs, tricycles, orthoses, prostheses	Magnifiers, spectacles, braille devices, white canes	Hearing aids, FM systems, captioning tools	AAC boards, sign language systems	Alarms, timers, pill organizers	Grab bars, shower/toilet chairs, cushions	44
Sierra Leone	*Priority Assistive Technology Products List (2021)*[356]	Wide wheelchair range, braces, orthoses, prostheses, walkers	Spectacles, magnifiers, braille tools, white canes	Digital hearing aids, loops, implants	Speech-generating devices, tablets	Visual timers	Bath/toilet aids, grooming & feeding tools	70
SOUTHERN AFRICA								
Zimbabwe	*Assistive Products Priority List (2024)*[249]	Wheelchairs, tricycles, prostheses, orthoses, ramps	Spectacles, magnifiers, braille tools, white/smart canes	Hearing aids, communicators, gesture-	AAC software, boards	Pill organizers, GPS locators, alarms	Incontinence aids, shower chairs,	55

Country	Report	Mobility	Vision	Hearing	Communi-cation	Cognition	Self-care	Total
				to-voice devices			sunscreen	
CENTRAL AFRICA								
Democratic Republic of the Congo (DRC)	*National List of Priority Assistive Technology Products (2024)*[364]	Wheelchairs, tricycles, prostheses, orthoses, walkers	Eyeglasses, magnifiers, braille writing kits, white canes	Hearing aids	Communication cards, software	Pillboxes, simplified phones	Bath/toilet chairs, anti-decubitus supports	32

PRODUCTION OF LOCAL ASSISTIVE TECHNOLOGY ACROSS AFRICA

Manufacturing of local ATs is largely concentrated in mobility and orthotics & prosthetics, reflecting both high demand and the long-standing presence of rehabilitation workshops in countries such as Ethiopia, Rwanda, Sierra Leone, Liberia, Nigeria, and the Democratic Republic of Congo, supported by regional networks like OADCPH (Table 7.3.3). Local fabrication addresses supply gaps by producing affordable, terrain-appropriate devices—such as rugged wheelchairs and basic prostheses in Ethiopia and Sierra Leone—while newer innovations, including 3D-printing initiatives in Togo and Madagascar, point to expanding technological potential. Although production of vision, hearing, and communication AT remains limited, these hubs mark a shift away from reliance on imports and donations toward more resilient, locally driven AT ecosystems grounded in contextual design, repairability, and user-centered solutions.

Table 7.3.3: Distribution of Local Assistive Technology Production across Countries and Regions

Country / WHO African Sub-Region	AT Products Manufactured Locally	Dominant AT Category Produced	Reference
East Africa			
Ethiopia	Customized wheelchairs; customized AFOs; customized KAFOs; traction device.	Mobility / Orthotics & Prosthetics	Activity Report 2023, Addis Guzo (2024)[289]
	Orthoses; prostheses; wheelchairs.	Orthotics & Prosthetics / Mobility	Assistive Technology Country Capacity Assessment Ethiopia (2019)[242]
Rwanda	Wheelchairs; spinal orthoses; lower-limb prostheses; lower-limb orthoses; foot-abduction orthoses; posture-support devices.	Orthotics & Prosthetics / Mobility	Situation Assessment of Rehabilitation in Rwanda (2021)[274]
West Africa			
Liberia	Orthoses; prostheses; therapeutic footwear.	Orthotics & Prosthetics	Assistive Technology Country Capacity

Country / WHO African Sub-Region	AT Products Manufactured Locally	Dominant AT Category Produced	Reference
			Assessment Liberia (2021)[92]
Sierra Leone	Wheelchairs; walking aids; prostheses (Mobility Sierra Leone).	Mobility	Assistive Technology Country Capacity Assessment Sierra Leone (2019)[241]
	Soft upper-limb prosthetic arms; wheelchairs; walking aids; prostheses.	Orthotics & Prosthetics / Mobility	Koalaa Prosthetics User Feedback Report (2022)[365]
Nigeria	Artificial limbs / prosthetics (Beautiful Gates Centre).	Orthotics & Prosthetics	Disability Inclusion in Nigeria: A Rapid Assessment (2020)[127]
Senegal	Orthopedic devices; walking sticks; crutches; prosthetic and orthotic devices.	Mobility / Orthotics & Prosthetics	Assessment of National Capacities in Assistive Technologies – Senegal (2021)[64]
Togo	3D-printed orthotics; night splints; AFOs; KAFOs.	Orthotics & Prosthetics	Imp&Acte3D: 3D-Printing Orthoses in West Africa (2019)[366]
Central Africa			
Democratic Republic of the Congo (DRC)	Prostheses; orthopedic devices.	Orthotics & Prosthetics	Situational Analysis of Rights of persons with disabilities – DRC (2022)[145]
Africa-wide			
Multi-country (OADCPH Network)	Orthopedic components; prosthetic components; orthopedic shoes.	Orthotics & Prosthetics	OADCPH Activity Report (2022)[360]
	Wheelchairs; walking sticks; walkers; diabetic shoes; orthotic/prosthetic components.	Mobility / Orthotics & Prosthetics	OADCPH Activity Report (2023)[289]
	Orthopedic components; prosthetic components; handrails; cushions.	Orthotics & Prosthetics	Donation Report Jan–Dec 2021, OADCPH (2021)[121]
	Carbon-fiber prosthetic sockets; prosthetic components.	Orthotics & Prosthetics	Donation Report July 2020, OADCPH (2020)[131]
	Wheelchairs; calipers; crutches; white canes; prosthetic feet; prosthetic knees; pylons; adapters.	Mobility / Orthotics & Prosthetics	Donation Report March 2020, OADCPH (2020)[131]
	Orthotic/prosthetic components; walking sticks; diabetic shoes; braces and belts.	Orthotics & Prosthetics	Annual Activity Report 2024 (OADCPH)[218]
	Prosthetic/orthotic components; clubfoot shoes; OVERLAY knee brace; walking sticks; crutches; white canes.	Orthotics & Prosthetics / Mobility	A Unique Solution in Africa for Access to AT Jan–June 2025 (2025)[367]

Country / WHO African Sub-Region	AT Products Manufactured Locally	Dominant AT Category Produced	Reference
Togo & Madagascar	3D-printed transtibial prostheses.	Orthotics & Prosthetics	Pilot Trials of 3D Printing for Transtibial Prostheses (2017)[368]

Comparative Observations of locally Manufactured Assistive Technology by Type and Category across Africa

Across Africa, local manufacture of AT shows clear regional variation shaped by rehabilitation systems, technical capacity, and workshop traditions. East Africa has the most mature and diversified base, with established production of customized wheelchairs, orthoses, and prostheses in Ethiopia and Rwanda, supported by strong rehabilitation workforces and sustained workshop models.[86,88,242,274] West Africa demonstrates a parallel but more heterogeneous trajectory: Sierra Leone, Liberia, Nigeria, and Senegal maintain production hubs focused on essential mobility and O&P devices,[64,92,127,241] while innovation is accelerating in Togo through 3D-printing of orthoses.[366] Central Africa maintains foundational capacity—most notably in the DRC—with prosthetic and orthopedic fabrication concentrated in rehabilitation centers and less product diversification.[145]

At the continental level, OADCPH underpins regional supply chains by producing and distributing prosthetic and orthotic components across multiple countries,[121,131,289,360] complemented by pilot digital fabrication initiatives in Togo and Madagascar.[368] Overall, mobility and O&P dominate local production due to high demand and feasible fabrication with available skills and materials, while vision, hearing, communication, and cognitive AT remain largely imported. Together, these patterns indicate a maturing but uneven manufacturing landscape, with strong foundations in mobility/O&P and significant potential to expand into underrepresented AT domains through investment in skills, technology, and regional coordination.

INNOVATION AND DIGITAL TOOLS SUPPORTING ASSISTIVE TECHNOLOGY ACROSS AFRICA

The reviewed reports show that AT innovation in Africa is increasingly digitally enabled but remains uneven across regions and AT domains (Table 7.3.4). Innovation is strongest in mobility AT—particularly in East and Southern Africa—through digital fabrication, sensors, and rehabilitation data systems in countries such as Ethiopia, Kenya, South Africa, and Zimbabwe.[86–88,114,242,284,285] In contrast, vision, hearing, cognition, and self-care innovations are more limited and often focused on data, monitoring, and pilot applications rather than scalable products. Regional initiatives, including the African AT Innovation Network and WHO AFRO's Innovation in Rehabilitation, remain critical for cross-country learning and scaling digitally enabled AT solutions.[113,186]

Table 7.3.4: Innovation and Digital Tools supporting Assistive Technology Across Africa

Country / WHO Region	Mobility	Vision	Hearing	Communi-cation	Cognition	Self-Care	Reference / Source
EAST AFRICA							
Ethiopia	Wheelchairs, prosthetics, orthoses, low-cost mobility frames; 3D-printed components; CAD/CAM digital fabrication; smart sensors for device monitoring.	—	—	—	Inclusive design methods; rehabilitation data systems for clinical tracking.	Remote follow-up via digital rehabilitation dashboards.	Addis Guzo Activity Reports (2020–2024)[86–88,284,285]; AT Capacity Assessment (2019)[242]
Kenya	Digital mobility tracking; wheelchair diagnostics; smart orthotics; mobile apps for prescription and tracking.	AI-based low-vision software; smartphone navigation; digital magnifiers; screen readers.	—	Mobile-integrated prescription platforms; digital rehabilitation service systems.	AI-driven learning tools; diagnostic analytics for rehab outcomes.	—	AT Situation Analysis (2018)[139]; AT Landscape Mapping (2022)[139]; Digital Inclusion Brief (2021)[187]
Tanzania	Automated wheelchair and orthotic fabrication; 3D design software; adaptive design hubs.	—	—	—	Adaptive rehabilitation system automation; AI-assisted prosthetic simulation.	Automated orthotic template production; customized fitting stations.	National AT Strategy (2024–2027)[337]
Uganda	Smart mobility tracking; tele-rehabilitation wheelchairs; motion sensors; mobile monitoring dashboards.	—	—	—	Sensor-based therapy monitoring; digital service analytics.	Tele-rehabilitation and supplier-connectivity systems.	Rapid Assistive Technology Assessment (2023)[91]

Country / WHO Region	Mobility	Vision	Hearing	Communi-cation	Cognition	Self-Care	Reference / Source
Rwanda	—	—	—	AI-assisted speech-to-text tools; digital education platforms.	AI learning systems for inclusive classrooms.	—	AT Capacity Assessment (2020)[197]
Malawi	Data-driven mapping of wheelchair and prosthetic needs; geospatial delivery tools.	—	—	Digital rehabilitation and telehealth platforms.	Predictive analytics for rehabilitation planning.	Mobile mapping of AT distribution networks.	AT Capacity Assessment (2019)[90]
WEST AFRICA							
Ghana	Prosthetic and orthotic sensors; AI-enabled mobility assessment tools.	—	AI-based hearing-screening and diagnostic systems.	—	Sensor-enabled prosthetic training; AI rehabilitation evaluation platforms.	—	Disability-Inclusive Education and Employment (2023)[358]
Nigeria	—	—	AI-enabled hearing aids; captioning and transcripti on tools.	Mobile captioning and voice-to-text apps.	Digital learning tools for inclusive communicatio n.	—	Disability-Inclusive Education and Employment (2022)[369]
Côte d'Ivoire	—	—	—	AT mapping and accessibility platforms.	Digital supplier-mapping; AI planning and adaptive design tools.	—	AT Capacity Assessment (2023)[247]
CENTRAL AFRICA							
Cameroo n	Tele-rehabilitatio n and remote mobility consultation s.	—	—	Digital consultation platforms for care continuity.	—	ICT-based patient monitoring systems.	Situational Analysis on the Rights of Persons with Disabilities – Cameroon (2022)[138]
DRC	Digitized orthopedic mapping; 3D prosthetic socket design; digital service registration.	—	—	—	Digital rehabilitation resource databases.	Mobile-enabled outreach and follow-up.	Situational Analysis on the Rights of Persons with Disabilities – DRC (2022)[145]

Country / WHO Region	Mobility	Vision	Hearing	Communi-cation	Cognition	Self-Care	Reference / Source
SOUTHERN AFRICA							
South Africa	3D-printed prosthetics; rehabilitation robotics; wheelchair innovation labs; digital configuration systems.	—	—	AI-driven communication devices; speech-recognition tools.	Cognitive therapy robotics; AI planning analytics.	Digital care coordination; assistive exoskeletons.	Fifth Annual Progress Report on Implementation of the White Paper on the Rights of Persons with Disabilities (2023)[165]
Zimbabwe	3D-printed wheelchairs and prosthetics; AI-based alignment tools; fabrication labs.	—	—	—	—	Digital rehabilitation coordination and analytics.	National AT Strategy (2024–2025)[361]; Assistive Products Priority List (2024)[249]
Eswatini	—	—	—	ICT-based coordination and survey platforms.	National disability monitoring dashboards.	—	Situational Analysis on the Rights of persons with disabilities (2022)[136]
Botswana	Digital rehabilitation planning systems.	—	—	—	Predictive analytics and digital recordkeeping.	Mobile patient data collection.	Situational Analysis on the Rights of persons with disabilities (2025)[140]
Angola	—	—	—	Mobile coordination and referral systems.	—	—	Replies of Angola to the list of issues in relation to its initial report (2023)[370]
REGIONAL / MULTI-COUNTRY INITIATIVES							
Regional / Multi-Country	Cross-border AI and 3D-printing labs; wheelchair fabrication hubs; FabLabs.	AI-enabled vision screening and digital reading platforms.	Regional smart hearing-device innovation networks.	AI-assisted captioning and accessibility portals.	Regional rehabilitation and cognitive-access data platforms.	Open-source robotics and self-care automation research.	Information and Communication Technologies (ICTs) and Inclusive Education (2021)[157]

Sustainability, production, and maintenance of the AT ecosystem in Africa

Sustainability through Reuse and Refurbishment

Reuse and refurbishment are central to AT sustainability in Africa, with evidence from Ethiopia, Malawi, and Sierra Leone showing that repaired mobility devices reduce costs, shorten waiting times, and extend product lifespans while supporting community workshops as access and training hubs.[86–88,90,185,284,285,357] However, weak regulation and quality assurance highlight the need for regional standards for refurbished AT.

Limited Local Manufacturing, but Emerging Small-Scale Production

Local AT manufacturing remains limited, with over 85% of products imported, but small-scale and social-enterprise production is emerging in countries such as Ethiopia, Zimbabwe, Mozambique, and South Africa.[86,88,160,284,285,361] Scaling domestic production will require targeted procurement policies, harmonized standards, and sustained investment in design and materials innovation.

Dependence on International Partnerships and Donated Spare Parts

Africa's AT systems remain heavily dependent on international partners and imported components, with over 90% of AT products in sub-Saharan Africa sourced externally, exposing systems to supply-chain and funding risks.[92,149,288] Strengthening resilience will require regional supply chains, local materials production, and south–south technology transfer through regional bodies such as OADCPH and ACAT.

Repair and Maintenance as the Core of AT Service Delivery

Repair and maintenance underpin AT service delivery across Africa, with evidence from Ethiopia, Uganda, Tanzania, and Kenya showing that most rehabilitation effort focuses on sustaining and adapting existing devices rather than new procurement.[97,209,242,275] In Ethiopia, repair accounts for nearly 70% of workshop activity, highlighting maintenance as the primary mechanism sustaining user independence.[86–88,285]

8 ASSISTIVE TECHNOLOGY MARKET

This section analyses Africa's AT market through four interlinked dimensions:

- Market Need of Assistive Technology in Africa
- Fulfilled Market Need of Assistive Technology in Africa
- Market Value (Size) of Assistive Technology in Africa
- Manufacturers Target Market

It highlights persistent structural barriers—including affordability, functionality, weak data systems, and uneven service delivery—that continue to limit equitable access. While some demand is met, provision remains highly uneven and largely dependent on donor- and NGO-led models, with limited public-sector integration and emerging private-sector participation. Overall, the evidence points to an AT market characterized by high and growing demand, low effective coverage, and underdeveloped market structures, alongside clear opportunities for policy reform, local production, youth employment, and sustainable investment.

8.1 MARKET NEED OF ASSISTIVE TECHNOLOGY

This section reviews how AT market need is measured and reported across Africa, and shows that despite very high and growing need, AT demand is rarely quantified or used for planning. It highlights the consequences of weak market-need data for financing, procurement, and service delivery—particularly for children and youth—and outlines recommendations to strengthen measurement, comparability, and use of AT market-need evidence across the WHO African Region.

ASSISTIVE TECHNOLOGY MARKET NEED AMONG PERSONS WITH DISABILITIES IN AFRICA

Assistive technology need is widely acknowledged but rarely quantified. Most documents rely on disability prevalence or qualitative statements, while only a small minority provide explicit numerical estimates of AT demand (Table 8.1.1), highlighting a significant data gap that constrains planning, financing, and procurement.

Table 8.1.1: Types of Market Data Related to AT Need Reported in the Policies

Type of Data	% of Policies	Example Countries	Description
General disability prevalence only	~55–60%	Malawi, South Africa, Kenya, Benin	"10% of population has a disability" (used as a proxy for AT need)
Explicit AT need estimates (numbers)	~10% (policy)	Uganda, Nigeria (AT Scale-Up), DRC (Mobility Strategy), Liberia (Eye care), Sierra Leone (AT Policy)	e.g. "12 million Ugandans require one or more assistive products"
	25% (reports)	Nigeria, Uganda, Algeria	
Global or regional AT statistics only	~20%	Morocco, Kenya AT Strategy, Zimbabwe AP List	e.g. "1 billion people need AT; will reach 2 billion by 2050"

Type of Data	% of Policies	Example Countries	Description
AT need framed qualitatively (no numbers)	~35%	South Africa workplace AT, Eswatini, Namibia, Gambia	"There is a lack of AT" / "High unmet need"
Documents that provide population data but not AT need	~18%	Ghana Act 715, Kenya persons with disabilities Bill, Sierra Leone Act	Disability prevalence cited, no AT projection
Docs that explicitly state *no data exists* and call for data collection	~12%	Namibia Act, Kenya persons with disabilities Act, Swaziland NDPA, Rwanda ICT Regs	"Need for census / register / rATA survey"
No information on market need	75% (reports)	Burundi, Mauritius, Lesotho, Tunisia	

Table 8.1.2 presents quantitative evidence on AT market need across Africa, drawing on data from 35 national and regional reports and 7 policy documents. At the continental level, an estimated 200 million people (15.6% of the population) currently require at least one assistive product, with projections exceeding 400 million by 2050, while 70–97% of those in need lack access.[98,149,276] Country estimates illustrate wide variation in both prevalence and absolute demand—from fewer than 15,000 persons with disabilities in Guinea-Bissau to over 25 million potential AT users in Nigeria and 15–20 million in Ethiopia—highlighting the scale, heterogeneity, and persistent unmet need that characterize AT markets across the African region.

Table 8.1.2: Quantitative Market Need for AT Country and African Region

African Region / Country	Quantitative Market Need	Reference
West Africa		
Nigeria	25 million persons with disabilities (≈ 15 % of population); estimated total addressable AT market = 26 162 000 people.	*Assistive Technology Assessment (ATA-C) Nigeria (2021)[96] Investment Case for Assistive Technology (2022)[160]; Priority Assistive Products List (2022)[363]*
Nigeria (policy)	25 million persons with disabilities require AT	*Assistive Technology Assessment (ATA-C) Nigeria (2021)[96]*
Sierra Leone	93 129 people with disability (1.3 % of population); only 14.9 % coverage → 85.1 % without device.	*Assistive Technology Country Capacity Assessment (2019)[241]; Rapid Assistive Technology Assessment (rATA) (2022)[357]*
Liberia	3.17 % disability prevalence; only 16 % have AT access → ≈ 84 % lack assistive products.	*Assistive Technology Country Capacity Assessment (2020)[92]*
Liberia (vision) (policy)	850,000 need vision devices	National Clinical Eye Care Guidelines[371]

African Region / Country	Quantitative Market Need	Reference
Senegal	5.9 % disability prevalence (≈ 797 000 people); 7.3 % (73 per 1 000) disabled with limited AT access.	*Assessment of National Capacities in Assistive Technologies (2021)[64]; Access to Assistive Technologies in Senegal (2025)[118]*
Côte d'Ivoire	13 % need vision aids (3.82 million); 1 % wheelchairs (0.29 million); 2 % mobility aids (0.59 million); 0.5 % prostheses (0.15 million); 1.3 % hearing aids (0.38 million); 2 % cognitive aids (0.59 million).	*Assistive Technology Capacity Assessment – Côte d'Ivoire (2024)[247]*
Gambia	1.2 % disability prevalence (≈ 21 873 persons with disabilities nationally).	*Situational Analysis of the Rights of Persons with Disabilities in Gambia (2021)[135]*
Guinea-Bissau	0.94 % disability prevalence (13 590 people).	*Deficientes Report – Third General Population and Housing Census (2010)[155]*
East Africa		
Ethiopia	15 million (15 %) persons with disabilities (2020); ≈ 20 million (2024); 17.8 % (≈ 18 million) persons with disabilities; ≈ 90 % lack AT.	*Addis Guzo Activity Reports (2021 & 2024)[88,285] ; AT Capacity Assessment (2019)[242]; National Priority Assistive Technologies List (2021)[63]*
Uganda	21 % population with unmet AT need (1 in 5 Ugandans); unmet need – self-care 78 %, vision 75 % (children) / 76 % (adults).	*rATA Uganda (2023)[91]; AT Capacity Assessment (2020)[62]*
Uganda (policy)	26% of Ugandans, equivalent to 12 million people, require ≥1 AT product.	rATA Uganda[91]
Kenya	400 000 mobility-impaired; 100 000 wheelchair need per year; 26 % youth need AT now and 40 % expect to need it.	*AT2030 Case Study – Scaling Rehabilitative Services (2021)[209]; AT2030 Survey on Youth Attitudes (2024)[359]*
Rwanda	≈ 15 % (≈ 1.5 million) persons with disabilities; children's unmet need ≈ 73 %.	*AT Capacity Assessment (2019[197]; Understanding Multidimensional Determinants of Disability-Inclusive Education (2022)[372]*
Tanzania	No precise %; qualitative evidence of > 70 % unmet need in rehabilitation centers.	*Rehabilitation Situation Assessment (2020)[275]; Situational Analysis (2022)[142]*
Malawi	10.4 % disabled (≈ 2.3 million); mobility 418 669; hearing 377 790; vision 762 702.	*AT Capacity Assessment (2019)[90]*
Central Africa		
DR Congo / OADCPH Network	Thousands still await mobility assistance across member centers.	*OADCPH Donation Report (2022)[130]*
DRC (policy)	900,000 people need mobility aids	*Situational Analysis (2022)[145]*
Regional Central Africa (Aggregate)	30–55 % of persons with disabilities are physically disabled and need technological equipment.	*Disability and Technologies Analysis in African Countries (2009)[373]*

African Region / Country	Quantitative Market Need	Reference
Southern Africa		
Zambia	7.7 % population disabled; 73.2 % unmet need; ≈ 470 000 visual, 290 000 mobility, 150 000 cognitive, 137 000 hearing, 60 000 communication, 75 000 self-care impairments.	*AT Capacity Assessment (2022)*[93]; *Situational Analysis (2023)*[133]
Zimbabwe	15 % persons with disabilities; 63.6 % never received required AT devices.	*National AT Strategy (2024–2025)*[361]; *Situational Analysis (2021)*[144]
Zimbabwe (policy)	63.6% of persons with disabilities have never received required AT.	*AT Capacity Assessment (2022)*[164]
South Africa	2.86 % employees with disabilities provided AT (354 of 12 375); 24 % of children with disabilities need wheelchairs.	*Report on Reasonable Accommodation and Assistive Devices (2019)*[374]; *Barriers to Inclusion (2020)*[375]
Malawi (policy)	95% unmet need.	*AT Capacity Assessment (2019)*[90]

AT MARKET NEED BY WHO AFRICAN REGION

The regional distribution of AT market need across Africa highlights substantial variation in demand, data availability, and system capacity, while consistently revealing high levels of unmet need across all WHO African sub-regions.

West Africa: AT market need is extremely large but poorly met, with Nigeria alone accounting for 25–26 million potential AT users and most countries reporting over 80% unmet need, alongside limited but improving device-specific data.

East Africa: The region shows the strongest quantification of AT need, with 15–20 million persons with disabilities in Ethiopia, 12 million Ugandans requiring AT, and persistently high unmet need—especially among children and youth—despite improved data systems.

Central Africa: AT market need is substantial but severely under-documented, with estimates indicating hundreds of thousands in the DRC require mobility aids and 30–55% of persons with disabilities needing technological support, largely unmet through humanitarian channels.

Southern Africa: Despite relatively stronger policy frameworks, AT need remains high and unmet, with 63–73% of persons with disabilities in countries such as Zimbabwe and Zambia never having received required AT, across multiple functional domains.

North Africa: Evidence is fragmented but suggests significant unmet AT need, with population-specific estimates such as 37.5% of people with moderate-to-severe disabilities in Morocco requiring AT and high rehabilitation demand in conflict-affected settings.

WHO African Region (Overall): Across the region, 200 million people (15.6%) currently require AT—projected to exceed 400 million by 2050—while 90–97% lack access, highlighting a vast and growing unmet market need.

MARKET NEED FOR YOUNG PERSONS WITH DISABILITIES IN AFRICA

Although children and youth are frequently identified as priority groups in national AT policies, very few documents provide quantified evidence of AT need or coverage for these populations. Across the reviewed dataset, only two sources include numerical child- or youth-specific

estimates, revealing a pronounced gap between prevalence and service coverage. Tanzania's National Assistive Technology Strategy (2024–2029),[337] for example, reports that while only 0.6% of students are recorded as having disabilities, survey data suggest up to 15% of children (≈4.15 million) may require AT, indicating substantial under-identification of need. Similarly, Light for the World's Strategy 2030 (2024)[376] reports AT-related services for over 116,000 children across multiple countries, one of the few documented child-focused interventions identified.

This evidence gap persists despite a broader context in which 70–97% of AT needs remain unmet across Africa, with children and youth experiencing consistently lower access than adults, particularly for mobility, vision, communication, and learning-related devices.[91,98,176,197] As the number of Africans requiring AT rises from an estimated 200 million to over 400 million by 2050, driven by youthful population structures, unmet youth AT demand will intensify pressure on already constrained systems while remaining a largely under-leveraged area for inclusive service expansion and innovation.[96,98,209,276]

8.2 Fulfilled market need of assistive technology in Africa

This section draws on evidence from 30 national and regional reports and 6 policy documents to examine fulfilled market need for AT across Africa. It shows that fulfilled need remains critically low and uneven, with most persons with disabilities receiving only a small fraction of the assistive products they require and highlights major data gaps and regional disparities. The analysis assesses the implications of weak fulfilled-need measurement for planning, financing, market development, equity, and accountability, and outlines priority actions to strengthen sustainable and equitable AT access systems.

Fulfilled market need information documented in the assistive technology reports and policy documents across Africa

The data revealed that access to AT across Africa remains critically low**,** with fulfilled need averaging between 10% and 25% of total demand (Table 8.2.1). Both the Table and Figure summarize verified quantitative findings by WHO African Sub-Region, showing that only a small fraction of persons with disabilities currently receives the assistive products they require. Most coverage is achieved through non-state channels**,** such as NGO networks, international donations, and community-based repair systems, while government-led program s account for less than 15% of all distributed AT. Significant variation exists between and within regions from as low as 5% coverage in Nigeria to over 70% in local pilot projects in Sierra Leone,[365] underscoring the role of decentralized delivery models and data-driven coordination in improving access.[98,149] This persistent data gap limits the ability of governments and partners to assess system performance, identify inequities, or track progress toward global commitments such as the UNCRPD, SDGs 3 and 10, and WHO Rehabilitation 2030.

Table 8.2.1: Fulfilled Market Need for Assistive Technology in Africa — By WHO African Sub-Region

WHO Sub-Region / Country	Estimated Fulfilled Need (%)	Approx. People with Disabilities Reached	List of ATs Supplied / Used	Reference
WHO AFRICAN REGION (Overall)	3–10 % (≈ 90–97 % unmet)	N/R	All AT categories (mobility, vision, hearing, communication, cognition, self-care)	*WHO African Region Progress Report on the Framework for Improving Access to Assistive Technology*, 2024[117]; *ATscale–CHAI Assistive Products Market Report*, 2025[149]
WEST AFRICA				
Liberia	16 % of persons with disabilities had AT access	≈ 8 000–10 000 persons	Spectacles, wheelchairs, canes, walkers, crutches	*Assistive Technology Country Capacity Assessment – Liberia*, 2020[92]
Sierra Leone	14.9 % national; up to 70 % in pilot	≈ 250 000 nationally; ≈ 40 000 pilot	Prostheses (Koalaa), tricycles, crutches, hearing aids	*Rapid Assistive Technology Assessment – Sierra Leone*, 2022[357]; *HEPPO Pilot Report*, 2022[365]
Nigeria	N/R (≈ 5 000 people served in 2019)	5 000 persons	Mobility, hearing and vision ATs	*Situational Analysis on the Rights of Persons with Disabilities in Nigeria – Country Full Report*, 2023[377]
Senegal	N/R (“very low”)	6 906 technical aids distributed (2012–2019)	Wheelchairs, crutches, white canes, glasses	*Assessment of National Capacities in Assistive Technologies – Senegal*, 2021[64]
EAST AFRICA				
Uganda	4.5 % of population ≥ 5 use an AP; 4 % fully met need	N/R	Mobility, vision, hearing, communication and self-care ATs	*Rapid Assistive Technology Assessment – Uganda*, 2023[91]
Rwanda	14 % of children with disabilities used AT	N/R	Glasses, mobility aids, classroom learning supports	*Disability-Inclusive Education and Assistive Support for Children with Disabilities*, 2022[372]
Kenya	≈ 5 % of annual wheelchair need met	≈ 5 000 people per year	Manual wheelchairs	*AT2030 Case Study: Scaling Rehabilitative Services and Increasing Access to AT in Kenya*, 2021[209]
Kenya (Youth sample)	42 % of young persons with disabilities use ≥ 1 AT; 23 % use glasses	N/R	Glasses, mobility and communication devices	*AT2030 Survey: Youth Attitudes Toward Disability Sport and AT*, 2024[359]

WHO Sub-Region / Country	Estimated Fulfilled Need (%)	Approx. People with Disabilities Reached	List of ATs Supplied / Used	Reference
Tanzania	< 15 % of persons with disabilities received physiotherapy or orthopedic devices	N/R	Crutches, wheelchairs, orthopedic supports	*Situational Analysis of the Rights of Persons with Disabilities in Tanzania – Country Report*, 2022[142]
Ethiopia	≈ 15–20 %	≈ 1.2 million	Wheelchairs, prostheses, orthoses, crutches, white canes, eyeglasses	*National Priority Assistive Technologies and Products List – Ethiopia*, 2021[63]
Sudan	N/R	8 504 people received mobility devices (2014–2016); 41 679 served by national authority (2014–2017)	Wheelchairs, crutches, other mobility devices, rehabilitation services	*Replies of Sudan to the List of Issues in Relation to Its Initial Report*, 2017[378]
SOUTHERN AFRICA				
Zambia	≈ 20 % of those needing AT have access	≥ 10 000 served (2 539 wheelchairs; 1 535 white canes)	Wheelchairs, crutches, spectacles, hearing aids, white canes	*Assistive Technology Country Capacity Assessment – Zambia*, 2022[93]
Zambia (Education sample)	23 % of children with disabilities used AT	N/R	Learning, vision and mobility aids	*Disability-Inclusive Education Study – Rwanda, Sierra Leone & Zambia*, 2022[372]
Zimbabwe	≈ 36.4 % ever received AT (63.6 % never)	N/R	Mobility devices, hearing aids, computers	*Situational Analysis of the Rights of Persons with Disabilities in Zimbabwe – Country Report*, 2021[144]; *National AT Strategy & Priority List*, 2024[249]
Botswana	≈ 20 % of persons with disabilities needing AT have access	N/R	Wheelchairs, hearing aids, prosthetics	*Situational Analysis on the Rights of persons with disabilities in Botswana – Country Full Report*, 2025[140]
South Africa	2.86 % of public-service employees with disabilities received AT	354 employees	Workplace adaptations, communication and mobility aids	*Report on Provision of Reasonable Accommodation & Assistive Devices for Employees with Disabilities in the Public Service*, 2019[374]
CENTRAL AFRICA				

WHO Sub-Region / Country	Estimated Fulfilled Need (%)	Approx. People with Disabilities Reached	List of ATs Supplied / Used	Reference
Cameroon	< 8 % of visually impaired children had access	N/R	Braille and stylus, low-vision education aids	*Situational Analysis of the Rights of Persons with Disabilities in Cameroon – Country Report*, 2022[138]
OADCPH Network (30 + countries, regional)	15–25 % (average, small scale)	≈ 500–800 persons per country annually	Prosthetic and orthotic components, wheelchairs, tricycles	*OADCPH Donation Reports*, 2021–2023[121,129,130]

*N/R – Not Reported

Fulfilled market need for assistive technology in Africa

Across the WHO African Region, fulfilled need for AT remains critically low, typically ranging from 3% to 25%, meaning that up to 90% of people who require AT still lack access. Regional averages suggest only 10–15% coverage, equivalent to approximately 20–35 million of the estimated 150 million people in need receiving at least one assistive product. While incremental gains have been recorded since 2019, progress remains uneven across subregions due to persistent constraints in financing, workforce capacity, data systems, and local production.

Subregional disparities are pronounced. East Africa shows more consistent, data-driven progress (10–20% coverage), supported by national assessments, NGO partnerships, and emerging local production, though access remains urban-centered. Southern Africa demonstrates relatively higher coverage (up to 20–25%) linked to stronger policy frameworks, yet significant implementation gaps persist. West Africa exhibits wide variation, with isolated gains driven by NGO-led pilots rather than national systems, while Central Africa remains the least served and least documented region, with coverage generally below 10% and heavy reliance on humanitarian supply chains.

Implications of low fulfilled market need in Africa

Persistently low and uneven AT coverage entrenches regional and national inequities, with access determined more by geography, delivery models, and external support than by population need. The dominance of donor- and NGO-led provision has enabled short-term gains but has not produced scalable or sustainable national systems, reinforcing urban bias and vulnerability to funding cycles.

Weak public-sector ownership and financing further constrain scale and equity, with AT remaining poorly integrated into health, education, and social-protection systems. Narrow product portfolios—focused primarily on mobility and vision—leave major functional gaps in hearing, communication, cognitive, and digital AT, limiting participation in education, employment, and digital life.

Evidence also shows that countries with robust data systems, particularly those engaged in WHO rATA and ATA-C assessments, are better positioned to plan, prioritize, and expand access. Conversely, weak data perpetuates policy–implementation gaps, undermines market development, and discourages private-sector investment and regional supply-chain growth.

Without reliable demand signals and coordinated systems, opportunities to transition from humanitarian provision to sustainable, market-based AT ecosystems remain unrealized.

8.3 Market value (size) of assistive technology in Africa

The total value of AT disclosed in the reports and by manufacturers and innovators across Africa reflects a young but growing sector characterized by limited financial transparency and significant variation in reporting practices. This section summarizes the market value reported by 8 manufacturers webpages and 17 national and regional reports. The limited disclosure of AT market value underscores the nascent state of AT market reporting and highlights the need for systematic financial tracking as AT ecosystems mature.

Overview of the total market value disclosed in reports and by manufacturers/innovators in Africa

AT financing across Africa is highly uneven, with investment concentrated in a few countries (Table 8.3.1), led by Nigeria's AT market valued at USD 888 million[160] while most West African countries rely on modest, donor-driven funding.[243] Southern Africa shows the strongest public commitment through national allocations in Zambia, Zimbabwe, South Africa, and Mozambique,[93,244,361,374] whereas East Africa reflects mixed but emerging investment in Ethiopia, Kenya, and Malawi.[63,90] Overall, financing remains fragmented and underreported, with heavy donor and humanitarian reliance—exemplified by over USD 24 million in OADCPH expenditure—constraining sustainable AT market growth across the continent.[218]

Table 8.3.1: Quantified Financial Data on Assistive Technology in Africa

WHO African Sub-Region / Country	Financial Value(s) / Market Size	Type(s) of Financial Indicator	Funding Source(s)	Reference(s)
EAST AFRICA				
Ethiopia	ETB 134 million; 25M ETB (≈ USD 850,000)	Manufacturer revenue; Government–partner AT budget	Private; Public–Donor	Assistive Technology Country Capacity Assessment Report (2019)[242]; National Priority AT List (2021)[63]
Kenya	USD 750,000; USD 50,000+; KSh 51.6M (≈ USD 478,641); USD 250 per wheelchair	Manufacturer revenues; Procurement budget; Unit cost benchmark	Private; Public; Public–Private	AT Capacity Assessment (2021)[276]; AT2030 (2021)[209]
Uganda	UGX 175,965 (≈ USD 26.85)	Median user expenditure	Private (User)	rATA Uganda (2023)[91]
Malawi	≥ £252,000/year; MWK 8.3M (public); MWK 220M (NGO)	Manufacturer revenue; Public AT program budget; NGO wheelchair & orthopedic programs	NGO; Public; NGO	AT Capacity Assessment (2019)[90]

WHO African Sub-Region / Country	Financial Value(s) / Market Size	Type(s) of Financial Indicator	Funding Source(s)	Reference(s)
SOUTHERN AFRICA				
South Africa	USD 144,633; R 4,865,453 (≈ USD 334,000); ≈ USD 400,000	Manufacturer revenue; Workplace AT expenditure; National AT budget allocation	Private; Public	Reasonable Accommodation Report (2019)[374]; White Paper Progress Report (2023)[165]
Zambia	ZMW 61,451,789 (≈ USD 3.6M)	National AT budget	Public	AT Country Capacity Assessment (2022)[93]
Zimbabwe	USD 2–5.5M	National AT expenditure	Public	National AT Strategy (2024)[361]
Mozambique	~USD 18M	Combined public + NGO AT funding	Mixed	Capacity to Implement AT (2022)[244]
WEST AFRICA				
Ghana	₵931,760	Internally Generated Funds	Public/Service Provider	Donation Report (2020)[131]
Nigeria	USD 888M; NGN 216M (≈ USD 600k); NGN 1M (≈ USD 2,700)	National AT valuation; NGO budgets; Government procurement	Public–Private; NGO; Public	Investment Case for AT (2022)[160]; ATA-C Nigeria (2021)[96]
Senegal	12M CFA (≈ USD 19k); USD 2.5M	Prosthetics program budget; Donor-funded AT initiatives	Public; Donor/NGO	ATA-C Final Report (2021)[64]; Access to Assistive Technologies (2025)[118]
Sierra Leone	USD 2.5M	Donor-supported AT program s	Donor/NGO	AT Capacity Assessment (2020)[241]
PAN-AFRICAN / MULTI-COUNTRY – CENTRAL AFRICA FOCUS				
OADCPH	142M CFA (≈ €217,000); €22.3M (≈ USD 24M)	Annual NGO operational turnover; Continental humanitarian AT expenditure	NGO	OADCPH Donation Report (2022)[130]; OADCPH Annual Activity Report (2024)[218]

ECONOMIC VALUE AND INVESTMENT PATTERNS IN AFRICA'S ASSISTIVE TECHNOLOGY SECTOR

Financial evidence from national reports and manufacturers indicates an under-capitalized and unevenly financed AT sector across Africa. Documented investment is concentrated in a small number of countries—most notably Nigeria, South Africa, Ethiopia, Kenya, Zambia, Zimbabwe, and Mozambique—while large parts of the continent remain donor-reliant. Southern Africa shows the strongest public-sector commitment, with dedicated national AT allocations in Zambia, Zimbabwe, and Mozambique, alongside significant manufacturer revenue and public expenditure in South Africa. East Africa reflects a mixed financing landscape, combining modest government procurement, manufacturer revenue, NGO

support, and user-level expenditure. West Africa is dominated by Nigeria's large AT market valuation (USD 888 million), with limited and donor-dependent investment elsewhere. In Central Africa, humanitarian financing—particularly through OADCPH, with continental expenditure exceeding USD 24 million—remains the primary source of AT provision.

Overall, the financial landscape reflects fragmented investment, limited transparency, and persistent donor dependence, constraining equitable growth and long-term scalability of AT systems across the continent.

POLICY AND INVESTMENT IMPLICATIONS FOR ASSISTIVE TECHNOLOGY MARKET DEVELOPMENT

Limited financial reporting by both governments and manufacturers restricts market visibility, procurement planning, and investment forecasting. Only a small number of manufacturers disclose revenue data, highlighting the need for stronger financial transparency, particularly for publicly procured or donor-funded AT. Evidence from Southern Africa demonstrates that dedicated budget lines are critical for system strengthening, while countries with emerging AT activity could scale domestic industries through targeted incentives, reduced import duties, and support for research and development. Regional harmonization of standards and procurement frameworks would further stabilize markets and encourage cross-border manufacturing. The continued scale of humanitarian expenditure underscores the need for a gradual transition toward co-financed and nationally led AT systems.

IMPLICATIONS FOR YOUNG PERSONS WITH DISABILITIES

The uneven distribution of AT market value has direct consequences for young persons with disabilities. Countries with sustained public investment and emerging manufacturing ecosystems offer limited but growing opportunities for youth employment in production, repair, and digital innovation. In contrast, regions with minimal or donor-driven financing—particularly much of West and Central Africa—face persistent access gaps and fewer pathways for youth participation in AT-related economic activity. Without stronger national investment, expanded local manufacturing, and explicit youth-inclusive strategies, current financing patterns risk reinforcing regional inequities in both AT access and employment opportunities for young persons with disabilities.

8.4 TARGET MARKET BASED ON INFORMATION FROM MANUFACTURERS

This section draws on information from 42 manufacturers. The target markets of AT manufacturers and innovators in Africa indicate a sector that is expanding in reach but remains largely domestically focused (Figure 8.4.1). Most organizations produce primarily for national markets, driven by high unmet local demand and limited affordability of imports. A smaller group supplies regional markets through partnerships and NGO channels, while only a few—mainly those offering specialized prosthetics, digital solutions, or scalable mobility technologies—operate at continental or global levels. Overall, the pattern reflects strong domestic orientation alongside emerging regional integration and growing potential for wider intra-African and global expansion. Overall, the distribution suggests that while domestic markets remain the foundation for most AT providers, a growing number of innovators—particularly those offering digital, prosthetic or specialized mobility solutions—are beginning to scale beyond national borders. This reflects both expanding demand and emerging opportunities for regional integration and global market entry.

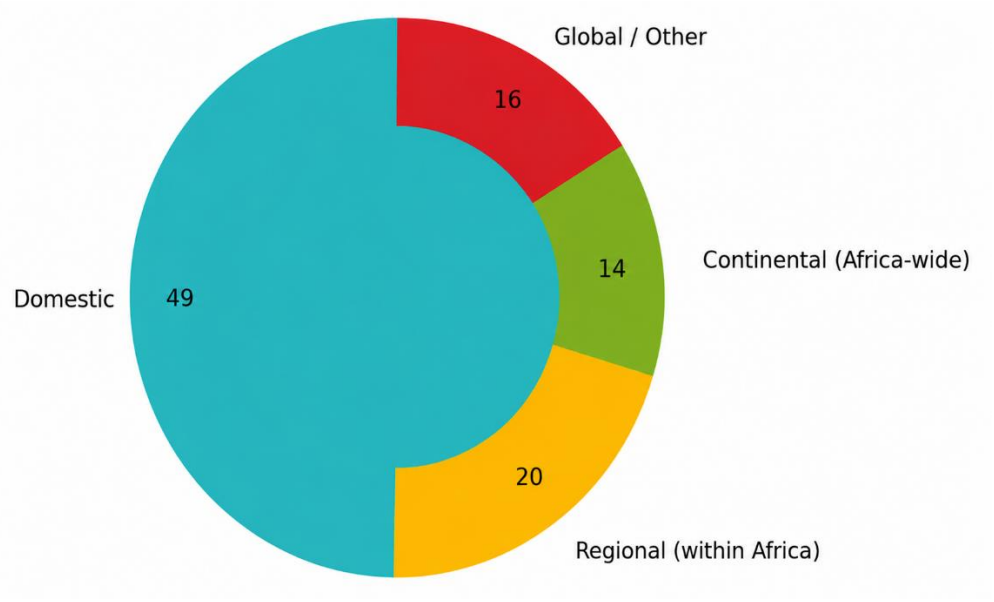


Figure 8.4.1: Target markets of assistive technology in Africa based on Manufacturer information

ASSISTIVE TECHNOLOGY MANUFACTURERS' TARGET MARKETS BY AFRICAN REGION

This section highlights the extent to which manufacturers and service providers operate at domestic, regional, continental, and global levels (Table 8.4.1). It illustrates regional variation in organizational scale and market reach, with most actors serving domestic markets while a smaller number extend operations beyond national borders, reflecting differing levels of market maturity, production capacity, and cross-border integration within Africa's AT ecosystem.

Table 8.4.1: Dominant AT Manufacturers' Target Markets by African Region

African Region	Country (No. of Organizations)	Dominant Target Markets (No. of organizations)	All Organizations
East Africa	Eritrea (1)	Domestic (1); Regional (1); Global (1)	Sermax Mobility–Eritrea (2008)
	Ethiopia (5)	Domestic (5); Regional (3); Continental (1); Global (1)	Shonaquip SE (1992); EraMed (2019); Cheshire Ethiopia (1962); EPOS (2021); GAT Ethiopia (2023)
	Kenya (6)	Domestic (6); Regional (3); Continental (2); Global (1)	APDK (1958); Motivation Kenya (2003); AT4D (2019); Deaftronics (2019); Hope Tech Plus (2017); Signvrse (2023)
	Rwanda (2)	Domestic (2); Continental (1)	Geuza Ltd (2023); HVP Gatagara (1962)
	Tanzania (1)	Domestic (1); Regional (1); Continental (1)	Kyaro Assistive Tech (2021)

African Region	Country (No. of Organizations)	Dominant Target Markets (No. of organizations)	All Organizations
	Uganda (4)	Domestic (4); Regional (2); Continental (1); Global (1)	KCDC (2014); Motivation Uganda (2004); Wheelchairs Uganda (2015); Wazi Vision (2016)
North Africa	Egypt (5)	Domestic (5); Regional (2); Continental (2); Global (2)	Victoria Hand Project (2015); Bionic Limbs (2016); Black Android (2014); Esmany (2016); El Masry (1936)
	Tunisia (1)	Domestic (1); Continental (1); Global (1)	Cure Bionics (2018)
Southern Africa	Malawi (3)	Domestic (3)	MAP (1979); Malawi Wheels Mission (2021); 500 Miles (2009)
	Namibia (1)	Domestic (1)	OTS Namibia (2001)
	South Africa (4)	Domestic (4); Regional (1); Global (1)	CE Mobility (1949); Artificial Limbs Cape Town (n.d.); Sitwell Technologies (2017); hearX / Lexie (2020)
	Zimbabwe (3)	Domestic (3); Global (1)	LCD Zimbabwe (1981); Sermax Mobility–Zimbabwe (2008); UBH Orthopedic Centre (n.d.)
West Africa	Ghana (1)	Domestic (1); Regional (1)	OTC Ghana (1961)
	Nigeria (2)	Domestic (2); Continental (1); Global (1)	Vinsighte (2020); Accesstech Innovation and Research Center (2023)
	Sierra Leone (1)	Domestic (1); Global (1)	Sermax Mobility–Sierra Leone (2008)
	Togo (1)	Domestic (1); Regional (1); Continental (1); Global (1)	GIP–Togo (2018)
Pan-African	Multi-country (1)	Regional (1); Continental (1); Global (1)	Dot Glasses (2020)

9 Economic Opportunities In The Assistive Technology Ecosystem

Assistive technology is increasingly positioned in Africa as both an inclusion enabler and a growing economic sector. Drawing on information from AT-related reports, this section is structured by region to show how participation by persons with disabilities—particularly youth—varies across the continent by focusing on the:

- **Involvement and role of the youth in AT manufacturing and repair across Africa, and**
- **Opportunities for employment and skills development for persons with disabilities in Africa**

9.1 Involvement and role of the youth in assistive technology manufacturing and repair across Africa

Persons with disabilities (persons with disabilities), especially youth, are increasingly central to AT manufacturing and repair across Africa, taking on roles that extend far beyond passive product users (Table 9.1.1). Six distinct role categories emerge as manufacturers and technicians, repairers, entrepreneurs, trainees, co-designers, and advisors, each illustrating how inclusion of young persons with disabilities contributes to innovation, employment, and sustainability in the AT ecosystem.

Across the African regions, Youth engagement is most visible in community-based and faith-driven AT enterprises, with young persons with disabilities trained and employed in the production and repair of mobility devices in **West Africa**, particularly, Nigeria, Sierra Leone, Benin, and Ghana.[127,131,218,356] These models demonstrate growing youth-led, skill-based AT enterprises embedded in local social and economic systems. **East Africa** shows strong youth-driven innovation and technical capacity-building, with young persons with disabilities engaged in AT repair, production, adaptation, and co-design in Ethiopia, Uganda, and Kenya.[86,88,91,187,242] Youth increasingly function as innovators and service providers, strengthening community-level AT sustainability. **Southern Africa** demonstrates more structured vocational inclusion, where young persons with disabilities participate in formal training and employment within AT workshops and public repair program s in Zambia, Zimbabwe, Lesotho, and South Africa.[93,159,164,165] This reflects a transition from informal production to certified technical professions.

In **Central and North Africa,** youth inclusion remains largely developmental, with young persons with disabilities involved mainly in consultations, rehabilitation-linked training, and small-scale production in the DRC and Algeria, but with limited capacity for scaling.[364,379] **Across regions,** young persons with disabilities are emerging as digital AT innovators and entrepreneurs, founding technology-driven initiatives in hearing access, navigation, and accessibility, supported by growing global recognition of co-design and repair ecosystems.[179,186]

Table 9.1.1: Categories of Youth Roles in AT Manufacturing and Repair Across Africa

Category of Role	Representative Countries / Examples	References
Manufacturers / Technicians	**Nigeria** – Beautiful Gates Handicrafts Nigeria; **Zambia** – Association for the Provision of Technical Rehabilitation Services (APTERS); **Zimbabwe** – Jairos Jiri Association; **Ethiopia** – Addis Guzo	*Disability Inclusion in Nigeria (2020)*[127]; *AT Capacity – Zambia (2022)*[93]; *AT Capacity – Zimbabwe (2022)*[164]; *Addis Guzo Report (2024)*[88]
Repairers / Service Providers	**Sierra Leone** – Ministry of Health & Sanitation Orthopedic Workshops; **Uganda** – National Orthopedic Workshops & Regional Rehabilitation Centers; **South Africa** – Provincial assistive device repair and rehabilitation workshops	*Priority AT Products List of Sierra Leone (2021)*[356]; *rATA Uganda (2023)*[91]; *White Paper (2023)*[165]
Entrepreneurs / Founders	**Benin** – Handicap Prothèse; **Ghana** – Orthopedic Training Centre (OTC Ghana) and private prosthetic & orthotic enterprises; **Cross-regional** – DeafTawk; DMap	*OADCPH Report (2024)*[218]; *Donation Report – Ghana (2020)*[131]; *Digital AT Innovations (2020)*[186]
Trainees / Apprentices	**Côte d'Ivoire** – National orthopedic and rehabilitation training centers; **DRC** – National orthopedic workshops and rehabilitation training units	*Assessment of AT Capacity – Côte d'Ivoire (2024)*[247]; *AT Product List – DRC (2024)*[364]
Co-Designers / Testers	**Kenya** – University-linked Assistive Technology Live Labs and fabrication hubs; Sierra Leone – Koalaa; **Mali** – Imp&Acte3D	*Status Report – Kenya (2021)*[187]; *Koalaa Prosthetics Report (2022)*[365]; *Imp&Acte3D (2019)* [366]
Advisors / Policy Contributors	**Algeria** – National Office for Orthopedic Accessories and Equipment for Persons with Disabilities (ONAAPH); **Regional** (Africa) – WHO Regional Office for Africa (WHO AFRO)	*Algeria Victim Assistance (2025)*[379]; *Global Report on AT (2022)*[179]

9.2 Opportunities for Employment and Skills Development for Persons with Disabilities in Africa

The AT reports demonstrates that where AT, vocational training, and entrepreneurship support intersect, meaningful inclusion and income generation become achievable (Table 9.2.1). However, implementation is fragmented, with weak enforcement of employment quotas and limited private sector engagement across Africa.

East Africa shows the most diversified inclusion pathways, linking AT, vocational rehabilitation, and entrepreneurship. Ethiopia and Kenya demonstrate how AT access combined with training and digital job platforms improves employability, while Uganda highlights AT's role in work reintegration.[86–88,185,187,242,284,285] Regional program s such as *We Can Work* confirm scalable youth employability gains, though quota and loan schemes in countries like Tanzania and Mauritius remain weakly enforced.

West Africa is characterized by strong innovation but weak system integration. Ghana and Nigeria combine social protection, digital skills, and entrepreneurship, yet quota enforcement remains limited.[114,358] Community apprenticeships and AT-enabled livelihoods in Sierra Leone, Côte d'Ivoire, Benin, Mali, and Senegal support self-employment, but poor links between training, finance, and markets keep most opportunities informal.[64,218]

Central Africa relies largely on donor- and NGO-led initiatives. Cameroon and the DRC document vocational workshops in prosthetics, tailoring, and crafts, showing local ingenuity but limited scale.[138,145] Post-conflict settings such as the Central African Republic face severe livelihood loss, highlighting the absence of institutionalized employment systems.[380]

Southern Africa has relatively strong policy frameworks but persistent employment gaps. South Africa and Zimbabwe link AT and reasonable accommodation to employability, yet public-sector targets remain unmet.[164,374] Other countries emphasize AT's enabling role amid barriers such as inaccessible workplaces, limited training, and weak private-sector uptake.[90,140]

North Africa combines robust legislation with limited practical inclusion. Algeria demonstrates state-led support for professional projects benefiting persons with disabilities, while Tunisia shows that expanded quotas alone have not overcome discrimination or low hiring.[141,379] Overall, implementation gaps and social stigma constrain economic participation.

Table 9.2.1: Employment and Skills Development Opportunities for Persons with Disabilities in Africa

WHO African Region /Country	Type of Opportunity	Skills Development / Training	Reference
EAST AFRICA			
Ethiopia	Micro-enterprise & women's cooperatives	Micro-enterprise coaching and vocational training for women with disabilities.	*Addis Guzo Activity Reports (2019–2024)*[86–88,185,284,285]
Kenya	Entrepreneurship grants & digital career platform	Entrepreneurship and skills training via the Economic Empowerment Program and online career portal.	*Status Report on Disability Inclusion in Kenya (2021)*[187]
Rwanda	AT investment and work participation	Workforce inclusion through AT integration and education access.	*Assistive Technology Country Capacity Assessment – Rwanda (2019)*[197]
Tanzania	Vocational rehabilitation and business loans	Vocational rehabilitation centers and return-to-work support.	*Rehabilitation Situation in Mainland Tanzania (2020)*[275]*; Situational Analysis of the Rights of Persons with Disabilities in Tanzania (2022)*[142]
Uganda	Work re-deployment through rehabilitation	Rehabilitation-linked workforce integration and re-skilling.	*Assistive Technology Country Capacity Assessment Uganda (2020)*[62]
Mauritius	Employment quota & training enforcement	Training act implementation and employer sensitization.	*Concluding Observations on Mauritius (2024)*[381]
Regional (We Can Work)	Youth employability & life skills	Life skills, entrepreneurship, and employability training.	*Annual Report (2024)*[218]
WEST AFRICA			
Ghana	Vocational, digital & entrepreneurship training	Vocational, digital, and functional literacy training.	*Disability-Inclusive Education and Employment in Ghana (2023)*[358]

WHO African Region /Country	Type of Opportunity	Skills Development / Training	Reference
Nigeria	Employment quotas & digital jobs	Digital skills, remote work, and entrepreneurship for youth.	*Disability-Inclusive Education and Employment (2022)* [369]*; Digital Jobs for Youth with Disabilities (2021)*[114]
Sierra Leone	Apprenticeship & micro-enterprise	Skills training and micro-entrepreneurship collectives.	*Situational Analysis of the Rights of Persons with Disabilities in Sierra Leone (2022)*[132]
Liberia	AT for work and education participation	Rehabilitation and employability enhancement programs.	*Assistive Technology Country Capacity Assessment Liberia (2020)*[92]
Côte d'Ivoire	AT industry & vocational training	AT maintenance and manufacturing training.	*Assessment of Assistive Technology Capacity in Côte d'Ivoire (2024)*[247]
Senegal	Inclusive employment via AT	Sign-language and vocational training.	*Assessment of National Capacities in Assistive Technologies in Senegal (2021)*[64]
Benin	Income-generating initiatives	Orthopedic and small enterprise training.	*OADCPH Annual Report (2024)*[218]
Mali	Small business rehabilitation	Vocational reintegration via assistive devices.	*Summary of Semesterly Activities OADCPH Report (2025)*[367]
Nigeria (Investment Case)	AT for productivity and income	Work productivity and employability training via AT.	*Investment Case for Assistive Technology in Nigeria (2022)*[160]
CENTRAL AFRICA			
Cameroon	Vocational and entrepreneurship training	Vocational and entrepreneurship training initiatives.	*Situational Analysis of the Rights of Persons with Disabilities in Cameroon (2022)*[138]
Democratic Republic of the Congo	Income-generating workshops	Vocational training in production, repair, and crafts.	*Situational Analysis of the Rights of Persons with Disabilities in DRC (2022)*[145]
Central African Republic	Livelihood recovery	No structured training; need for post-conflict livelihood restoration.	*persons with disabilities Left Behind (2015)*[380]
Chad / Congo (Regional)	Inclusive enterprise collaboration	Joint training and socio-economic inclusion programs.	*OADCPH Annual Report (2024)*[218]
SOUTHERN AFRICA			
South Africa	Public sector employment & accommodation	Training on workplace adaptation and inclusion.	*Report on Provision of Reasonable Accommodation and Assistive Devices (2019)*[374]
Zimbabwe	Skills empowerment via disability boards	Institutional skills development and leadership training.	*Assistive Technology Country Capacity Assessment Zimbabwe (2022)*[164]

WHO African Region /Country	Type of Opportunity	Skills Development / Training	Reference
Malawi	AT as tool for employment participation	General employability and participation skills.	*Assistive Technology Country Capacity Assessment Malawi (2019)*[90]
Lesotho	Employment gap & need for training	Vocational inclusion programs recommended.	*Assistive Technology Capacity Assessment Lesotho (2022)*[159]
Botswana	Inclusive employment strategy	Skills inclusion and employer sensitization programs.	*Situational Analysis on the Rights of persons with disabilities in Botswana (2025)*[140]
Mozambique	Equal access to training and work	Vocational and educational access to enhance employability.	*Situational Analysis of the Rights of Persons with Disabilities in Mozambique (2023)*[143]
NORTH AFRICA			
Algeria	Professional projects & pensions	Small business and self-employment support.	*Algeria Status of Implementation – Victim Assistance (2025)*[379]
Sudan	Civil service employment quota	Legal and public-sector inclusion frameworks.	*Replies of Sudan to the List of Issues (2017)*[378]
Tunisia	Employment quotas & discrimination	Quota enforcement, vocational inclusion, and awareness training.	*Situational Analysis of the Rights of Persons with Disabilities in Tunisia (2022)*[141]

10 MANUFACTURERS INFORMATION EXTRACTED FROM ASSISTIVE TECHNOLOGY REPORTS

This section reviews **information on manufacturers and innovators documented in 20 AT reports.** It focuses on the AT manufacturers and innovators across Africa and the AT types/categories they produce.

10.1 ASSISTIVE TECHNOLOGY MANUFACTURERS AND INNOVATORS DOCUMENTED IN THE AT REPORTS ACROSS AFRICA

This section reviews evidence from 20 AT reports and finds that AT manufacturing and innovation across the WHO African Region remain heavily concentrated in mobility products, with limited but emerging diversification into vision and self-care technologies (Table 10.1.1). West Africa shows the greatest diversity and activity, driven by locally rooted initiatives such as OADCPH and Nigeria's Beautiful Gates using recycled and locally sourced materials,[127,289] while Central Africa's production remains small-scale and service-linked, particularly in the DRC.[364] East and Southern Africa demonstrate applied innovation and more mature social-enterprise models through digital fabrication, wheelchair assembly, and user-responsive production in Ethiopia, South Africa, and Zimbabwe ,[164,360,375] whereas North Africa, exemplified by Algeria's ONAAPH, reflects the most institutionalized, state-led manufacturing system with multi-category production and national reach.[379]

Table 10.1.1: AT Manufacturers and Innovators by Country and AT Type/Category

WHO region /Country	Manufacturer / Innovator	What They Make / Innovate	AT Category	Reference
WEST AFRICA				
Sierra Leone	Koalaa	Soft prosthetic arms; user-centered co-design pilots	Mobility (prosthetics)	*A Report on User Feedback of Koalaa Prosthetics*, 2022[365]
	Mobility Sierra Leone	Local production of mobility/rehab devices	Mobility	*Priority Assistive Technology Products List of Sierra Leone*, 2021[356]
	Welfare Society for the Disabled	Complementary AT production with MoHS	Mobility & self-care	*Priority Assistive Technology Products List of Sierra Leone*, 2021[356]
Nigeria	Beautiful Gates Handicapped People's Centre (Jos)	Tricycles, crutches, artificial limbs (local materials)	Mobility (wheelchairs, walking aids, prosthetics)	*Disability Inclusion in Nigeria: A Rapid Assessment*, 2020[127]
Togo	OADCPH + GIP–Togo	Walking sticks & mobility aids from recycled plastic; regional AT network	Mobility / environmental adaptation	*OADCPH Activity Report*, 2023[289]

WHO region /Country	Manufacturer / Innovator	What They Make / Innovate	AT Category	Reference
	CNAO (Lomé) & CRAO (Dapaong)	3D-printed orthoses & orthopedic devices (Imp&Acte3D pilot)	Mobility (orthoses)	*Imp&Acte3D: Introduction of 3D Printing … (West Africa)*, 2019[366]
	Rehab'Impulse (via OADCPH network)	Mobility & rehab components (distribution partnerships)	Mobility	*OADCPH Activity Report*, 2023[289]
	Lapaire Glasses (via OADCPH network)	Affordable prescription glasses (distribution partnerships)	Vision (spectacles)	*OADCPH Activity Report*, 2023[289]
Senegal	CNAO – National Center for Orthopedic Devices	National production of prosthetics & orthoses	Mobility (prosthetics & orthotics)	*Assessment of National Capacities in Assistive Technologies in Senegal (ATA-C)*, 2021[64]
Ghana	Alpha Partner Group Ltd. (Accra)	Prosthetics & orthotics fabrication and fitting	Mobility (prosthetics & orthotics)	*OADCPH Rapport de Donation – Juillet 2020*, 2020[131]
Benin	NGO "Handicape Prothese"	Local fabrication of prosthetic limbs (OADCPH network)	Mobility (prosthetics)	*OADCPH Annual Activity Report*, 2024[218]
Mali	CNAOM (Bamako)	Pilot site for 3D-printed orthoses production	Mobility (orthoses)	*Imp&Acte3D: Introduction of 3D Printing … (West Africa)*, 2019[366]
Niger	HNN (Niamey)	3D-printed orthoses pilot and fabrication site	Mobility (orthoses)	*Imp&Acte3D: Introduction of 3D Printing … (West Africa)*, 2019[366]
CENTRAL AFRICA				
Democratic Republic of the Congo	Public & NGO manufacturers	Prosthetics, orthotics, locally adapted mobility devices linked to national APL rollout	Mobility & self-care	*National List of Priority Assistive Technology Products for DRC*, 2024[364]
EAST AFRICA				
Madagascar	Mahajanga Provincial Hospital with ProsFit & Proteor SAS	3D-printed transtibial prostheses (digital fabrication trials)	Mobility (prosthetics)	*Pilot Trials of 3D Printing Technologies for Transtibial Prostheses …*, 2017[368]
Ethiopia	Addis Guzo Workshop (Gondar & Addis Ababa)	Wheelchair assembly and repair workshops supporting rehabilitation services	Mobility (wheelchairs)	*Activity Report 2021 – Addis Guzo*, 2022[87,285]
SOUTHERN AFRICA				

WHO region /Country	Manufacturer / Innovator	What They Make / Innovate	AT Category	Reference
Zimbabwe	LOREWO	Wheelchairs and mobility devices (national supplier)	Mobility (wheelchairs)	*Assistive Technology Country Capacity Assessment – Zimbabwe*, 2022[164]
	Cassims Prosthetics	Local prosthetic and orthotic fabrication	Mobility (prosthetics & orthotics)	*Assistive Technology Country Capacity Assessment – Zimbabwe*, 2022[164]
South Africa	Shonaquip Social Enterprise (SSE)	Locally designed wheelchairs and posture/seating systems – inclusive design innovation	Mobility & posture support (wheelchairs)	*Barriers to Inclusion*, 2020[375]
NORTH AFRICA				
Algeria	ONAAPH – National Office of Assistive Devices for Disabled People	Production and national distribution of assistive devices (104 branches)	Crosscutting (mobility, vision, hearing)	*Algeria Status of Implementation – Victim Assistance*, 2025[379]

KEY FINDINGS

Key Stakeholders in Africa's AT Ecosystem

1. Africa's AT ecosystem is shifting from fragmented, donor-led provision toward more coordinated multi-actor systems, but progress remains uneven across regions.
2. Ecosystem maturity is strongly associated with stakeholder diversity; regions engaging government, academia, private sector, and civil society show greater resilience.
3. East and Southern Africa demonstrate the strongest coordination, driven by academic leadership, social enterprises, and policy–practice linkages.
4. West and Central Africa remain heavily dependent on donors and faith-based actors, limiting sustainability and scale.
5. Families, community-based rehabilitation workers, and OPDs are essential access enablers but remain weakly integrated into formal systems.
6. Youth engagement and peer networks consistently improve AT relevance and uptake yet are rarely institutionalized.
7. Governments are increasingly formalizing AT policy and standards, signaling growing public-sector stewardship.
8. Regional bodies (WHO AFRO, OADCPH, ACAT) play a critical role in harmonization, training, and cross-country learning.
9. Academic institutions generate evidence and workforce capacity but are underutilized in implementation and scale-up.
10. Weak coordination across stakeholders remains a primary constraint on equitable, sustainable AT access.

Available Assistive Technology Products in Africa

1. Mobility devices dominate AT provision across Africa, reflecting both high demand and entrenched service models.
2. Vision and hearing AT are widely recognized but constrained by affordability, specialist shortages, and import dependence.

3. Communication, cognitive, and self-care AT remain systematically under-documented and under-supplied.
4. National Priority Assistive Product Lists (APLs) indicate growing government ownership and planning maturity.
5. Countries with broader APLs demonstrate more participation-oriented and life-course approaches to disability inclusion.
6. APL inclusion does not guarantee access; procurement and service delivery gaps persist.
7. Occupational therapy-related AT is least visible, reflecting workforce and infrastructure constraints.
8. AT provision remains device-centered rather than focused on participation, learning, and work outcomes.
9. Limited product diversity undermines continuity of use and long-term functionality for youth.
10. Strategic investment is needed to rebalance AT portfolios toward communication, cognition, and self-care needs.

Production, Innovation, and Sustainability of AT

1. Local AT production is concentrated in mobility and orthotics/prosthetics, aligned with existing skills and workshops.
2. East Africa hosts the most mature local production ecosystems, supported by rehabilitation workforces.
3. Small-scale manufacturing and social enterprises are emerging but remain under-capitalized.
4. Over 85–90% of AT products are imported, exposing systems to supply-chain and funding shocks.
5. Repair and maintenance underpin AT service delivery, often exceeding new device provision.
6. Reuse and refurbishment significantly reduce costs but lack consistent quality standards.
7. Digital fabrication and innovation show promise but remain largely at pilot stage.
8. Innovation is strongest in mobility AT and weakest in hearing, communication, and cognitive domains.
9. Sustainability depends more on maintenance ecosystems than on new procurement alone.
10. System resilience requires coordinated investment in production, repair, standards, and regional supply chains.

Assistive Technology Market: Need, Coverage, and Value

1. AT need across Africa is extremely high and growing yet rarely quantified or used for planning.
2. Fulfilled AT need remains critically low, typically below 25% across countries.
3. Youth-specific AT needs are particularly under-measured despite consistently lower access.
4. Weak data systems undermine procurement, financing, and accountability.
5. Most AT provision remains NGO- and donor-driven rather than publicly integrated.
6. Countries using rATA and capacity assessments show stronger planning readiness because these tools enable **co-analysis of disability prevalence and AT need**. When disability-disaggregated population data are triangulated with rATA findings, governments can estimate product-specific demand, identify unmet need, and link AT planning to health, education, and employment systems—moving from descriptive prevalence statistics to actionable system design.
7. Market value data are fragmented, limiting private-sector engagement.
8. Donor dependence remains a structural risk to sustainability.
9. Weak demand signaling discourages local manufacturing and innovation.
10. The AT market represents a major untapped opportunity for inclusive growth and youth employment.

Economic Opportunities for Youth with Disabilities

1. Young persons with disabilities increasingly participate as AT users, repairers, innovators, and entrepreneurs.

2. Repair and maintenance offer high-potential employment pathways requiring lower capital investment.
3. East Africa shows the strongest youth-driven AT innovation ecosystems.
4. Southern Africa demonstrates stronger vocational inclusion but limited job absorption.
5. West and Central Africa rely more on informal or donor-driven livelihood initiatives.
6. AT access directly enables education, skills development, and work participation.
7. Digital AT innovation creates new roles beyond fabrication and repair.
8. Weak access to finance constrains youth entrepreneurship in AT.
9. Youth leadership remains peripheral in AT governance and decision-making.
10. Stronger linkages between AT, training systems, and labor markets are essential for scale.

RECOMMENDATIONS

Short-Term Investment Priorities

1. Establish National AT Coordination and Leadership Platforms

Support government-led AT coordination mechanisms that align health, education, social development, labor, academia, OPDs, and private-sector actors around shared youth-focused priorities.

2. Strengthen Youth-Disaggregated AT Data and Planning Systems

Invest in youth-disaggregated AT data collection, digital registries, and rATA follow-up assessments linked to education, TVET, and community systems. These systems should be designed to connect with existing youth employment, disability, and labor data platforms, including initiatives aligned with the African Youth Employment Consortium (AYEC), the Disability Data Initiative (DDI), and International Labor Organization (ILO) frameworks. Such integration would enable AT need, provision, and outcomes to be tracked across education-to-work transitions, strengthening planning, accountability, and investment decisions while ensuring young persons with disabilities are visible within national development systems.

3. Institutionalize Youth Engagement and Peer-Based AT Models

Fund youth-led peer networks, co-design platforms, and mentorship models embedded within formal AT systems and service pathways.

4. Invest in Decentralized and Digitally Enabled AT Navigation and Outreach

Support digital AT information and navigation tools, mobile outreach, and community-based delivery models that reduce reliance on centralized services.

5. Quantify and articulate the value of the AT market across Africa

Support country- and regional-level market sizing, demand forecasting, and cost–benefit analyses. Developing a clear business case for AT—grounded in unmet need, demographic trends, and employment impacts—can reduce donor dependence, crowd in private-sector investment, and stimulate sustainable local production, distribution, and service ecosystems.

Medium-Term Investment Priorities

1. Rebalance AT Portfolios Toward Participation, Learning, and Work

Target investments that expand access to communication, cognitive, self-care, and digital AT critical for education, skills development, and employment.

2. Build and Capitalize Local AT Production, Repair, and Maintenance Ecosystems

Support local workshops, repair hubs, refurbishment networks, and regional supply chains through blended finance, equipment grants, and skills development.

3. De-risk and Scale AT Social Enterprises and Youth-Led Innovators

Provide patient capital, guarantees, and business development support to AT social enterprises and youth innovators, particularly in under-served AT domains.

4. **Reduce Affordability Barriers Through Integrated AT Financing Mechanisms**
   Support blended financing models that combine public funding, social protection, insurance, employer contributions, and targeted youth subsidies.

Long-Term Investment Priorities

1. **Strengthen Workforce Capacity and Academic–Implementation Linkages**
   Support universities and training institutions to deliver AT-relevant workforce training, applied research, and implementation support at scale - Academic institutions are central to long-term system resilience but are currently under-utilized beyond research roles.
2. **Explicitly Link AT Systems to Youth Employment and Labor-Market Pathways**
   Integrate AT into TVET, higher education, entrepreneurship, and employer-engagement program s, including workplace accommodation and AT-enabled job placement.

11 MANUFACTURERS AND INNOVATORS REPORT – WEBSITES

11.1 INTRODUCTION

This section provides an overview of **the AT manufacturing and innovation landscape in Africa**, drawing on a structured synthesis of data **from 42 manufacturers and innovators identified across the continent**. The organizations span North, West, East and Southern Africa and include long-established rehabilitation and manufacturing centers, emerging social enterprises, and technology-driven innovators. The analysis is based on publicly available organizational information, including websites, reports and related documentation, complemented by relevant scientific and policy literature where available.

The review examines how AT manufacturing and innovation are distributed across regions and countries, the types of assistive products being developed, and the underlying characteristics that shape production capacity, innovation maturity and sustainability. Particular attention is given to issues that influence access and equity, including business and financial models, inclusion of persons with disabilities and youth, production capacity, regulatory compliance, and the policy and market environments within which manufacturers operate. By mapping these dimensions together, the section provides insight into the strengths, gaps and emerging opportunities within Africa's AT ecosystem, and highlights where targeted investment and policy action could have the greatest impact.

This section is structured as follows, to orient the reader to the key areas of analysis covered in the report:

- **Manufacturers & Innovators Across Africa**
- **AT Products Across Africa**
- **Stage of Development of Innovators**
- **Manufacturer Manufacturers Size Analysis**
- **Income and Expenditure**
- **Inclusion of Persons with Disability**
- **Manufacturers' Production Capacity**
- **Manufacturers' Innovation Elements**
- **Manufacturers Financial Model**
- **Barriers Faced by Assistive Technology Manufacturers**
- **Key Enablers Strengthening at Manufacturers**
- **Manufacturing Linked to Young Persons with Disabilities**
- **Manufacturers' Certification/Compliance**
- **Key Findings/Messages**
- **Recommendations (For Investing in Youth)**

Together, these components provide a coherent picture of the current state of AT manufacturing and innovation in Africa, setting the foundation for the subsequent sections of the report and for evidence-informed discussion on how to strengthen equitable access to AT across the continent.

11.2 MANUFACTURERS AND INNOVATORS ACROSS AFRICA

This section presents an overview of AT manufacturers and innovators across Africa, outlining their regional and country distribution and highlighting key characteristics that shape the structure, maturity and diversity of the continental AT ecosystem.

DISTRIBUTION OF MANUFACTURERS AND INNOVATORS

A total of 42 manufacturers and innovators across Africa were identified. Regional variation in ecosystem maturity and capacity was noted and illustrated in Table 11.2.1 with strongest capacity in East Africa and the weakest in West Africa. One multi-country actor, Dot Glasses, operates across regions as an international supplier.

Table 11.2.1: Distribution of Manufacturers & Innovators in Africa

African Region	No. of Countries in Region	Specific Countries (with frequencies)	No. of Manufacturers & Innovators
East Africa	**6**	Ethiopia (4), Kenya (6), Tanzania (1), Uganda (4), Rwanda (2), Eritrea (1)	**19**
West Africa	**4**	Togo (1), Ghana (1), Nigeria (2), Sierra Leone (1)	**5**
Southern Africa	**4**	South Africa (4), Malawi (3), Zimbabwe (3), Namibia (1)	**11**
North Africa	**2**	Egypt (5), Tunisia (1)	**6**
International / Multi-country	**1**	Multiple countries (1)	**1**

DISTRIBUTION AND CHARACTERISTICS OF ASSISTIVE TECHNOLOGY MANUFACTURERS AND INNOVATORS

Table 11.2.2 below shows the distribution and characteristics of identified AT Manufacturers in Africa. East Africa hosts the most diverse and dynamic ecosystem, combining long-established manufacturers with rapidly emerging digital and hybrid AT innovators. Southern Africa shows strong fabrication heritage and institutional stability, though with a slower rate of innovation compared to East Africa, while West Africa remains the smallest and most uneven ecosystem, relying heavily on imports despite growing digital entrants. North Africa, though represented by only two countries, is highly innovation-dense with advanced design capabilities, and pan-African actors fill production gaps across regions but may inadvertently limit the development of local repair and manufacturing capacity.

Table 11.2.2: Regional Distribution and Key Characteristics of AT Manufacturers and Innovators in Africa

Region	No. of Entities / No. of Countries	Key Countries & Notable Actors	Ecosystem Characteristics
East Africa	**19 entities** across 6 countries	**Kenya:** Deaftronics (2019), Hope Tech Plus (2017), Signvrse (2023), APDK (1958) **Ethiopia:** Shonaquip Social Enterprise (1992), EraMed Pharmaceuticals PLC (2019), GAT Ethiopia (2023) **Uganda:** Wazi Vision (2016), KCDC (2014), Wheelchairs Uganda (2015) **Rwanda:** Geuza Ltd Ltd (2023), HVP Gatagara (1962)	Most active regional hub; balance of mature manufacturers and emerging innovators; strong growth in digital/hybrid AT solutions.
Southern Africa	**11 entities** across 4 countries	**South Africa:** CE Mobility (1949), Artificial Limbs Cape Town Cape Town (n.d.), Sitwell Technologies (2017) **Malawi:** MAP Malawi (1979), 500 Miles (2009), Malawi Wheels Mission (2021) **Zimbabwe:** Leonard Cheshire Disability Zimbabwe (1981), United United Bulawayo Hospitals Orthopedic Centre (n.d.) **Namibia:** Orthopedic Technical Services (2001)	Strong fabrication capacity and established manufacturing heritage; institutional depth but fewer emerging innovators compared to East Africa.
West Africa	**5 entities** across 4 countries	**Togo:** GIP–Togo (2018) **Ghana:** OTC Ghana (1961) **Nigeria:** Vinsighte (2020), Accesstech Innovation and Research Center (2023) **Sierra Leone:** Sermax Mobility–Sierra Leone (2008)	Smallest ecosystem; uneven distribution of manufacturers vs digital innovators; reliance on imported devices in some countries.
North Africa	Concentrated across 2 countries	**Egypt:** El Masry (1936), Bionic Limbs (2016), Black Android (2014), Esmany (2016), Victoria Hand Project (2015) **Tunisia:** Cure Bionics (2018)	Fewer countries represented, but high-tech and innovation-dense; strong local hubs capable of advanced AT design and production.
Pan-African / Multi-country	Cross-regional presence	Dot Glasses (2020), Sermax Mobility (2008)	Fills ecosystem gaps where local production is absent but may increase reliance on imports and weaken local repair/support capacity.

*APDK: The Association for the Physically Disabled of Kenya; GAT: Grand Assistive Technology; GIP: Green Industry Plast; KCDC: Kyaninga Child Development Centre; MAP: Malawi Against Physical Disabilities; OTC: Orthotics Training College

RISK VS RETURN PROFILE FOR AT INVESTMENT IN AFRICA

Based on the current distribution of AT manufacturers and innovators across Africa, funders should prioritize investment in East Africa as the region with the greatest growth potential due to existing advantage, systems, and market infrastructure and the strongest mix of mature manufacturers and emerging innovators, while simultaneously supporting Southern Africa to modernize and scale its well-established fabrication capacity. Targeted, catalytic investment in West Africa is essential to build new manufacturing ecosystems where capacity is weakest, offering the highest equity return if seeded early. North Africa presents an opportunity to drive

high-tech innovation and research leadership, particularly in prosthetics and advanced digital AT, while pan-African investments in supply chains, distribution networks, and cross-border product scaling will help reduce import reliance and improve equitable access across the continent. Table 11.2.3 shows the risk-return matrix for strategic investment in AT.

Table 11.2.3: The Risk-Return Matrix for Strategic Investment in AT

Region	Expected Return on Investment	Investment Risk Level	Key Drivers of Return	Primary Risk Factors	Strategic Investment Posture
East Africa	High	Medium	Large number of innovators, balanced ecosystem, strong startup pipeline, replicable innovation models	Market fragmentation, scaling beyond national borders, varied regulation	Accelerate & scale models; support cross-border expansion
Southern Africa	Medium-High	Low-Medium	Strong legacy manufacturers, stable production infrastructure, skilled workforce	Innovation momentum slower, concentrated in few countries	Modernize production + stimulate innovation integration
West Africa	Medium (Growth Upside High)	High	Young ecosystem, early-stage innovators (Nigeria), room for first-mover advantage	Very limited fabrication capacity, import reliance, sustainability risks	Catalytic capital + ecosystem seeding required
North Africa	High (Technology Yield)	Medium	Advanced prosthetics R&D, strong engineering institutions, export potential	Small number of actors, limited geographic spread	Fund R&D, scale high-tech and transfer southward
Pan-African / Multi-Country	Medium-High (Scale Leverage)	Medium	Gap-filling supply chains, immediate reach, distribution over multiple markets	Could entrench import dependency, weakens local fabrication	Co-invest alongside local capacity building conditions

The comparative distribution of local versus international AT manufacturing capacity highlights an ecosystem with clear variability and corresponding investment opportunity (Figure 11.2.1). Countries such as South Africa, Ethiopia, Kenya, Uganda and Nigeria demonstrate relatively strong local production potential, suggesting that catalytic investment in scale, quality assurance, export readiness and research–industry linkages could accelerate regional self-sufficiency. These markets reflect an existing foundation upon which expansion capital, technical skill development, and policy-aligned incentives could yield substantial value and long-term impact.

Conversely, countries with low local capacity but high international product presence—such as Mozambique, Sierra Leone, Liberia, CAR and Algeria—signal environments where ecosystem building may be more appropriate than direct manufacturing investment. In these contexts, early-stage funding could strengthen regulatory pathways, workforce training,

market mapping, and product localization rather than direct production. Central and West African markets present hybrid conditions, where balanced investment in local innovation incubation and international partnership leverage could support gradual shifts toward local production capability.

Figure 11.2.1: Comparison of Local Manufacturing Capacity and International AT Presence Across African Countries

Overall, the pattern suggests a dual investment strategy: **scale where local capacity already exists**, and **seed foundational capability where ecosystems remain thin.** A phased financing model—linking innovation, regulatory maturity, supply chain development, and cross-country distribution—may therefore offer the highest return in terms of equity, sustainability, and access for AT users across the continent.

EQUITY IN ACCESS LINKED TO REGIONAL MANUFACTURERS AND INNOVATION

The AT manufacturing and innovation landscape in Africa is unevenly distributed, shaping access, affordability, and service reliability across regions. East and Southern Africa have the strongest ecosystems, with a mix of long-standing manufacturers (e.g., CE Mobility, HVP Gatagara) and emerging innovators (e.g., Kyaro Assistive Tech, Hope Tech Plus), enabling more local production, reduced import dependency, and better alignment of products with user needs. West Africa, despite notable actors such as GIP–Togo, OTC Ghana and digital innovators like Vinsighte, has fewer manufacturers overall, limiting production capacity and increasing reliance on imported devices. North Africa, though represented by only Egypt and Tunisia, shows high-density innovation clusters—such as Cure Bionics and Bionic Limbs - demonstrating how concentrated hubs can strengthen regional access but also leave neighboring countries underserved. International suppliers (e.g., Dot Glasses, Sermax Mobility) help fill immediate gaps but do not consistently contribute to sustainable local capacity. Overall, strengthening regional manufacturing networks, supporting innovators to scale into production, and fostering cross-country collaboration are critical to improving equitable AT access across the continent.

GROWTH TRAJECTORY OF AT MANUFACTURERS AND INNOVATORS IN AFRICA

The establishment timeline of AT manufacturers in Africa shows gradual development over several decades, followed by a sharp acceleration in the past ten years. Early pioneers—such as El Masry (1936), CE Mobility (1949) and APDK (1958)—formed the initial base of rehabilitation and mobility services. Growth remained modest until the 2000s, after which new entities began to emerge more consistently, including Motivation Kenya (2003), Motivation Uganda (2004) and 500 Miles Malawi (2009).

The most significant expansion occurred between 2016 and 2023, when more than half of all known manufacturers were established. This period includes both hardware producers (e.g., Hope Tech Plus 2017, Cure Bionics 2018, GAT Ethiopia 2023) and digital/innovation-led entrants (e.g., Vinsighte Nigeria 2020, Signvrse Kenya 2023). The peaks in 2019–2023 indicate accelerated investment, entrepreneurship and increased recognition of AT demand.

Overall, the trend reflects a shift from slow foundational growth to a rapidly diversifying ecosystem, suggesting that Africa's AT sector is entering a phase of scale, innovation and market expansion (Figure 11.2.2).

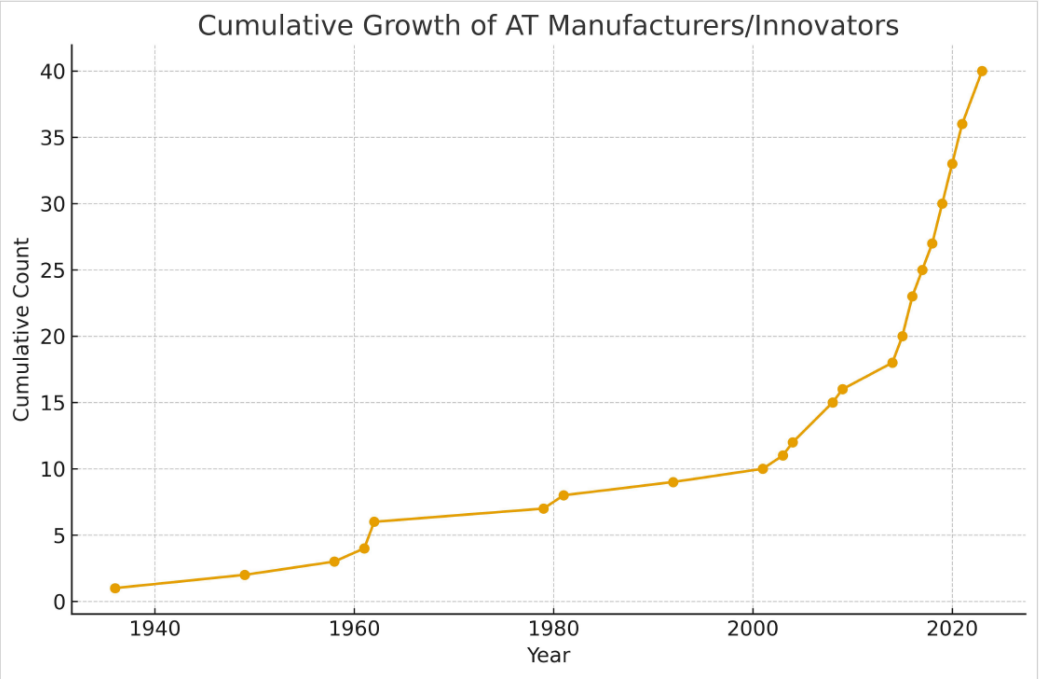


Figure 11.2.2: Cumulative Increase in AT Manufacturers and Innovators Over Time

11.3 ASSISTIVE TECHNOLOGY PRODUCTS ACROSS AFRICA

ASSISTIVE TECHNOLOGY TYPES ACROSS AFRICAN REGIONS

The distribution of AT types across African regions reveals both the diversity and the uneven maturity of the continent's AT ecosystem (Table 11.3.1).

Mobility-related technologies dominate overwhelmingly for almost all manufacturers in the dataset. This pattern reflects historic investment in mobility devices as the foundational AT category, but it also highlights a narrowness in the market with significantly fewer actors

producing or innovating in areas such as communication, hearing, cognitive support, or advanced digital AT. Vision and self-care AT show moderate but growing representation. However, cognitive AT and communication tools remain severely underrepresented, indicating unmet needs for youth, students, and young adults with disabilities who require tools for learning, communication, and participation.

Regional disparities also shape the landscape. Countries with long-standing rehabilitation infrastructure, such as South Africa, Kenya, Ethiopia, Uganda, and Zimbabwe, appear across multiple AT categories, showing stronger capacity for manufacturing, repair, and innovation. In contrast, countries with fewer actors appear only in mobility or self-care AT. The presence of multi-country or global players in vision and mobility AT expands geographic reach but does not necessarily translate to strong local ecosystems or sustained capacity building.

Overall, Table 11.3.1 illustrates an AT ecosystem still in an early stage of diversification. Mobility AT remains the entry point for most manufacturers, while areas critical to young persons with disabilities, such as communication, learning, and digital participation, lag behind. This imbalance represents a strategic opportunity: by investing in emerging AT categories, strengthening regional manufacturing networks, and supporting youth-focused innovation, Africa can build a more inclusive, responsive, and future-ready AT ecosystem.

Table 11.3.1: Assistive Technology Types Across African Regions & Countries

AT Type	Countries	AT Products	Frequency (%) of manufacturers / innovators	References
Mobility	Eritrea, Ethiopia, Kenya, Rwanda, Tanzania, Uganda, Egypt, Tunisia, Malawi, Namibia, South Africa, Zimbabwe, Ghana, Nigeria, Sierra Leone, Togo	Wheelchairs, walkers, tricycles, prosthetics, orthotics, crutches, canes, postural seating	**41 (97.6%)**	Sermax Mobility–Eritrea (2008); Cheshire Ethiopia (1962); EPOS (2021); APDK Kenya (1958); Motivation Uganda (2004); Kyaro Tanzania (2021); Victoria Hand Project Egypt (2015); Cure Bionics Tunisia (2018); MAP Malawi (1979); OTS Namibia (2001); CE Mobility SA (1949); LCD Zimbabwe (1981); OTC Ghana (1961); – (2008); GIP–Togo (2018)
Vision	Ethiopia, Kenya, Uganda, Egypt, Nigeria, Multi-country	Navigation devices, screen readers, smart eyewear, adjustable eyeglasses	**7 (16.7%)**	Hope Tech Plus Kenya (2017); Wazi Vision Uganda (2016); Black Android Egypt (2014); Dot Glasses (2020); Vinsighte Nigeria (2020)
Hearing	Kenya, South Africa	Solar-powered hearing aids, hearing assessment platforms	**2 (4.8%)**	Deaftronics Kenya (2019); hearX/Lexie SA (2020)
Commu-nication	Kenya, Egypt, Nigeria	Sign-language AI tools, speech-to-text, accessible digital communication systems	**3 (7.1%)**	Signvrse Kenya (2023); Esmany Egypt (2016); Vinsighte Nigeria (2020)

AT Type	Countries	AT Products	Frequency (%) of manufacturers / innovators	References
Self-care	Ethiopia, Kenya, Tanzania, Uganda, Egypt, Tunisia, Malawi, Namibia, South Africa, Zimbabwe, Ghana, Sierra Leone	Bathing aids, commodes, ADL tools, transfer supports, feeding devices	**16 (38.1%)**	Shonaquip Ethiopia (1992); APDK Kenya (1958); Kyaro Tanzania (2021); Motivation Uganda (2004); Esmany Egypt (2016); Cure Bionics Tunisia (2018); 500 Miles Malawi (2009); OTS Namibia (2001); Sitwell Technologies (2017); Sermax Mobility–Zimbabwe (2008); OTC Ghana (1961)
Cognition	Nigeria	Dyslexia tools, ADHD learning support, digital reading support	**1 (2.4%)**	Accesstech Innovation and Research Center Nigeria (2023)
Seating/ Positioning	Ethiopia, South Africa, Zimbabwe	Special seating systems, posture-support chairs	**5 (11.9%)**	Shonaquip Ethiopia (1992); Sitwell Technologies (2017); LCD Zimbabwe (1981)

*APDK: The Association for the Physically Disabled of Kenya; EPOS: Ethiopian Prosthetic and Orthotic Service; GAT: Grand Assistive Technology; GIP: Green Industry Plast; LCD: Leonard Cheshire Disability; MAP: Malawi Against Physical Disabilities; OTC: Orthotics Training College; OTS: Orthopedic Technical Services

POLICY IMPLICATIONS FOR EXPANDING ASSISTIVE TECHNOLOGY ACCESS IN AFRICA

The variation in AT product types across African countries highlights critical policy priorities for improving equitable access.

Regions with strong mobility manufacturing capacity can benefit from policies that strengthen local production, harmonize quality standards, and integrate AT into national financing systems. Countries with emerging innovators in vision, communication, and prosthetics require supportive regulatory environments, R&D incentives, and access to regional markets to scale new solutions. The limited availability of hearing and cognitive AT signals a need for targeted investment in underserved areas, alongside strategic import policies.

Strengthening national AT needs assessments, workforce capacity, and community distribution systems will be essential to translate growing manufacturing and innovation into meaningful improvements in independence and participation for persons with disabilities across the continent.

11.4 STAGE OF DEVELOPMENT OF INNOVATORS

REGIONAL PATTERNS IN INNOVATION MATURITY AND GROWTH

The regional distribution of AT actors across Africa reveals clear differences in ecosystem maturity and growth potential (Figure 11.4.1). East Africa stands out as the most developed and dynamic ecosystem, with manufacturers represented across all stages, prototype, production, and scaling, indicating a strong pipeline from innovation to market-ready solutions. North and Southern Africa also show relatively balanced ecosystems, each containing a mix

of legacy manufacturers and newer innovators that have progressed to scaling. In contrast, West Africa has fewer AT actors overall and limited production capacity, suggesting barriers to local manufacturing and a heavier reliance on small-scale innovators.

The presence of only one pan-African scaling manufacturer highlights the fragmentation of the continental market and the limited number of entities achieving cross-country reach.

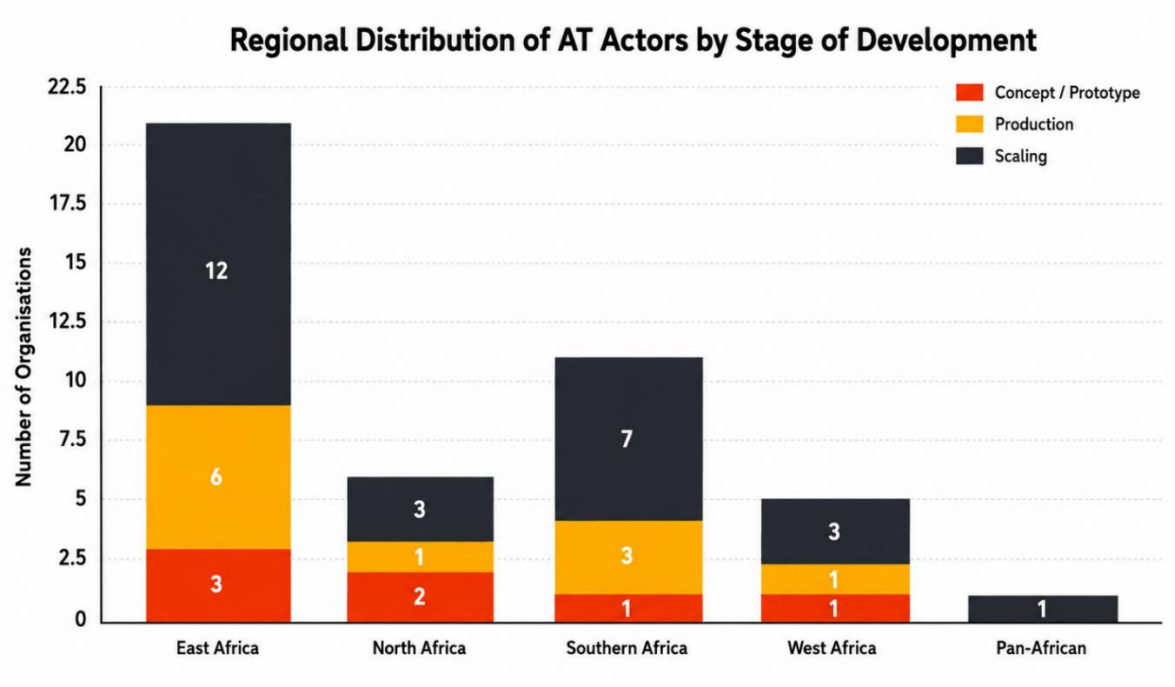


Figure 11.4.1: Regional Comparison of Assistive Technology Innovators by Stage of Development (Concept, Production, and Scaling)

Table 11.4.1 below highlights substantial regional differences in the maturity of Africa's AT ecosystem, with East Africa demonstrating the strongest pipeline from early prototyping to scaling, supported by a large and diverse set of manufacturers. North and Southern Africa also show relatively advanced ecosystems, combining long-standing manufacturers with emerging high-tech innovators, while West Africa remains comparatively underdeveloped, with fewer manufacturers and limited production capacity. These disparities underscore the need for region-specific investment strategies that strengthen early-stage innovation, expand production capabilities, and enable more manufacturers to reach scalable, sustainable impact across the continent.

Table 11.4.1: Regional Overview of Assistive Technology Manufacturers and Innovators by Stage of Development (Concept, Production, and Scaling)

Country	Manufacturer (Year)	Stage of Development
EAST AFRICA (20 manufacturers across 6 countries)		
Eritrea	Sermax Mobility–Eritrea (2008)	Scaling
Ethiopia	CE Mobility (1962)	Production
	EraMed (2019)	Production
	EPOS (2021)	Production
	Shonaquip Ethiopia (1992)	Scaling
	AT4D (2019)	Concept/Prototype
Kenya	APDK (1958)	Scaling
	Motivation Kenya (2003)	Scaling
	Hope Tech Plus (2017)	Scaling
	Signvrse (2023)	Concept/Prototype
	Deaftronics (2019)	Concept/Prototype
	AT4D Kenya (2019) *	*(Included under AT4D above if single entity; if separate Kenya node, assign Concept/Prototype)*
Rwanda	Geuza Ltd (2023)	Concept/Prototype
	HVP Gatagara (1962)	Scaling
Tanzania	Kyaro Assistive Tech (2021)	Scaling
Uganda	Motivation Uganda (2004)	Scaling
	KCDC – Kyaninga Child Development Centre (2014)	Scaling
	Wazi Vision (2016)	Scaling
	Wheelchairs Uganda (2015)	Scaling
NORTH AFRICA (6 manufacturers across 2 countries)		
Egypt	El Masry (1936)	Scaling
	Black Android (2014)	Concept/Prototype
	Esmany (2016)	Scaling
	Bionic Limbs (2016)	Concept/Prototype
	Victoria Hand Project Egypt site (2015)	Pilot
Tunisia	Cure Bionics (2018)	Scaling
SOUTHERN AFRICA (11 manufacturers across 4 countries)		
Malawi	MAP – Malawi Against Physical Disability (1979)	Production
	500 Miles (2009)	Scaling

Country	Manufacturer (Year)	Stage of Development
	Malawi Wheels Mission (2021)	Concept/Prototype
Namibia	OTS Namibia (2001)	Production
South Africa	CE Mobility (1949)	Production
	Artificial Limbs Cape Town (n.d.)	Scaling
	hearX / Lexie (2020)	Scaling
	Sitwell Technologies (2017)	Scaling
Zimbabwe	Leonard Cheshire Disability Zimbabwe (1981)	Scaling
	Sermax Mobility–Zimbabwe (2008)	Scaling
	UBH Orthopedic Centre – (n.d.)	Scaling
WEST AFRICA (5 manufacturers across 4 countries)		
Ghana	OTC Ghana (1961)	Production
Nigeria	Vinsighte (2020)	Scaling
	Accesstech Innovation and Research Center (2023)	Concept/Prototype
Sierra Leone	Sermax Mobility–Sierra Leone (2008)	Scaling
Togo	GIP–Togo (2018)	Scaling
Total = 5 manufacturers (1 Prototype + 1 Production + 3 Scaling)		
PAN-AFRICAN (1 manufacturer)		
Multi-country	Dot Glasses (2020)	Scaling

*APDK: The Association for the Physically Disabled of Kenya; AT4D: Assistive Technologies for Disability Trust; EPOS: Ethiopian Prosthetic and Orthotic Service; GIP: Green Industry Plast; HVP: Home de la Vierge des Pauvres; KCDC: Kyaninga Child Development Centre; MAP: Malawi Against Physical Disabilities; OTC: Orthotics Training College; UBH: United Bulawayo Hospitals; VHP: Victoria Hand Project

Across the continent, AT manufacturers are active in all regions, with most manufacturers concentrated in East and Southern Africa. East Africa shows the largest number of scaling manufacturers, indicating a relatively mature innovation landscape, while North Africa has a smaller cluster progressing from early prototypes to scaling. Southern Africa demonstrates strong production and scaling capacity, reflecting long-established manufacturers and newer innovators. West Africa and Pan-African actors are fewer but show growing momentum, with several manufacturers already operating at scaling stage.

REGIONAL INSIGHTS INTO ASSISTIVE TECHNOLOGY MANUFACTURING AND INNOVATION CAPACITY

East Africa: Mature Ecosystem with Active Innovation Pipeline

East Africa has the widest distribution of manufacturers across all development stages, with a strong concentration of scaling manufacturers. Long-standing producers such as Cheshire

Ethiopia and APDK underpin a mature ecosystem, while newer innovators like GAT and Signvrse demonstrate ongoing prototype activity. Countries such as Kenya and Uganda show a balanced mix of legacy production capacity and emerging actors moving steadily toward scaling.

Southern Africa: Deep Manufacturing Roots and Strong Scaling Capacity

Southern Africa hosts several of the continent's most established manufacturers—such as CE Mobility and Leonard Cheshire Disability Zimbabwe—reflecting decades of rehabilitation service infrastructure. The region shows a high number of scaling-stage manufacturers, supported by both historic institutions and newer entrants like Sitwell Technologies. This pattern suggests a stable, well-developed ecosystem with strong potential for further expansion.

North Africa: Emerging Innovators with Select Experienced Actors

North Africa presents a mix of prototype, pilot, and scaling manufacturers, indicating an ecosystem still in development. Early-stage actors in Egypt are complemented by established scaling manufacturers such as El Masry and the Victoria Hand Project. Tunisia's Cure Bionics stands out as a rapidly growing scaling-stage innovator with strong regional potential.

West Africa: Smaller but Growing Innovation Landscape

West Africa hosts fewer manufacturers overall, but several operate at production or scaling levels, anchored by long-running institutions like Ghana's Orthopedic Training Center. Nigeria's newer entrants, including Accesstech Innovation and Research Center and Vinsighte, point to a growing innovation pipeline, while Sierra Leone and Togo provide additional scaling and prototype activity respectively.

Pan-African Actors: Scaling Through Multi-Country Distribution

Dot Glasses represents a continental scaling model that expands through regional distribution rather than domestic manufacturing, offering a distinct approach to increasing AT availability.

Continental Pattern: Strong Scaling Presence with Ongoing Early-Stage Innovation

Across Africa, most manufacturers operate at the scaling stage, demonstrating growing AT availability and maturing ecosystems. Persistent prototype activity—particularly in East and North Africa—shows active innovation pipelines. Countries with long-established rehabilitation institutions tend to host stronger production and scaling capacity, while newer innovators reflect substantial potential for future growth.

POLICY IMPLICATIONS FOR ASSISTIVE TECHNOLOGY ACCESS BY AFRICAN REGION AND COUNTRY

The distribution of AT manufacturers across Africa reveals distinct regional opportunities for policy action. **East Africa's strong cohort of scaling manufacturers** demonstrates readiness for government-led expansion through public procurement, reimbursement mechanisms, and enforcement of quality standards, while its active prototype pipeline highlights the need for innovation-friendly regulation and early-stage financing. **Southern Africa's mature manufacturing base** suggests that regional supply-chain development, cross-border regulatory harmonization, and integration of AT into insurance schemes would accelerate access, complemented by targeted technical support for newer firms. **North Africa's mixed landscape**, with both early-stage innovators and established scaling

manufacturers, calls for dual policies that strengthen R&D and evaluation capacity while bringing proven products into formal benefits packages and procurement pathways. **West Africa's smaller but strategically important ecosystem** would benefit from AT-specific financing within UHC reforms, supportive tax and import policies, and investment in innovation hubs to help newer manufacturers reach scale.

Across all regions, the predominance of scaling-stage actors signals an opportunity for governments to move beyond fragmented pilots toward coherent national AT program s. Clearer regulatory pathways, stable financing, and strategic use of procurement to leverage established manufacturers are critical steps to expanding equitable and sustainable AT access continent-wide.

11.5 MANUFACTURERS SIZE ANALYSIS

SIZE OF MANUFACTURERS IN THE AFRICAN ASSISTIVE TECHNOLOGY SECTOR

The size of AT manufacturers and innovators across Africa varies greatly, reflecting the diversity of business models, resources, and stages of manufactural development in the sector. The dataset of 42 manufacturers shows a mix of micro start-ups with fewer than ten staff, small and growing enterprises, medium-sized NGOs and rehabilitation centers, and a small number of large manufacturers with extensive national or multi-country operations.

Micro and small manufacturers dominate the landscape (Figure 11.5.1), especially among newer innovators such as Geuza Ltd (2023) in Rwanda, Vinsighte (2020) in Nigeria, and Hope Tech Plus (2017) in Kenya. Medium-sized providers tend to be long-established service institutions and rehabilitation centers, including HVP Gatagara (1962) in Rwanda, MAP (1979) in Malawi, and OTC Ghana (1961).

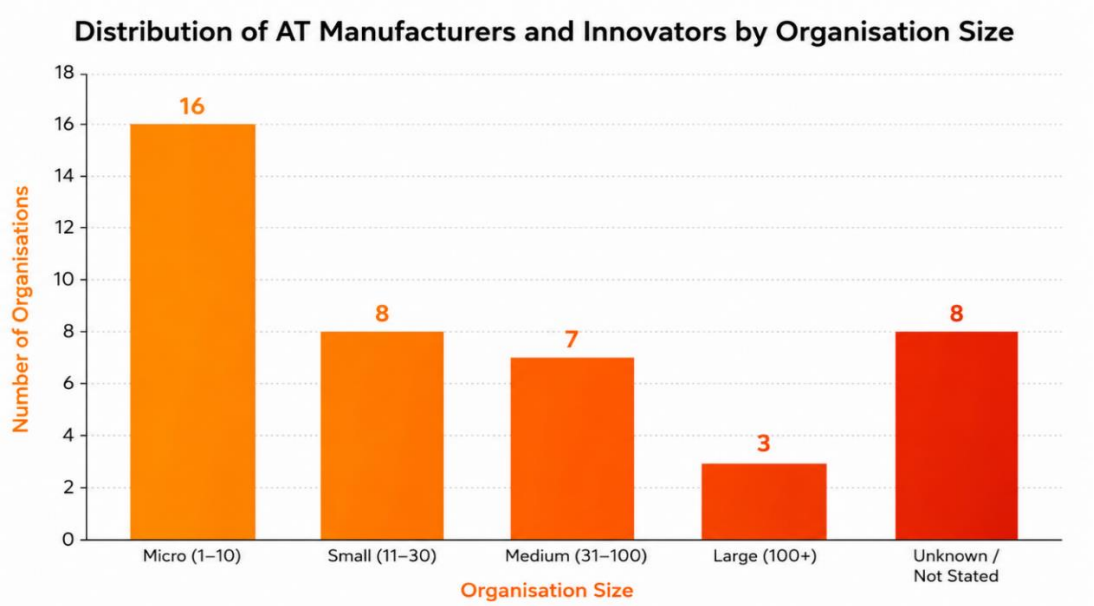


Figure 11.5.1: Size Distribution of Assistive Technology Manufacturers and Innovators Across Africa

Only a few manufacturers operate on a large scale, like APDK Kenya (1958), CE Mobility South Africa (1949), and Rearmed Ethiopia (2019). Table 11.5.1 provides more detail regarding the size of specific manufacturers.

Table 11.5.1: Size of Manufacturers in the African AT Sector

African Region	Country (No. of Manufacturers)	Size Category (Manufacturers)	Frequency (No. of Manufacturers)
East Africa	Eritrea (1)	Micro: (Sermax Mobility–Eritrea)	1
	Ethiopia (5)	Micro: (GAT Ethiopia 2023) Small: (Cheshire Ethiopia 1962) Medium: (Shonaquip 1992) Large: (EraMed 2019) Unknown: (EPOS 2019)	1 micro 1 small 1 medium 1 large 1 unknown
	Kenya (6)	Micro: (AT4D 2019; Deaftronics 2019; Hope Tech Plus 2017; Signvrse 2023) Small: Motivation Kenya (2003) Large: (APDK Kenya 1958)	4 micro 1 small 1 large
	Rwanda (2)	Micro: Geuza Ltd 2023 Medium: (HVP Gatagara 1962)	1 micro 1 medium
	Tanzania (1)	Small: (Kyaro Assistive Tech 2021)	1 small
	Uganda (4)	Micro: (Wazi Vision 2016) Small: Motivation Uganda (2004) Medium: (Wheelchairs Uganda 2015) Large: (KCDC 2014)	1 micro 1 small 1 medium 1 large
North Africa	Egypt (5)	Micro: (Bionic Limbs 2016; Black Android 2014; Victoria Hand Project) Small: (Esmany 2016) Large: (El Masry 1936)	3 micro 1 small 1 large
	Tunisia (1)	Small: (Cure Bionics 2018)	1 small
Southern Africa	Malawi (3)	Micro: (Malawi Wheels Mission 2021; 500 Miles 2009) Medium: (MAP 1979)	2 micro 1 medium
	Namibia (1)	Medium: (OTS Namibia 2001)	1 medium
	South Africa (4)	Micro: (Artificial Limbs Cape Town n.d.; Sitwell Technologies 2017) Medium: (hearX/Lexie 2020) Large: (CE Mobility 1949)	2 micro 1 medium 1 large
	Zimbabwe (3)	Medium: (LCD Zimbabwe 1981; UBH Orthopedic Centre n.d.) Small: (Sermax Mobility–Zimbabwe 2008)	2 medium 1 small
West Africa	Ghana (1)	Medium: (OTC Ghana 1961)	1 medium
	Nigeria (2)	Micro: (Vinsighte 2020; Accesstech Innovation and Research Center 2023)	2 micro
	Sierra Leone (1)	Small: (Sermax Mobility–Sierra Leone 2008)	1 small
	Togo (1)	Medium: (GIP–Togo 2018)	1 medium
Pan-African	Multi-country (1)	Micro/Small: (Dot Glasses 2020)	1

*APDK: The Association for the Physically Disabled of Kenya; AT4D: Assistive Technologies for Disability Trust; EPOS: Ethiopian Prosthetic and Orthotic Service; GAT: Grand Assistive Technology; GIP: Green Industry Plast; HVP: Home de la Vierge des Pauvres; KCDC: Kyaninga Child Development Centre; LCD: Leonard Cheshire Disability; MAP: Malawi Against Physical Disabilities; OTC: Orthotics Training College; OTS: Orthopedic Technical Services; UBH: United Bulawayo Hospitals

IMPLICATIONS FOR ASSISTIVE TECHNOLOGY ACCESS AND EMPLOYMENT OPPORTUNITIES LINKED TO MANUFACTURER SIZE

The size distribution of AT manufacturers and innovators in Africa has direct implications for both AT access and employment creation. Micro and small enterprises drive innovation and local problem-solving but often struggle to scale, highlighting the need for targeted support such as start-up financing, business development services, and streamlined product approval. Medium-sized institutions provide essential stability and national service capacity, while the few large manufacturers fulfil high-volume needs—underscoring the importance of industrial policies that enable scaling and attract investment into high-capacity production. Linking AT manufacturing to employment pathways, particularly for youth and persons with disabilities, offers an opportunity to strengthen both economic inclusion and the resilience of AT supply across the continent.

11.6 INCOME AND EXPENDITURE

OVERVIEW OF FINANCIAL TRANSPARENCY IN THE AT SECTOR

Financial reporting among Africa's AT manufacturers and innovators is limited (Table 11.6.1), with only a small proportion of the 42 manufacturers publishing annual income or expenditure figures. The manufacturers that do disclose financial data are concentrated in countries with stronger donor requirements or formal transparency standards. East Africa has the highest number of reporting entities, while West Africa, North Africa and Southern Africa show minimal or no disclosure. Income figures are more commonly reported than expenditure, and only a few manufacturers—such as the Orthopedic Training Center in Ghana, Kyaro Assistive Tech in Tanzania, and the Victoria Hand Project in Egypt—provide both. Overall, the lack of consistent financial reporting constrains assessment of manufactural scale, stability and long-term sustainability across the African AT sector.

Table 11.6.1: Manufacturers with Reported Income and Expenditure Data by Region and Country

Region (Total with Financial Data)	Country	Country Count	Available Income Data	Expenditure Data
EAST AFRICA (5)	Kenya	2	Yes (Deaftronics, Hope Tech Plus)	Yes (Hope Tech Plus)
	Ethiopia	2	Yes (EPOS, Sermax Mobility–Eritrea page)	No
	Tanzania	1	Yes (Kyaro Assistive Tech)	Yes (Kyaro Assistive Tech)
	Uganda	0	No	No
	Rwanda	0	No	No
WEST AFRICA (1)	Ghana	1	Yes (OTC Ghana)	Yes (OTC Ghana)
	Nigeria	0	No	No
	Togo	0	No	No
	Sierra Leone	0	No	No

Region (Total with Financial Data)	Country	Country Count	Available Income Data	Expenditure Data
NORTH AFRICA (1)	Egypt	1	Yes (Victoria Hand Project)	Yes (Victoria Hand Project)
	Tunisia	0	No	No
SOUTHERN AFRICA (0)	Malawi	0	No	No
	South Africa	0	No	No
	Zimbabwe	0	No	No
	Namibia	0	No	No

* OTC: Orthotics Training College

MANUFACTURERS' INCOME

Table 11.6.2 shows that only a small group of manufacturers across Africa report numeric income figures, and these are concentrated in a few countries. East Africa has the highest number, with Kenya, Ethiopia and Tanzania each hosting multiple manufacturers that disclose annual revenue or public budget allocations. These include established entities such as Shonaquip (1992) and EPOS (2021), as well as younger innovators like Kyaro Assistive Tech (2021).

West Africa is represented only by the Orthopedic Training Center in Ghana (1961), which reports a substantial and well-documented income for 2020. North Africa has one reporting manufacturer, the Victoria Hand Project (2015), with moderate annual income supported mainly by grants and partnerships.

Overall, the distribution highlights significant differences in financial transparency across regions. Countries with stronger donor engagement, public funding streams or established reporting systems are more likely to publish income data, while many others operate without publicly available financial information.

Table 11.6.2: Income Data by African Region and Country (Only Manufacturers with Income Data)

Region (No. of Countries with Income Data)	Country (No. of Manufacturers with Income Data)	Manufacturer (Year)	Income Data
West Africa (1)	**Ghana (1)**	Orthopedic Training Center – OTC Ghana (1961)	GH¢5,006,267 in 2020
East Africa (4)	**Kenya (2)**	Deaftronics (2019)	USD 750,000 in 2023; USD 250,000 in 2020
		Hope Tech Plus (2017)	Approx. USD 50,000 total (≈USD 16.7k–25k per year)
	Ethiopia (3)	Shonaquip – Ethiopia operations (1992)	ZAR 17.3 million in FY 2023/24

Region (No. of Countries with Income Data)	Country (No. of Manufacturers with Income Data)	Manufacturer (Year)	Income Data
		Sermax Mobility–Eritrea (2008)	USD 1–2 million annual revenue
		EPOS – Ethiopian Prosthetic and Orthotic Service (2021)	ETB ~0.29 billion (2023/24 allocation)
	Tanzania (1)	Kyaro Assistive Tech (2021)	USD 130,000 (2022); USD 102,809 (2023); USD 129,773 (2024)
North Africa (1)	**Egypt (1)**	Victoria Hand Project – (2015)	CAD 160,370 (2022); CAD 53,301 (2021)

*EPOS: Ethiopian Prosthetic and Orthotic Service; OTC: Orthotics Training College

Overall, income reporting across the sector is uneven, with most detailed disclosures concentrated in East Africa. The available figures indicate a mix of funding models—from government allocations and donor-supported program s to commercial and hybrid social-enterprise revenue—which shape each manufacturer's scale and capacity for AT production.

The income data reveals substantial variation in financial scale and transparency among assistive-technology manufacturers in Africa, underscoring the need for stronger reporting standards to support informed policymaking and sector planning. Countries where manufacturers disclose more detailed income—such as Ethiopia and Kenya—tend to have clearer public financing mechanisms or active donor ecosystems, illustrating the value of formalised funding models for strengthening manufacturing capacity. The modest income levels of emerging innovators further highlight the challenges faced by early-stage enterprises in achieving commercial viability, pointing to the need for targeted grants, innovation financing and tax incentives. The data also indicates that government-linked entities benefit from more predictable funding, while small social enterprises rely heavily on grants or sporadic sales. Overall, improved disclosure, structured procurement frameworks and supportive financing environments could enhance sustainability, expand access to assistive products and stimulate local innovation and job creation across the region.

MANUFACTURERS EXPENDITURE

Expenditure reporting is extremely limited across the 42 manufacturers reviewed, with only three publishing numeric annual spending figures (Table 11.6.3). Ghana's Orthopedic Training Centre, Tanzania's Kyaro Assistive Tech and the Victoria Hand Project in Egypt are the only manufacturers providing detailed expenditure data, reflecting either donor-linked reporting requirements or formalised financial systems. Their disclosures show modest but transparent operating budgets, in contrast to most manufacturers, which report costs only narratively without numerical totals. This lack of standardized expenditure reporting limits meaningful comparison of manufactural scale and financial sustainability across the African AT sector.

Table 11.6.3: Expenditure Data by African Region and Country (Only Manufacturers with Income Data)

Region (No. of Countries with Expenditure Data)	Country (No. of Manufacturers with Expenditure Data)	Manufacturer (Year)	Expenditure Data
West Africa (1)	**Ghana (1)**	Orthopedic Training Center – OTC Ghana (1961)	GH¢4,228,696 in 2020
East Africa (1)	**Tanzania (1)**	Kyaro Assistive Tech (2021)	USD 104,793 in 2023; USD 107,301 in 2024
North Africa (1)	**Egypt (1)**	Victoria Hand Project – (2015)	CAD 136,081 in 2022; CAD 111,203 in 2021

* OTC: Orthotics Training College

11.7 INCLUSION OF PEOPLE WITH DISABILITY

HOW MANUFACTURERS INVOLVE PERSONS WITH DISABILITIES

The review of 42 AT manufacturers and innovators across Africa shows that manufacturers include persons with disabilities in different ways, with varying depth and consistency (Table 11.7.1). A small group offers direct employment opportunities, including GIP–Togo (2018), Shonaquip.

(1992), Deaftronics (2019), Signvrse (2023), Kyaninga Child Development Centre (2014), Accesstech Innovation and Research Center Nigeria (2023) and Cure Bionics (2018), where persons with disabilities hold technical, production, leadership or advisory roles. Others demonstrate indirect involvement through vocational program s or user engagement in testing and co-design, as seen in APDK (1958), Motivation Kenya (2003), and Kyaro Tanzania (2021).

The largest portion of manufacturers reflect inclusion through service delivery, rehabilitation and access to mobility or vision devices, such as OTC Ghana (1961), MAP Malawi (1979), Malawi Wheels Mission (2021), and Vinsighte Nigeria (2020). A smaller number promote inclusion at a systems level by supporting entrepreneurs or developing accessible digital tools, including AT4D Kenya (2019), Dot Glasses (2020), Black Android (2014) and Esmany (2016).

Table 11.7.1: Manufacturers' Inclusion of People with Disability by African Region and Country

African Region	Country	Category of Inclusion (Manufacturers)	Count	Inclusion of People with Disabilities
EAST AFRICA	Tanzania, Kenya, Uganda	Co-Design (Kyaro 2021; Hope Tech Plus 2017; Kyaninga Child Development Centre 2014; Motivation Uganda 2004	4	Persons with disabilities involved in testing, design adaptation and real-world prototype trials.
	Ethiopia, Kenya, Uganda	Direct Employment (Shonaquip 1992; Deaftronics 2019; Signvrse 2023; Kyaninga Child Development Centre 2014; GAT 2023)	5	Persons with disabilities employed as technicians, interpreters, testers, designers, and trainers.

African Region	Country	Category of Inclusion (Manufacturers)	Count	Inclusion of People with Disabilities
	Kenya	Ecosystem Inclusion (AT4D 2019; Hope Tech Plus 2017)	2	Inclusive innovation and workplace accessibility advocacy.
	Kenya, Uganda	Implied Inclusion (APDK 1958; Motivation Kenya 2003; Kyaninga Child Development Centre 2014)	3	Vocational workshops and co-design activities suggest persons with disabilities involvement.
	Ethiopia, Uganda	Service Inclusion (EPOS 2021; Motivation Uganda 2004; Wheelchairs Uganda 2015)	3	Rehabilitation centers, AT access and outreach.
	Rwanda	Service Inclusion (HVP Gatagara 1962)	1	Disability-centered health and rehabilitation program s.
NORTH AFRICA	Egypt, Tunisia	Co-Design (Victoria Hand Project 2015; Cure Bionics 2018)	2	persons with disabilities engaged in feedback loops, testing, and user-driven design.
	Tunisia	Direct Employment (Cure Bionics 2018)	1	Staff with limb differences employed in design and branding roles.
	Egypt	Ecosystem Inclusion (Black Android 2014; Esmany 2016; Bionic Limbs 2016)	3	Product-driven accessibility for blind and deaf-blind communities.
	Egypt	Service Inclusion (El Masry 1936https://www.aelmasry.com/en/)	1	Mobility devices and clinical fitting services.
SOUTHERN AFRICA	Zimbabwe	Co-Design (Leonard Cheshire Disability Zimbabwe 1981)	1	User-centered wheelchair adaptations.
	South Africa	Not Available (Sitwell Technologies 2017)	1	No publicly available inclusion information.
	South Africa	Service Inclusion (Artificial Limbs Cape Town CT n.d.; Lexie/hearX 2020)	2	Prosthetics/orthotics services and hearing access.
	Malawi	Service Inclusion (MAP 1979; Malawi Wheels Mission 2021; 500 Miles 2009)	3	AT access, local mobility production, caregiver support.
	Zimbabwe	Service Inclusion (UBH Orthopedic Centre n.d.; Sermax Mobility–Zimbabwe 2008)	2	Prosthetics, orthotics and mobility support through hospitals.
WEST AFRICA	Togo, Nigeria	Direct Employment (GIP–Togo 2018; Accesstech Innovation and Research Center 2023)	2	persons with disabilities employed in AT production and disability-led leadership roles.
	Multi-country	Ecosystem Inclusion (Dot Glasses 2020)	1	Micro-entrepreneurship and accessible vision devices.

African Region	Country	Category of Inclusion (Manufacturers)	Count	Inclusion of People with Disabilities
	Ghana, Nigeria, Sierra Leone	Service Inclusion (OTC Ghana; Vinsighte 2020; Sermax Mobility–Sierra Leone 2008)	3	Rehabilitation and access to AT, vision tools and mobility services.

* AT4D: Assistive Technologies for Disability Trust; EPOS: Ethiopian Prosthetic and Orthotic Service; GAT: Grand Assistive Technology; GIP: Green Industry Plast; HVP: Home de la Vierge des Pauvres; MAP: Malawi Against Physical Disabilities; OTC: Orthotics Training College

MANUFACTURERS' INCLUSION OF PEOPLE WITH DISABILITY BY AFRICAN REGION AND COUNTRY

West Africa

Inclusion in West Africa is mixed. Togo shows strong direct employment through GIP–Togo (2018), which integrates persons with disabilities into manufacturing roles. Nigeria ranges from disability-led leadership at Accesstech Innovation and Research Center (2023) to service-focused models like Vinsighte (2020) that improve access without employing persons with disabilities. OTC Ghana (1961) provides wide rehabilitation access but does not report disability representation in its staff. Sermax Mobility–Sierra Leone (2008) supplies mobility devices but shows no evidence of workforce inclusion.

East Africa

East Africa has the highest concentration of meaningful inclusion. Kenya stands out with Deaftronics (2019), Signvrse (2023) and APDK (1958), all showing direct or implied employment and clear roles for persons with disabilities. Uganda's Kyaninga Child Development Centre (2014) combines co-design with direct employment, while Motivation Uganda (2004) emphasises user involvement in services. Ethiopia shows both emerging disability-led leadership at GAT (2023) and service-level inclusion at EPOS (2021). Tanzania's Kyaro (2021) uses strong co-design, and Rwanda's manufacturers largely focus on access rather than workforce inclusion.

Southern Africa

Southern Africa is driven mostly by service models. South Africa offers the strongest example of direct employment through CE Mobility (1949), but other manufacturers, including Lexie/hearX (2020) and Artificial Limbs Cape Town Cape Town (n.d.), center on access rather than inclusive staffing. Malawi's MAP (1979), 500 Miles (2009) and Malawi Wheels Mission (2021) expand rehabilitation and mobility access yet do not employ persons with disabilities. Zimbabwe's Leonard Cheshire Disability Zimbabwe (1981) applies user-centered design but does not show evidence of workforce integration.

North Africa

Inclusion in North Africa is shaped mainly by product design rather than employment. Tunisia's Cure Bionics (2018) is the one clear case of direct workforce inclusion. Egyptian manufacturers such as Black Android (2014), Esmany (2016) and Bionic Limbs (2016) offer accessible technology but do not show disability representation in their teams. Rehabilitation-focused providers like El Masry (1936) and Victoria Hand Project (2015) support access but not employment.

Central Africa has fewer manufacturers and relies mainly on service-led models. Rwanda's Geuza Ltd (2023) widens access through affordable devices, and HVP Gatagara (1962) provides disability-centered care, but neither reports direct employment of persons with disabilities.

11.8 MANUFACTURERS PRODUCTION CAPACITY

OVERVIEW OF PRODUCTION CAPACITY ACROSS REGIONS

The production capacity of AT manufacturers across Africa varies widely, reflecting differences in infrastructure, funding, technical expertise and market maturity (Table 11.8.1). A small group of manufacturers demonstrate well-established or high-volume production, such as GIP–Togo (2018), Shonaquip (1992), Deaftronics (2019), CE Mobility (1949), and 500 Miles (2009), each operating structured manufacturing systems with proven annual outputs, multi-country distribution or industrial-scale workflows. A larger group shows moderate or growing capacity. These include emerging manufacturers like Kyaro Assistive Tech (2021), Kyaninga Child Development Centre (2014), Geuza Ltd Africa (2023), and EraMed Pharmaceuticals PLC (2019), which operate workshop-based or modular facilities that can scale with investment and workforce expansion.

Several manufacturers operate primarily as service or rehabilitation centers, such as OTC Ghana (1961), EPOS (2021), and UBH Orthopedic Centre, without publishing clear device-output figures. Their production capacity reflects clinical demand rather than industrial throughput. A cluster of early-stage ventures—including Bionic Limbs (2016), Esmany (2016), and Hope Tech Plus (2017)—are still developing prototypes or undertaking small batch runs.

A small number of manufacturers provide no evidence of production activity at all. Overall, the landscape shows significant diversity, with strong potential for scale in regions where modular manufacturing, digital tools, and local material sourcing are already taking root.

Table 11.8.1: Production Capacity of AT Manufacturers by African Region

African Region (Countries)	Categories in Region (Manufacturers in Brackets)	Frequency
West Africa (Togo, Ghana, Nigeria, Sierra Leone)	**High / Established Capacity** (GIP–Togo 2018; Dot Glasses 2020)	2
	Moderate / Growing Capacity (Vinsighte 2020)	1
	Service-Based Capacity (OTC Ghana 1961; Sermax Mobility–Sierra Leone 2008)	2
	Early-Stage / Pilot (Accesstech Innovation and Research Center 2023)	1
East Africa (Kenya, Uganda, Tanzania, Ethiopia, Rwanda)	**High / Established Capacity** (Deaftronics 2019; Shonaquip 1992; AT4D 2019)	3
	Moderate / Growing Capacity (Kyaro 2021; Kyaninga Child Development Centre 2014; Hope Tech Plus 2017;	8

African Region (Countries)	Categories in Region (Manufacturers in Brackets)	Frequency
	EraMed 2019; Geuza Ltd 2023; GAT 2023; APDK 1958; KCDC 2014)	
	Service-Based Capacity (EPOS 2021; Motivation Kenya 2003; Motivation Uganda 2004; Wheelchairs Uganda 2015; Cheshire Ethiopia 1962; HVP Gatagara 1962)	6
Southern Africa (South Africa, Malawi, Zimbabwe)	**High / Established Capacity** (CE Mobility 1949; 500 Miles 2009; hearX/Lexie 2020)	3
	Moderate / Growing Capacity (MAP 1979; Malawi Wheels Mission 2021)	2
	Service-Based Capacity (Artificial Limbs Cape Town n.d.; UBH Orthopedic Centre n.d.)	2
	Not Available (Sitwell Technologies 2017; Leonard Cheshire Disability Zimbabwe 1981; Sermax Mobility–Zimbabwe 2008)	3
North Africa (Tunisia, Egypt)	**High / Established Capacity** (Victoria Hand Project 2015 – regional)	1
	Moderate / Growing Capacity (Cure Bionics 2018)	1
	Service-Based Capacity (El Masry 1936)	1
	Early-Stage / Pilot (Bionic Limbs 2016; Esmany 2016; Black Android 2014)	3

*APDK: The Association for the Physically Disabled of Kenya; AT4D: Assistive Technologies for Disability Trust; EPOS: Ethiopian Prosthetic and Orthotic Service; GAT: Grand Assistive Technology; GIP: Green Industry Plast; HVP: Home de la Vierge des Pauvres; KCDC: Kyaninga Child Development Centre; MAP: Malawi Against Physical Disabilities; OTC: Orthotics Training College; UBH: United Bulawayo Hospitals

Manufacturing capacity for AT varies widely across Africa, with strong production concentrated in a few countries such as Togo, South Africa, Malawi and Kenya, where established or high-volume manufacturers can meet local demand reliably and reduce dependence on imports. Other regions—including Uganda, Tanzania, Rwanda and parts of Ethiopia—show promising workshop-level or early-stage capacity but require targeted investment in equipment, training and materials to scale effectively. Several countries, such as Ghana and Zimbabwe, rely heavily on service-based manufacturers that provide fitting and rehabilitation but cannot meet device production needs, while places like Sierra Leone and parts of Egypt remain largely import-dependent, resulting in higher costs and longer waiting times. North Africa demonstrates selective innovation potential, particularly through digital fabrication models such as Cure Bionics and the Victoria Hand Project. Overall, strengthening and better distributing manufacturing capacity—especially modular, locally sourced and technically skilled models—will be essential to improving availability, affordability and user-centered access to assistive products across the continent.

11.9 MANUFACTURERS' INNOVATION ELEMENTS

The innovation landscape across Africa's assistive-technology sector presented in Table 11.9.1 below shows a diverse range of locally driven solutions designed to improve affordability, access and usability for persons with disabilities.

Manufacturers are advancing local manufacturing, sustainable materials, digital and AI-enabled tools, user-centered design, and mobile service delivery models that extend reach beyond urban centers. Many are also integrating rehabilitation, early childhood services and inclusive employment into their operations, demonstrating how AT provision can strengthen both service continuity and economic participation. Across regions, these innovations reflect a strong, context-responsive ecosystem that is adapting technologies to local environments, reducing reliance on imports and creating more inclusive pathways for users.

Collectively, they highlight a growing continental commitment to scalable, sustainable, and user-relevant AT solutions.

Table 11.9.1: Manufacturers' Innovative Themes by Region and Country

Innovation Theme	African Region (Countries)	Manufacturers (Country, Year)	Innovation Focus
1. Local Manufacturing & Customisation	West Africa (Ghana, Sierra Leone, Nigeria); East Africa (Ethiopia, Kenya, Uganda, Rwanda); Southern Africa (Malawi, South Africa, Zimbabwe); North Africa (Egypt)	Shonaquip Ethiopia (ET, 1992); EPOS (ET, 2021); OTC Ghana (GH, 1961); MAP (MW, 1979); Malawi Wheels Mission (MW, 2021); 500 Miles (MW, 2009); CE Mobility (SA, 1949); Sitwell Technologies (SA, 2017); A. El Masry (EG, 1936); Wheelchairs Uganda (UG, 2015); Motivation Kenya (KE, 2003); APDK (KE, 1958); UBH Orthopedic Centre (ZW, n.d.); Leonard Cheshire Disability Zimbabwe (ZW, 1981); Sermax Mobility–Zimbabwe (ZW, 2008); Sermax Mobility–Sierra Leone (SL, 2008)	In-country fabrication, custom fitting, durable materials and repair services adapted to terrain and user needs.
2. Circular Economy / Sustainable Materials	West Africa (Togo); East Africa (Uganda, Tanzania, Rwanda)	GIP–Togo (TG, 2018); Wazi Vision (UG, 2016); Kyaro (TZ, 2021); KCDC (UG, 2014); Geuza Ltd (RW, 2023)	AT made from recycled plastics, bamboo, horn, fabric offcuts and e-waste to reduce cost and improve sustainability.
3. Mobile or Outreach Service Delivery	West Africa (Ghana, Sierra Leone); East Africa (Ethiopia, Rwanda); Southern Africa (Namibia, Malawi, Zimbabwe)	OTC Ghana (GH, 1961); Cheshire Ethiopia (ET, 1962); OTS Namibia (NA, 2001); MAP (MW, 1979); Malawi Wheels Mission (MW, 2021); UBH Orthopedic Centre (ZW, n.d.); – (SL, 2008); HVP Gatagara (RW, 1962)	Mobile clinics, home delivery, CBR follow-up and outreach that reduce travel and improve continuity of care.
4. Digital, AI or IoT-Enabled Solutions	West Africa (Nigeria, Sierra Leone); East Africa (Kenya, Rwanda); North Africa (Egypt)	Vinsighte (NG, 2020); Signvrse (KE, 2023); Black Android (EG, 2014); Esmany (EG, 2016); Geuza Ltd (RW, 2023); Hope	AI reading tools, sign-language avatars, IoT-enabled devices, mobile accessibility frameworks

Innovation Theme	African Region (Countries)	Manufacturers (Country, Year)	Innovation Focus
		Tech Plus (KE, 2017); Dot Glasses (Multiple, 2020); Sermax Mobility–Sierra Leone (2008)	and simplified digital vision testing.
5. Inclusive Employment Models	West Africa (Togo, Sierra Leone); East Africa (Ethiopia, Kenya);	GIP–Togo (TG, 2018); Deaftronics (KE/BW, 2019); GAT (ET, 2023); Sermax Mobility–Sierra Leone (SL, 2008)	Disability-inclusive manufacturing lines, caregiver employment models and micro-entrepreneur distribution pathways.
6. User-Centred or Co-Design Approaches	East Africa (Tanzania, Kenya, Ethiopia, Rwanda); North Africa (Egypt)	Kyaro (TZ, 2021); Hope Tech Plus (KE, 2017); GAT (ET, 2023); Victoria Hand Project (EG, 2015); Bionic Limbs (EG, 2016); Shonaquip Ethiopia (ET, 1992); Geuza Ltd (RW, 2023)	AT designed with end-users, clinicians and caregivers; adjustable features tailored to local environments and daily routines.
7. Low-Cost / Last-Mile Distribution Models	West Africa (Nigeria, Sierra Leone); East Africa (Kenya, Uganda, Rwanda); Multiple Regions	Deaftronics (KE/BW, 2019); Dot Glasses (Multiple, 2020); Accesstech Innovation and Research Center (NG, 2023); AT4D (KE, 2019); Wazi Vision (UG, 2016); Sermax Mobility–Sierra Leone (SL, 2008); Geuza Ltd (RW, 2023)	Affordable AT, simplified screening, micro-entrepreneur networks and hybrid outreach pathways supporting underserved communities.
8. Integrated Rehab / Ecosystem Models	West Africa (Ghana, Sierra Leone); East Africa (Ethiopia, Kenya, Rwanda); Southern Africa (Malawi)	GAT (ET, 2023); OTC Ghana (GH, 1961); MAP (MW, 1979); 500 Miles (MW, 2009); AT4D (KE, 2019); HVP Gatagara (RW, 1962); Sermax Mobility–Sierra Leone (SL, 2008)	AT linked to therapy, ECD centers, Live Labs, skills-building, national rehab systems and coordinated service pathways.

* AT4D: Assistive Technologies for Disability Trust; EPOS: Ethiopian Prosthetic and Orthotic Service; GAT: Grand Assistive Technology; GIP: Green Industry Plast; HVP: Home de la Vierge des Pauvres; KCDC: Kyaninga Child Development Centre; LCD: Leonard Cheshire Disability; MAP: Malawi Against Physical Disabilities; OTC: Orthotics Training College; OTS: Orthopedic Technical Services; UBH: United Bulawayo Hospitals

11.10 MANUFACTURERS FINANCIAL MODEL

The financial models of Africa's assistive-technology manufacturers reveal a sector powered by hybrid and sales-driven enterprises, but still heavily reliant on grants and donor funding. Hybrid social enterprises are the most common model, reflecting the need to balance commercial viability with affordability for low-income users, while purely commercial manufacturers remain limited by small markets and low purchasing power.

A significant share of manufacturers still depends on donations or charity-based financing, and only a four benefitting from stable government subsidies. Emerging partnership- and ecosystem-based models show promise but are not yet widespread.

Overall, the landscape underscores the need for stronger, more sustainable financing pathways, blended capital, public procurement, and youth-focused investment to enable AT manufacturers to scale and serve users reliably. Table 11.10.1 below summarises the financial model of manufacturers in Africa.

Table 11.10.1: Summary of Financial Models of the 42 Manufacturers/Innovators

Financial Model	Frequency (Out of 42 Manufacturers)	Summary of the Model
Hybrid Social Enterprise	**14**	Blends revenue from product/service sales with grants, donations, impact investment, or tenders. Often reinvests profits to subsidize access for low-income users.
Commercial / Sales-Driven	**12**	Operates as a business selling AT products and services. Revenue comes from direct sales, repairs, OEM contracts, or retail distribution. No donor or government subsidy.
Donation-Based / Charity	**10**	Relies on international donors, philanthropic giving, CSR partners, and grants. Services often provided free or heavily subsidized.
Government-Subsidised / Public Service	**4**	Funded by national health budgets, social-protection schemes, or statutory funds. May charge small fees but primarily supported by government allocations.
Ecosystem / Accelerator / Partnership-Supported	**3**	Revenue mainly through subscriptions, partnerships, competitions, and innovation funding rather than device sales. Supports wider AT ecosystems.
Not Specified / Insufficient Data	**2**	Public information on financing is unavailable or unclear. Likely early-stage innovation without a fully established financial model.

Africa's AT sector operates on a patchwork of financial models that reflect both the promise of emerging innovation and the structural fragility of many manufacturers and innovators (Table 11.10.2). Hybrid social enterprises are the dominant engine of growth in East and West Africa, blending sales, grants and impact capital to reach low-income users—yet their reliance on mixed financing signals the absence of stable markets. Commercial manufacturers are present but highly concentrated in a few countries such as South Africa, Zimbabwe and Egypt, while donation-driven models remain essential in Malawi, Ghana and parts of East Africa, underscoring persistent gaps in public financing.

Government-subsidized models are rare and uneven, limiting the scale and continuity of AT supply, whereas partnership- and accelerator-led innovations show strong early potential but remain too few to shift the market. Overall, the financial landscape reveals a sector where innovation is thriving, but long-term sustainability—and the ability to reach millions more persons with disabilities—will depend on stronger public procurement, blended finance and investment mechanisms that can help AT manufacturers grow beyond fragile, grant-dependent models.

Table 11.10.2: Financial Models of Manufacturers presented by African Region

African Region	Financial Model	Manufacturers (Country)	Frequency	Summary of Model
West Africa	Hybrid Social Enterprise	GIP–Togo (Togo) 2018; Accesstech Innovation and Research Center (Nigeria) 2023; Dot Glasses (Regional) 2020	3	Combines sales with grants, awards, or partnerships; often reinvests profits for access.
	Commercial / Sales-Driven	Sermax Mobility–Sierra Leone (Sierra Leone) 2008	1	Revenue entirely from selling devices and services without external subsidy.
	Donation-Based / Charity	Orthopedic Training Center OTC (Ghana) 1961	1	Depends on donors, grants, and faith-based support to subsidize services.
	Partnership-Supported	Vinsighte (Nigeria) 2020	1	Supported by accelerators, CSR partners, and ecosystem funding.
East Africa	Hybrid Social Enterprise	Shonaquip SE (Ethiopia) 1992; GAT – Zelalem Demeke (Ethiopia) 2023; Wazi Vision (Uganda) 2016; Kyaro Assistive Tech (Tanzania) 2021; Hope Tech Plus (Kenya) 2017; AccessTech Kenya	6	Blends commercial revenue with grants, tenders, and impact investment.
	Commercial / Sales-Driven	Wheelchairs (Uganda) 2015; Deaftronics (Kenya) 2019	2	Revenue from device sales, repairs, and private retail channels.
	Donation-Based / Charity	Motivation (Uganda) 2004; Motivation (Kenya) 2003; KCDC (Uganda); Cheshire (Ethiopia) 1962	4	Philanthropy and grants fund service delivery.
	Government-Subsidised	EPOS (Ethiopia) 2021	1	Funded mainly using government health budgets, supported by internal revenues.
	Ecosystem / Accelerator	AT4D (Kenya) 2019; Signvrse (Kenya) 2023	2	Revenue from subscriptions, grants, and partnership-supported program s.
	Circular-Economy Model	Geuza Ltd Africa (Rwanda) 2023	1	Produces low-cost AT from recycled e-waste to keep costs down.
	Not Specified	HVP Gatagara (Rwanda) 1962	1	No available financial information.
Southern Africa	Commercial / Sales-Driven	CE Mobility (South Africa) 1949; Sitwell Technologies (South Africa) 2017; Sermax Mobility–Zimbabwe 2008	3	Private sector AT sales and repairs; insurance billing.

African Region	Financial Model	Manufacturers (Country)	Frequency	Summary of Model
	Government-Subsidized	Orthopedic Technical Services (Namibia) 2001; UBH Orthopedic Centre (Zimbabwe) n.d.	2	Public budgets, user fees, and insurance reimbursements.
	Donation-Based / Charity	Malawi Wheels Mission (Malawi) 2021; MAP – Malawi Against Physical Disabilities 1979	2	Relies on fundraising, CSR partners, and grants.
	Hybrid Subsidized	500 Miles (Malawi) 2009	1	Patient contributions mixed with donor support.
	Hybrid Commercial + Subscription	Lexie Hearing / hearX Group (South Africa) 2020	1	Sales + subscription services + retail partnerships.
North Africa	Commercial / Sales-Driven	Bionic Limbs (Egypt) 2016; El Masry (Egypt) 1936	2	AT revenue from prosthetic and mobility device sales.
	Donation-Based / Grant-Funded	Victoria Hand Project (Egypt) 2015	1	Fully supported by grants, philanthropy, and donor-funded program s.
	Hybrid Social Enterprise	Cure Bionics (Tunisia) 2018	1	Sales supported by grants/prizes and impact capital.
	Not Specified	Black Android (Egypt) 2014; Esmany (Egypt) 2016	2	No clear financial model published.

* AT4D: Assistive Technologies for Disability Trust; EPOS: Ethiopian Prosthetic and Orthotic Service; GAT: Grand Assistive Technology; GIP: Green Industry Plast; HVP: Home de la Vierge des Pauvres; KCDC: Kyaninga Child Development Centre; LCD: Leonard Cheshire Disability; OTC: Orthotics Training College; UBH: United Bulawayo Hospitals

11.11 Barriers Faced by Assistive Technology Manufacturers

Overview of Barriers

The review of 42 AT manufacturers and service providers across Africa shows that manufacturers encounter a wide range of barriers that limit their ability to produce, distribute, and sustain essential AT products (Table 11.11.1). These challenges cut across all regions—West, East, Southern, and North Africa—and reflect systemic weaknesses in policy, financing, supply systems, and infrastructure. Many manufacturers operate within regulatory environments that are either outdated or difficult to navigate, slowing down approvals, raising compliance costs, and weakening integration of AT into national health systems. Financing is a persistent challenge, with high production costs, donor dependence, and limited insurance coverage leaving both manufacturers and users exposed to affordability constraints.

Operational barriers are just as significant. Most manufacturers rely on imported components, face long logistics chains, and struggle with inconsistent access to materials, spare parts, and maintenance support. These issues are compounded in rural and hard-to-reach areas, where poor transport networks and limited service points restrict last-mile delivery. Some manufacturers also work with shortages of trained personnel, inadequate facilities, and unreliable electricity, which makes it difficult to maintain consistent production and quality standards. Although the scale and nature of these barriers vary by region, their combined effect limits the reach, quality, and sustainability of AT manufacturing across the continent.

Table 11.11.1: Summary of Barriers across African Regions

African Region	Barrier Category	Summary of What the Barrier Entails	Manufacturers Facing the Barrier (Name, Year)	Frequency
West, East, Southern, North Africa	**Regulatory & Policy Barriers**	Approvals delays, compliance burdens, weak or outdated AT policies, lack of ring-fenced AT budgets, fragmented governance, inconsistent integration into national systems.	**West Africa:** GIP–Togo (2018); OTC Ghana (1961); – (2008); Vinsighte Nigeria (2020). **East Africa:** Shonaquip (1992 operations in Ethiopia); GAT Ethiopia Ethiopia (2023); AT4D Kenya (2019); EPOS Ethiopia (2021); Kyaro Tanzania (2021); EraMed Ethiopia (2019); Hope Tech Plus (2017); Motivation Kenya (2003); Motivation Uganda (2004); Cheshire Ethiopia (1962). **Southern Africa:** Sermax Mobility–Eritrea (2008 — cross-border supply); OTS Namibia (2001); CE Mobility SA (1949); Artificial Limbs Cape Town SA (n.d.); Sermax Mobility–Zimbabwe (2008). **North Africa:** Bionic Limbs Egypt (2016); Cure Bionics Tunisia (2018); Victoria Hand Project Egypt (2015).	**24**
West, East, Southern, North Africa	**Financial Barriers**	High production costs, donor dependence, limited access to capital, affordability issues, low insurance coverage, small or unstable revenue streams.	**West Africa:** GIP–Togo (2018); OTC Ghana (1961); Vinsighte Nigeria (2020); Sermax Mobility–Sierra Leone (2008). **East Africa:** AT4D Kenya (2019); Deaftronics (2019); Kyaro Tanzania (2021); EPOS Ethiopia (2021); EraMed Ethiopia (2019); Hope Tech Plus (2017); Motivation Kenya (2003); Motivation Uganda (2004); Cheshire Ethiopia (1962); APDK Kenya (1958). **Southern Africa:** OTS Namibia (2001); CE Mobility SA (1949); MAP Malawi (1979); Malawi Wheels Mission (2021); 500 Miles Malawi (2009); Sermax Mobility–Zimbabwe (2008). **North Africa:** Cure Bionics Tunisia (2018); Victoria Hand Project Egypt (2015); Bionic Limbs Egypt (2016); Esmany (2016); El Masry (1936).	**26**
West, East, Southern, North Africa	**Supply-Chain & Operational Barriers**	Import dependence, long logistics chains, difficulty sourcing materials, limited maintenance capacity, delays in repairs, and weak distribution channels.	**West Africa:** GIP–Togo (2018); OTC Ghana (1961); Sermax Mobility–Sierra Leone (2008). **East Africa:** AT4D Kenya (2019); Deaftronics (2019); Kyaro Tanzania (2021); EPOS Ethiopia (2021); EraMed Ethiopia (2019); Geuza Ltd Rwanda (2023); KCDC Uganda (2014). **Southern Africa:** OTS Namibia (2001); CE Mobility SA (1949); MAP Malawi (1979); Malawi Wheels Mission (2021); 500 Miles (2009); UBH Orthopedic Centre Zimbabwe (n.d.); Artificial Limbs Cape Town SA (n.d.); Sermax Mobility–Zimbabwe (2008). **North Africa:** Victoria Hand Project Egypt (2015); Bionic Limbs	**25**

African Region	Barrier Category	Summary of What the Barrier Entails	Manufacturers Facing the Barrier (Name, Year)	Frequency
			Egypt (2016); Cure Bionics Tunisia (2018).	
East, Southern Africa	**Workforce / Skills Barriers**	Shortage of trained prosthetists/orthotists, few training institutions, limited technician capacity, inadequate professional development.	**East Africa:** Deaftronics (2019); Motivation Uganda (2004); Motivation Kenya (2003); Cheshire Ethiopia (1962); Shonaquip (regional training role). **Southern Africa:** OTS Namibia (2001).	**6**
West, East, Southern, North Africa	**Affordability / User-Level Barriers**	High out-of-pocket costs, limited insurance coverage, users unable to pay, and high price sensitivity among households.	**East Africa:** Deaftronics (2019); Hope Tech Plus (2017). **Southern Africa:** OTS Namibia (2001); CE Mobility (1949). **North Africa:** El Masry (1936); Cure Bionics Tunisia (2018); Artificial Limbs Cape Town SA (n.d. — Southern Africa); Bionic Limbs Egypt (2016).	**8**
West, East, Southern, North Africa	**Distribution & Last-Mile Barriers**	Limited rural coverage, long travel distances, poor roads, few service depots, lack of repair centers, urban concentration of AT services.	**West Africa:** OTC Ghana (1961); Sermax Mobility–Sierra Leone (2008). **East Africa:** Deaftronics (2019). **Southern Africa:** Sermax Mobility–Zimbabwe (2008); UBH Orthopedic Centre Zimbabwe (n.d.); Malawi Wheels Mission (2021); OTS Namibia (2001). **North Africa:** Victoria Hand Project Egypt (2015).	**9**
West, East, Southern, North Africa	**Infrastructure Barriers**	Poor workshop space, unreliable power, inadequate equipment, weak outreach vehicles, and facility readiness issues.	OTC Ghana (1961) — West; Malawi Wheels Mission (2021) — Southern; OTS Namibia (2001) — Southern; Victoria Hand Project Egypt (2015) — North; Geuza Ltd Rwanda (2023) — East.	**5**
East, West Africa	**Data / Information System Barriers**	Weak health information systems, limited AT data, poor tracking of device use, and lack of digital tools for planning.	**East Africa:** GAT Ethiopia Ethiopia (2023); EPOS Ethiopia (2021). **West Africa:** Vinsighte Nigeria (2020).	**3**
East, West, North Africa	**Market Fragmentation Barriers**	Scattered markets, limited demand, high import competition, difficulty scaling beyond pilots, and weak commercial ecosystems.	**East Africa:** AT4D Kenya (2019); Kyaro Tanzania (2021). **West Africa:** Vinsighte Nigeria (2020); MAP Malawi (1979 — often mapped Southern). **North Africa:** Bionic Limbs Egypt (2016).	**5**
East Africa	**Stigma / Low Awareness Barriers**	Social stigma, poor awareness of AT benefits, cultural perceptions that reduce uptake and care-seeking.	KCDC Uganda (2014); Motivation Uganda (2004).	**2**

* AT4D: Assistive Technologies for Disability Trust; EPOS: Ethiopian Prosthetic and Orthotic Service; GAT: Grand Assistive Technology; GIP: Green Industry Plast; HVP: Home de la Vierge des Pauvres; KCDC: Kyaninga Child Development Centre; LCD: Leonard Cheshire Disability; MAP: Malawi Against Physical Disabilities; OTC: Orthotics Training College; OTS: Orthopedic Technical Services; UBH: United Bulawayo Hospitals

The fragmented and uneven financial models across Africa's AT sector have direct **consequences for persons with disabilities**, shaping who receives assistive products, how quickly, and at what cost. In countries where manufacturers rely on donations or unstable grant funding, users face inconsistent supply, long waiting times and limited device choice, often leaving them dependent on imported or poor-fit products. Hybrid and early-stage enterprises may offer innovative, locally relevant solutions, but their financial vulnerability can lead to interruptions in service, gaps in after-sales support and unaffordable pricing for low-income households.

Limited government-subsidized models mean that most persons with disabilities still shoulder the financial burden of acquiring AT, constraining access for those living in poverty. Without stronger public financing, structured procurement and investment in sustainable business models, persons with disabilities will continue to experience inequitable access, reduced mobility and independence, and missed opportunities in education, employment and social participation.

BARRIERS TO ASSISTIVE TECHNOLOGY MANUFACTURING IN AFRICA

1. Financial and Supply-Chain Constraints (Most severe in West & Southern Africa)

- High cost of machinery, materials, and imported components.
- Donor dependence and limited access to affordable financing.
- Frequent import delays and unreliable cross-border supply routes.
- Weak distribution networks, especially in rural and hard-to-reach areas.
- High operational costs that drive up device prices and reduce affordability.

2. Regulatory and Policy Gaps (Prominent in East & North Africa)

- Inconsistent or unclear national AT policies and medical-device regulations.
- Lengthy or unpredictable product-approval processes.
- Limited reimbursement pathways and weak integration into health and social-protection systems.
- Lack of national standards undermining quality assurance and market confidence.

3. Workforce and Technical Capacity Shortages (Notably in East & Southern Africa)

- Insufficient numbers of trained prosthetists, orthotists, technicians, and rehab personnel.
- Limited local manufacturing expertise and challenges maintaining equipment.
- High turnover and inadequate training pipelines for youth entering the AT sector.

4. Infrastructure and Distribution Barriers (Severe in rural Malawi, Zimbabwe, Sierra Leone)

- Poor transport networks that restrict outreach and follow-up services.
- High travel costs for users and providers, reducing continuity of care.
- Power interruptions affecting digital fabrication and production reliability.

5. Affordability and Market Constraints (Strongest in North & West Africa)

- High device costs due to import dependence and limited economies of scale.
- Out-of-pocket payments for most AT, leaving low-income users unserved.
- Early-stage innovators struggle to achieve commercial viability in small markets.

6. Social and Awareness Barriers (Reported across several East African countries)

- Stigma and low awareness limiting early identification and uptake of AT.
- Limited community-level information on available devices and services.

These barriers interact, financial constraints weaken supply, regulatory gaps delay scale, and infrastructure limitations restrict service reach, resulting in uneven and often unreliable AT access for persons with disabilities. Yet manufacturers across the continent continue to innovate through partnerships, local materials, circular-economy approaches, and hybrid delivery models, signalling strong potential for growth if systemic enablers are strengthened.

11.12 KEY ENABLERS STRENGTHENING AT MANUFACTURERS

1. Strong Multisector Partnerships

- Most AT manufacturers depend on extensive networks involving governments, donors, universities, disability manufacturers, accelerators and private suppliers.
- These partnerships provide technical support, funding pathways, distribution reach and institutional credibility.
- Examples: GIP–Togo (2018), Shonaquip (1992), OTC Ghana (1961).

2. Financial and Technical Incentives

- Grants, seed funding, innovation awards and manufacturing certifications help manufacturers start up and scale production.
- Local production infrastructure and affordability mechanisms (e.g., subsidies or tiered pricing) reduce market-entry barriers.
- Examples: Wazi Vision (2016), Kyaro Tanzania (2021), CE Mobility South Africa (1949), Cure Bionics Tunisia (2018).

3. Growing and Sustained User Demand

- Rising awareness of disability rights and unmet need drives demand for assistive products.
- User-centered designs, digital accessibility tools and culturally relevant AT increase adoption.
- Community-based outreach and education help convert latent need into active engagement.
- Examples: Deaftronics Kenya (2019), Wheelchairs Uganda (2015), Bionic Limbs Egypt (2016).

4. Combined Impact Across Regions

- These enablers—partnerships, incentives and strong demand—create an ecosystem that supports innovation and scaling.
- AT manufacturers across West, East, Southern and North Africa are increasingly able to reach more users, improve product relevance and strengthen service continuity.

Table 11.12.1 provides a detailed summary of enablers.

Table 11.12.1: Category of Enablers to AT Manufacturing in Africa

African Region	Enabler Category	Category Details	Summary of Manufacturers	Frequency
West, East, Southern, North Africa + Multi-Country	**Partnerships**	Collaboration with governments, donors, NGOs, universities, accelerators, DPOs, community groups, private suppliers and clinical networks. Partnerships strengthen financing, supply chains, training, outreach, product validation and scale.	Includes **38 manufacturers**, such as: GIP–Togo (2018); Shonaquip (1992); AT4D Kenya (2019); OTC Ghana (1961); Deaftronics Kenya (2019); OTS Namibia (2001); CE Mobility SA (1949); Wazi Vision Uganda (2016); EraMed Ethiopia (2019); GAT Ethiopia (2023); Geuza Ltd Rwanda (2023); Victoria Hand Project Egypt (2015); Bionic Limbs Egypt (2016); Cure Bionics Tunisia (2018); Dot Glasses (2020); Sermax (Eritrea/Zimbabwe/Sierra Leone, 2008).	**38**
West, East, Southern, North Africa + Multi-Country	**Incentives**	Grants, seed capital, accelerator support, subsidies, manufacturing capacity, training, quality certifications and policy recognition. Incentives reduce operational costs, support innovation and make AT production and distribution viable.	Found in **32 manufacturers**, including: GIP–Togo (2018); Shonaquip (1992); AT4D Kenya (2019); Kyaro Tanzania (2021); Wazi Vision (2016); OTS Namibia (2001); Malawi Wheels Mission (2021); 500 Miles Malawi (2009); CE Mobility (1949); Victoria Hand Project Egypt (2015); Cure Bionics Tunisia (2018); Signvrse Kenya (2023); Dot Glasses (2020).	**32**
West, East, Southern, North Africa + Multi-Country	**Demand Drivers**	Growing unmet need for AT, user-centered design, inclusive education/employment, digital innovation, affordability, rural outreach and context-appropriate device design. These drivers sustain uptake and motivate AT manufacturers and services.	Evident in **28 manufacturers**, including: GIP–Togo (2018); Shonaquip (1992); AT4D Kenya (2019); Deaftronics (2019); Wheelchairs Uganda (2015); KCDC Uganda (2014); OTC Ghana (1961); CE Mobility SA (1949); Malawi Wheels Mission (2021); Sermax Mobility–Zimbabwe (2008); Victoria Hand Project Egypt (2015); Bionic Limbs Egypt (2016); Cure Bionics Tunisia (2018); Dot Glasses (2020).	**28**

*AT4D: Assistive Technologies for Disability Trust; GAT: Grand Assistive Technology; GIP: Green Industry Plast; KCDC: Kyaninga Child Development Centre; OTC: Orthotics Training College; OTS: Orthopedic Technical Services

11.13 MANUFACTURING LINKED TO YOUNG PERSONS WITH DISABILITIES

YOUTH INVOLVEMENT

The review of AT manufacturers and innovators across Africa shows that manufacturers vary widely in how they involve young persons with disabilities in their work (Table 11.13.1). Some provide direct employment, structured training and entrepreneurship opportunities, while others contribute indirectly through improved mobility, communication or access to essential services. A smaller group shows no stated link, often focusing mainly on product manufacturing or clinical service delivery. Mapping these roles helps highlight where meaningful participation of young persons with disabilities is already emerging and where stronger inclusion efforts are needed.

Table 11.13.1: Description of Manufacturers Link to Young Persons with Disabilities

African Region	Link to Young Persons with Disabilities	Description of Category	List of Manufacturers (countries)	Frequency
West Africa, East Africa, North Africa, Southern Africa	**Strong / Direct Link**	Manufacturers with explicit job creation, structured skills training, entrepreneurship program s, or youth-focused inclusion.	GIP–Togo **(Togo)**; OTC Ghana **(Ghana)**; Accesstech Innovation and Research Center **(Nigeria)**; Shonaquip Social Enterprise **(Ethiopia/South Africa)**; AT4D/Innovate Now **(Kenya)**; Deaftronics **(Kenya)**; Kyaro Assistive Tech **(Tanzania)**; Hope Tech Plus **(Kenya)**; Cheshire Ethiopia **(Ethiopia)**; Victoria Hand Project **(Egypt)**; Cure Bionics **(Tunisia)**; 500 Miles **(Malawi)**	**12**
West Africa, East Africa, North Africa, Southern Africa	**Moderate / Indirect Link**	Broader disability inclusion, rehabilitation, livelihoods, or training program s that indirectly involve youth or persons with disabilities.	Vinsighte **(Nigeria)**; Motivation Kenya **(Kenya)**; Motivation Uganda **(Uganda)**; Kyaninga Child Development Centre **(Uganda)**; GAT Ethiopia **(Ethiopia)**; Wazi Vision **(Uganda)**; APDK Kenya **(Kenya)**; UBH Orthopedic Centre **(Zimbabwe)**; MAP Malawi **(Malawi)**; Malawi Wheels Mission **(Malawi)**; Bionic Limbs **(Egypt)**; Black Android **(Egypt)**	**12**
West Africa, East Africa, Southern Africa, North Africa, Pan-Africa	**Indirect Mobility / Empowerment Only**	AT improves mobility, communication, or independence, indirectly supporting employability but with no explicit economic or skills pathway.	Sermax Mobility–Sierra Leone **(Sierra Leone)**; Wheelchairs Uganda **(Uganda)**; Signvrse **(Kenya)**; CE Mobility **(South Africa)**; Artificial Limbs Cape Town **(South Africa)**; Lexie Hearing/hearX Group **(South Africa)**; Sermax Mobility–Zimbabwe **(Zimbabwe)**; El Masry **(Egypt)**; Dot Glasses **(Multi-country Africa)** Bionic Limbs **(Egypt)**; Jumping Kids **(South Africa)**; Uku'Hamba/3D Prosthetic Innovators **(South Africa)**	**12**

African Region	Link to Young Persons with Disabilities	Description of Category	List of Manufacturers (countries)	Frequency
East Africa, Southern Africa	**No Stated Link**	No identifiable pathway to youth employment, entrepreneurship, or skills development.	EPOS Ethiopia **(Ethiopia)**; Sermax Mobility–Eritrea **(Eritrea)**; Geuza Ltd **(Rwanda)**; HVP Gatagara **(Rwanda)**; Sitwell Technologies **(South Africa)**; Leonard Cheshire Disability Zimbabwe **(Zimbabwe)**	**6**

*APDK: The Association for the Physically Disabled of Kenya; AT4D: Assistive Technologies for Disability Trust; EPOS: Ethiopian Prosthetic and Orthotic Service; GAT: Grand Assistive Technology; GIP: Green Industry Plast; MAP: Malawi Against Physical Disabilities; OTC: Orthotics Training College; UBH: United Bulawayo Hospitals

REFLECTIONS ON INVOLVEMENT OF YOUNG PERSONS WITH DISABILITIES

Across the continent, the strongest and most intentional involvement of young persons with disabilities is found among manufacturers offering structured skills development, inclusive manufacturing roles, or pathways into entrepreneurship. Examples include GIP–Togo (2018), which integrates young persons with disabilities directly into its recycling-based manufacturing system, and AT4D/Innovate Now in Kenya (2019), which continues to build an African pipeline of young assistive-technology founders. Training-oriented manufacturers such as the OTC Ghana in Ghana (1961) and Cheshire Ethiopia (1962) show that technical rehabilitation fields can provide steady employment routes for young people, especially through prosthetics, orthotics, and community-based rehabilitation skills.

A second tier of manufacturers contribute to youth inclusion more indirectly. Centers such as Kyaninga Child Development Centre in Uganda (2014) and UBH Orthopedic Centre in Zimbabwe (n.d.) strengthen community-based rehabilitation, livelihoods support and caregiver training. These activities do not target youth specifically, but they create enabling environments where young persons with disabilities can gain confidence, independence and access to basic rehabilitation services. Similarly, enterprises like Vinsighte in Nigeria (2020) and Wazi Vision in Uganda (2016) improve access to assistive products that allow youth to participate in school and gain digital, communication or mobility skills.

Finally, several manufacturers contribute only by improving access to mobility devices, without describing any pathway to employment or enterprise creation. Examples include CE Mobility in South Africa (1949), Sermax Mobility–Zimbabwe (2008), and El Masry in Egypt (1936). While their products are essential for individual functioning, the absence of youth-focused training or inclusion strategies suggests missed opportunities to connect AT provision with economic participation.

IMPLICATIONS ON INVOLVEMENT OF YOUNG PERSONS WITH DISABILITIES

The findings suggest clear opportunities to strengthen the role of young persons with disabilities within the AT ecosystem. First, manufacturers with strong employment and training models—such as Deaftronics (2019) and Kyaro Assistive Tech (2021)—demonstrate that inclusive manufacturing and entrepreneurial support can be scaled when intentionally designed. Expanding these models across more regions would increase the number of young people benefiting from hands-on experience, technical skills and income generation.

Second, manufacturers offering indirect support provide a foundation that can be built upon. For example, program s run by Kyaninga Child Development Centre (2014) and Motivation

Kenya (2003) could incorporate youth-specific apprenticeships, business training or peer mentorship to convert rehabilitation gains into economic opportunities.

Third, manufacturers with no stated inclusion link—such as Sitwell Technologies (2017) and EPOS Ethiopia (2021)—represent an untapped segment of the sector. Encouraging these manufacturers to adopt inclusive hiring practices, offer technical internships, or partner with youth-focused disability groups could significantly expand pathways for young persons with disabilities.

Overall, deliberate integration of youth participation across manufacturing, service provision and innovation ecosystems can help ensure that AT does more than improve mobility—it can open reliable paths to work, enterprise and long-term economic empowerment for young persons with disabilities across Africa.

11.14 MANUFACTURERS' CERTIFICATION/COMPLIANCE

OVERVIEW OF QUALITY STANDARDS AND CERTIFICATION PRACTICES

The review of 42 manufacturers shows considerable variation in how manufacturers and service providers communicate their adherence to recognized standards, ranging from internationally audited systems to basic internal quality practices. A small group report formal certifications such as ISO 13485, CE marking or FDA clearance, while many others demonstrate more informal or practice-based approaches to quality, often shaped by local regulatory environments, NGO registration requirements or clinical guidelines. Several manufacturers also signal alignment with sector frameworks, including ISPO training pathways, community-based rehabilitation models and national professional regulations. Taken together, the landscape reflects a mix of emerging compliance capacity and established quality systems, with significant differences across regions and product types.

REFLECTIONS ON COMPLIANCE AND CERTIFICATION BY AFRICAN REGION

Compliance patterns differ across regions, reflecting variations in regulatory maturity, market focus, and manufacturers' technical capacity. In Southern Africa, several manufacturers demonstrate more robust formal certification, including ISO 13485, FDA, and CE approvals. Examples such as Lexie Hearing, hearX Group (2020), and CE Mobility (1949) show ongoing engagement with international regulatory systems, while Sermax Mobility–Zimbabwe (2008) provides evidence of comprehensive certification covering ISO, CE, and FDA. This indicates that Southern Africa has a more advanced regulatory ecosystem and stronger connections to established medical device markets.

In East Africa, the situation is more varied. A few manufacturers, such as EraMed Pharmaceuticals PLC Ethiopia (2019) and Sermax Mobility–Eritrea (2008), meet internationally recognized standards, but many others rely on implied or practice-based quality approaches rather than formal certification. Manufacturers like Kyaninga Child Development Centre Uganda (2014) and Motivation Kenya (2003) incorporate quality principles through user testing, clinical assessment, and adherence to WHO-aligned practices, even if they do not hold audited certifications. This demonstrates an active environment of innovation where quality is acknowledged but not always formally documented.

In West Africa, only a few manufacturers demonstrate clear international compliance. Sermax Mobility–Sierra Leone (2008) stands out with ISO, CE, and FDA credentials, while

manufacturers such as Orthopedic Training Centre Ghana (1961) show alignment with recognized standards through ISPO-linked training and facility requirements. Others, like GIP–Togo (2018), refer to general quality practices without formal certification. This mix highlights a region where quality awareness is increasing, but structured certification remains limited.

In North Africa, formal compliance is still developing. The notable exception is Cure Bionics Tunisia (2018), which has gained CE marking for its prosthetic technology. Other manufacturers—such as Victoria Hand Project Egypt (2015), Bionic Limbs Egypt (2016), and Esmany Egypt (2016)—focus on high-quality design and strong clinical partnerships but do not publicly showcase international certification. This demonstrates a strong innovation culture but limited external auditing or formal regulatory alignment.

Across all regions, the pattern suggests that while many manufacturers prioritize quality, only a smaller group pursue or securely recognized certifications (Table 11.14.1). This gap highlights an opportunity to strengthen regional regulatory support systems and technical pathways for African AT producers aiming to meet global standards.

Table 11.14.1: Regional Distribution of Compliance Status Among AT Manufacturers in Africa

African Region	Countries Represented	Total Manufacturers	Explicit Certification / Compliance	Implied / Partial Compliance	No. Certification Mentioned
West Africa	Togo, Ghana, Nigeria, Sierra Leone	7	3	2	2
East Africa	Ethiopia, Kenya, Uganda, Rwanda, Tanzania	15	3	6	6
Southern Africa	South Africa, Zimbabwe, Namibia, Malawi	10	4	4	2
North Africa	Egypt, Tunisia	6	1	3	2
TOTAL (Africa)	—	42	11	15	16

IMPLICATIONS OF COMPLIANCE AND CERTIFICATION FOR ASSISTIVE TECHNOLOGY ACCESS IN AFRICA

Regional variations in regulatory compliance directly affect the reliability, safety, and availability of assistive products across Africa. Southern Africa shows the strongest formal certification base—with ISO 13485, CE, and FDA-aligned manufacturers such as Lexie Hearing, hearX Group, and Sermax Mobility—supporting consistent product quality and smoother integration into national health systems. These certifications also reduce procurement risks for governments and donors.

In contrast, many East African manufacturers operate with practice-based or implied quality systems, limiting their ability to scale, export, or secure public-sector buyers. Strengthening

regulatory authorities and providing technical support for ISO/CE pathways would help transition innovators toward recognized standards.

West Africa includes a few certified actors, such as Sermax Mobility–Sierra Leone, but most emerging producers show quality intent without formal audits. Targeted policies—such as subsidizing certification, establishing regional conformity-assessment mechanisms, and harmonizing ECOWAS regulations—would build trust and improve cross-border access.

North Africa demonstrates strong innovation but limited certification, with exceptions like Cure Bionics in Tunisia. Expanding national medical-device regulation, supporting innovation hubs, and incentivizing clinically validated standards could accelerate compliance.

Overall, the scarcity of formally certified manufacturers remains a structural barrier to AT access. Investments in regulatory capacity, reduced certification costs, and regionally harmonized standards would enable more African manufacturers to meet global benchmarks—improving safety, strengthening procurement confidence, and supporting sustainable, locally driven AT ecosystems.

11.15 KEY FINDINGS/MESSAGES

Africa's AT landscape shows strong potential but uneven development. East Africa is the most dynamic ecosystem, combining established manufacturers with emerging digital innovators, while Southern Africa provides stable fabrication capacity with slower innovation. West Africa remains an early-stage and fragile ecosystem with limited manufacturing infrastructure, and North Africa contributes advanced technical expertise, particularly in prosthetics and high-technology AT. Pan-African suppliers help address market gaps but also highlight weaknesses in domestic production systems.
Production is largely concentrated on mobility devices, with limited development in communication, cognitive support, and advanced digital AT. Diverse and often fragile financing models, alongside workforce shortages, supply-chain constraints, and regulatory gaps, continue to restrict scale.

Overall, the sector is ready for coordinated investment. Strengthening regulation and certification, expanding skills and inclusive employment pathways, and improving access to financing for growing enterprises would significantly enhance AT availability and equity of access across Africa.

1. **Africa's AT market is scaling constrained — not supply constrained.**
   Manufacturing capacity exists, but growth is hindered by the absence of scale financing, regulatory pathways, distribution networks, and skilled technicians.
2. **Ecosystem-strengthening offers greater impact than device-level investment.**
   Investments in accelerators, technical training, testing labs, and certification systems will unlock growth across dozens of manufacturers simultaneously.
3. **Public-sector production is an underutilized asset.**
   Hospitals and rehabilitation centers already fabricate devices; modernizing these units could rapidly expand affordable AT supply at low marginal cost.
4. **Innovation is outpacing regulatory readiness.**
   Start-ups lack viable certification, quality assurance, and export pathways. Regional regulatory harmonization and AT standards could unlock major market access.
5. **Cross-African trade is the missing market enabler.**
   Fragmented logistics and tariff regimes prevent manufacturers from scaling beyond national borders. Regional procurement and pooled purchasing would transform the market.

6. **High-return opportunities exist in public–private partnership models.**
   The Malawi example shows that hybrid models can expand production, reduce costs, and sustain operations—suggesting strong potential for replication elsewhere.
7. **Africa has a unique window to shape its AT market architecture.**
   Strategic investment now can influence how innovation, manufacturing, distribution, affordability mechanisms, and workforce models are designed for African realities (Table 11.15.1).

Table 11.15.1: Manufacturing and Innovation Opportunities by Region

Region	Strategic Opportunity	Primary Investment Value
East Africa	Scale early innovators and digital AT solutions	High growth potential; strong replication
Southern Africa	Modernize and optimize established manufacturers	Production stability; long-term sustainability
West Africa	Build fabrication capacity from the ground up	Highest equity and inclusion impact
North Africa	Anchor high-tech R&D, prototyping and testing hubs	Innovation leadership for the continent
Pan-African	Strengthen supply chains and distribution systems	Cross-continental access and market integration

11.16 RECOMMENDATIONS (FOR INVESTING IN YOUTH)

1. Establish Youth AT Innovation & Skills Hubs (East, West, Southern Africa)

Create regional training hubs that equip young persons with disabilities with high-demand skills in digital fabrication, device repair, AI-enabled AT, and entrepreneurship. This directly addresses the continent-wide workforce shortage highlighted by manufacturers and unlocks new career pathways linked to a growing sector.

2. Launch a Youth Assistive Technology Entrepreneurship Fund

Provide seed financing, mentorship, and business development support to youth-led and disability-led AT start-ups. Most micro-enterprises identified in the report lack early-stage capital despite strong innovation potential. Investing here builds a pipeline of African-led solutions and jobs.

3. Support Disability-Inclusive Employment Models in Manufacturing

Fund incentives for AT manufacturers to employ young persons with disabilities in technical, production, and design roles. This includes wage subsidies, accessible workplace adaptations, and inclusion certifications. The review shows only a small group of manufacturers currently employ young persons with disabilities, an important gap to close.

4. Strengthen Regional AT Product Testing & Certification Labs

Invest in youth-led testing and quality-assurance facilities that enable innovators to meet ISO/CE standards and enter regional markets. Over 60% of manufacturers report regulatory and compliance barriers. Reducing these constraints accelerates scale and employment.

5. Develop Youth-Led Distribution & Repair Networks

Address major supply-chain and last-mile challenges by creating community-based AT repair and distribution roles for young persons with disabilities. This expands access in rural and underserved areas while generating sustainable, decentralized employment.

6. Invest in Underrepresented AT Categories Critical for Youth Inclusion

Support innovation in communication, cognitive, vision, and digital participation technologies, areas with the lowest number of manufacturers but the highest potential impact on education and employment for young persons with disabilities.

11.17 Conclusion

The review of 42 AT manufacturers and innovators across Africa shows a sector with real momentum but uneven development. East and Southern Africa have the strongest ecosystems, while West Africa and parts of North Africa still rely heavily on imports and small-scale innovators. Mobility devices dominate production, and many manufacturers operate with limited financial reporting, modest manufacturing capacity and inconsistent regulatory compliance.

Even so, important opportunities are emerging. Local fabrication, digital and AI-enabled solutions, sustainable materials and user-centered design are gaining ground across regions. Efforts that expand certification pathways, improve financing, develop technical skills and strengthen supply chains will be critical to helping these manufacturers scale.

Overall, Africa's AT sector is positioned for growth, and targeted investment can significantly improve access, affordability and inclusion for persons with disabilities across the continent.

12 DESCRIPTION OF ASSISTIVE TECHNOLOGY ORGANIZATIONS IN AFRICA

12.1 INTRODUCTION

This section provides an overview of organizations supporting disability inclusion and AT across Africa, based on a **structured synthesis of publicly available (website) information from 58 organizations operating at national, regional, and multi-country levels**. The organizations reviewed span East, West, Southern, and North Africa, as well as pan-African and multi-regional initiatives, and include NGOs, service providers, social enterprises, private-sector actors, academic institutions, and global alliances.

The analysis examines how organizations contribute to the AT ecosystem through service delivery, manufacturing and supply, capacity building, policy engagement, financing, innovation, and economic inclusion. It offers insight into the maturity, balance, and coherence of organizational activity across regions, highlighting where systems are relatively well developed and where gaps persist. Particular attention is given to organizational scale, partnerships, funding models, barriers, enablers of success, and monitoring and evaluation practices, all of which shape access to AT and disability-inclusive services across the continent.

Rather than assessing individual organizational performance, this section synthesizes cross-cutting patterns to understand how organizations collectively support AT access and disability inclusion, how they interact with national systems and global initiatives, and what structural factors enable or constrain their effectiveness.

This section is structured as follows:

- **Overview of Organizations Reviewed**
- **Assistive Technology Product Across Africa**
- **Income And Expenditure of Organizations**
- **Partnerships**
- **Funding Sources**
- **Economic Inclusion and Livelihood-Oriented Initiatives**
- **Barriers Faced by Organizations**
- **Enablers to Organizations Success**
- **Monitoring and Evaluation Within Organizations**
- **Key Findings and Messages**
- **Recommendations**
- **Conclusion**

This structured approach provides a foundation for identifying strategic opportunities to strengthen organizational capacity, improve system coherence, and advance more equitable access to AT for persons with disabilities across Africa.

12.2 ORGANIZATIONS SUPPORTING DISABILITY INCLUSION AND ASSISTIVE TECHNOLOGY IN AFRICA

The distribution of the 58 organizations presented in Table 12.2.1 below highlights a clear regional imbalance, with activity clustering in a few hubs while other parts of the continent remain less represented. The presence of a sizable group of multi-regional organizations points to growing cross-border collaboration and regional leadership in the sector. At the same time, the uneven spread suggests opportunities to strengthen coverage, partnerships, and capacity in underrepresented regions.

Table 12.2.1: Geographic Distribution of Organizations Supporting Disability Inclusion and Assistive Technology Across African Regions

African Region	No. of Countries Represented	Specific Countries (Frequencies)	No. of Organizations
East Africa	6	Kenya (13), Uganda (10), Rwanda (8), Ethiopia (6), Malawi (1), Tanzania (1)	**30**
Southern Africa	3	South Africa (7), Zimbabwe (6), Malawi (1)	**9**
West Africa	5	Sierra Leone (2), Togo (2), Nigeria (1), Burkina Faso (1), Ghana (1)	**5**
North Africa	2	Sudan (1), Egypt (1)	**2**
Multi-regional (African Region / Multiple regions)	20+	Operate across multiple African regions and countries (e.g. CHAI, CBM, ATscale, AIFO, Humanity & Inclusion, Whirlwind Wheelchair International, Light for the World)	**12**
Total			**58**

*AIFO: Associazione Italiana Amici di Raoul Follereau; CBM: Christian Blind Mission; CHAI: Clinton Health Access Initiative

KEY CHARACTERISTICS OF ORGANIZATIONS SUPPORTING DISABILITY INCLUSION AND ASSISTIVE TECHNOLOGY ACCESS ACROSS AFRICA.

Table 12.2.2 illustrates a highly uneven organizational landscape, with a strong concentration of entities in East Africa and a much lighter presence in West and North Africa. The mix of long-established NGOs, newer private sector actors, and a small number of academic and government institutions points to a sector that is both historically rooted and gradually evolving. The prominence of multi-regional organizations highlights the role of continental and cross-border actors in shaping priorities, mobilizing resources, and supporting national partners, often compensating for limited local capacity in some regions.

- ***Implications***

The patterns shown suggest that future investments and partnerships may need to place greater emphasis on underrepresented regions to reduce geographic inequities in access to disability and AT services. Strengthening local organizations in these regions, while leveraging the reach and experience of multi-regional actors, could help balance service delivery, build sustainable systems, and support more equitable regional development across the continent.

Table 12.2.2: Key Characteristics of Organizations by African Region

Region	No. of Entities / No. of Countries	Key Countries and Notable Actors	Key Characteristics
East Africa	~30 entities / 6 countries	Kenya (APDK, inABLE, EnableMe Kenya, Innovate Now), Uganda (CORSU Hospital, Katalemwa Cheshire Home, Kyambogo University), Rwanda (RATA, Seeing Hands Rwanda, HVP-Gatagara), Ethiopia (Cheshire Ethiopia, ECDD)	Most developed ecosystem with a dense mix of NGOs, service providers, academic institutions, and emerging private sector actors. Strong focus on rehabilitation, AT access, training, and innovation. Acts as a regional hub for pilots and scale-up.
Southern Africa	~9 entities / 3 countries	South Africa (NCPD), Edit Microsystems, Sitwell Technologies), Zimbabwe (Jairos Jiri Association, Leonard Cheshire Disability Zimbabwe)	Long-established disability organizations alongside technology and service-oriented private firms. Strong institutional history, policy engagement, and rehabilitation services, with growing interest in locally produced assistive technologies.
West Africa	~5 entities / 5 countries	Sierra Leone (Mobility Sierra Leone, Walkabout Foundation), Togo (ERGO TOGO, OADCPH), Nigeria (Accesstech Innovation and Research Center)	Smaller but diverse set of actors. Emphasis on community-based rehabilitation, prosthetics and orthotics, and early-stage innovation. Coverage is uneven, often concentrated in specific countries or cities.
North Africa	2 entities / 2 countries	Sudan (NAPO), Egypt (Helm)	Limited representation but includes key national-level institutions and NGOs. Focused on specialized rehabilitation services, orthotics and prosthetics, and national systems rather than broad regional outreach.
Multi-regional (African Region)	12 entities / 20+ countries	CBM, CHAI, ATscale, Humanity & Inclusion, Light for the World, Whirlwind Wheelchair International, AIFO	Large international and collaborative organizations operating across multiple regions. Provide funding, technical assistance, advocacy, and coordination. Often shape standards, influence policy, and support national partners rather than direct service delivery.

* AIFO: Associazione Italiana Amici di Raoul Follereau; APDK: The Association for the Physically Disabled of Kenya; CBM: Christian Blind Mission; CHAI: Clinton Health Access Initiative; CORSU: Comprehensive Rehabilitation Services for People with Disability in Uganda; ECDD: Ethiopian Center for Disability and Development; NAPO: National Authority for Prosthetics and Orthotics; NCPD: National Council of and for Persons with Disabilities; OADCPH: Organization for the Development of Centers for Persons with Disabilities; RATA: Rwanda Assistive Technology Access

DISTRIBUTION OF TYPE OF ORGANIZATIONS BY AFRICAN REGION

Figure 12.2.1 highlights a sector that is overwhelmingly driven by NGOs across all African regions, with the private sector playing a secondary but visible role. Government and academic institutions appear only marginally, suggesting that most service delivery, innovation, and coordination responsibilities currently rest with civil society actors. This imbalance points to opportunities for stronger public-sector and academic engagement to support regulation, training, and long-term system development.

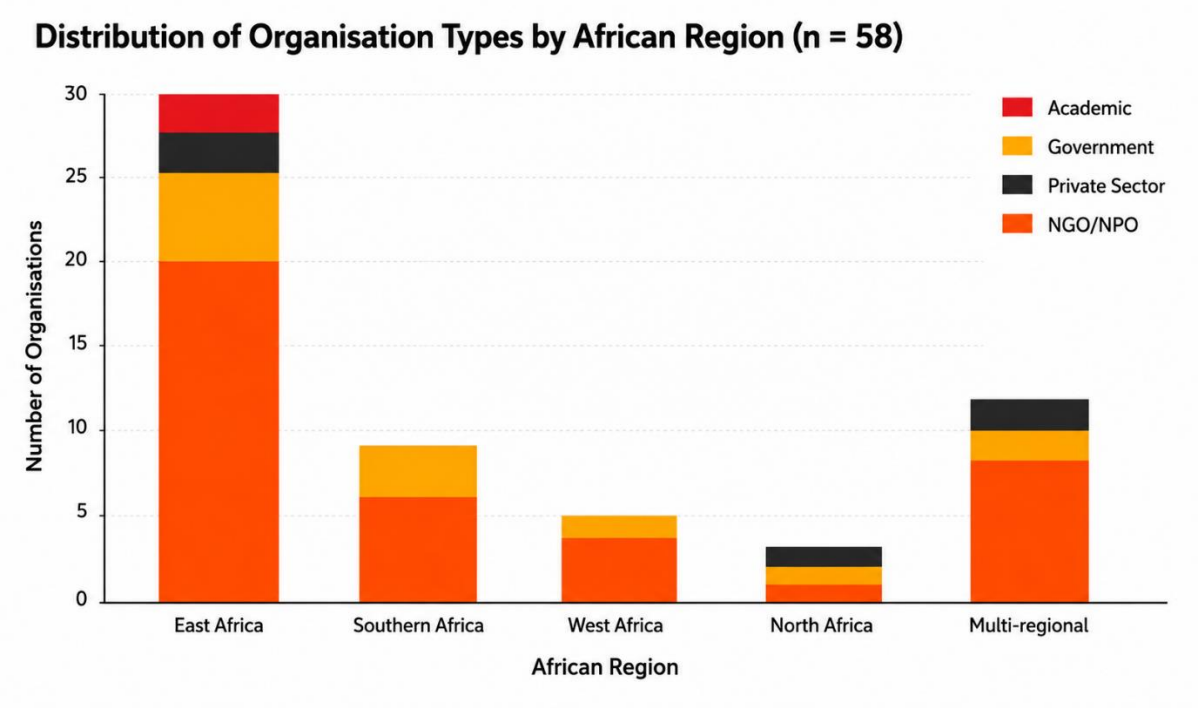


Figure 12.2.1: Distribution of Organization Type by African Region

EMERGENCE OF ORGANIZATIONS SUPPORTING ASSISTIVE TECHNOLOGY AND DISABILITY INCLUSION

Figure 12.2.2 shows a slow and steady emergence of organizations up to the late 1990s, followed by a clear acceleration from the early 2000s onwards. The sharp rise in the past decade points to growing attention to disability inclusion and assistive technology, alongside increased donor interest, policy focus, and innovation activity. This pattern suggests a shift from a small number of long-established institutions to a more dynamic and diverse organizational landscape, with recent growth driven largely by newer actors responding to unmet needs and expanding regional opportunities.

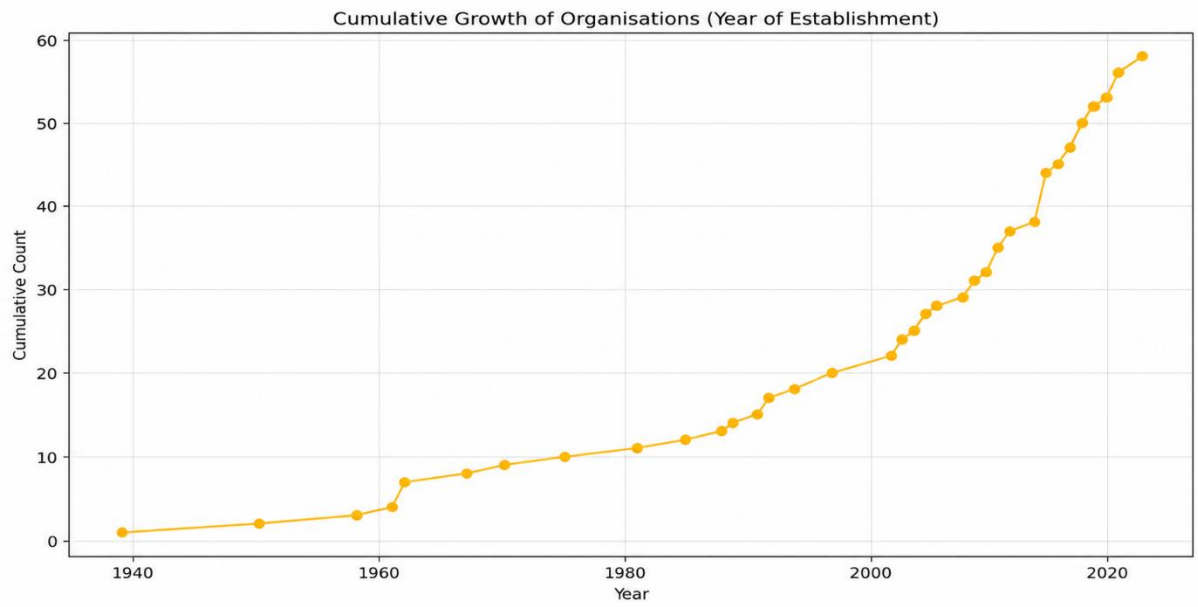


Figure 12.2.2: Growth of Organizations supporting AT and Disability Inclusion Over Time

SIZE OF ORGANIZATIONS

The size information presented in Table 12.2.3 indicates **operational scale rather than precise organizational headcount**. Across the 58 organizations, size is reported inconsistently, with some entities providing detailed staff numbers while others rely on proxy indicators such as beneficiary reach, volunteer networks, geographic coverage, or volume of services delivered. As a result, organizations have been grouped into size categories based on the most credible and comparable indicators available. This approach captures the relative influence and capacity of organizations within the sector, while acknowledging that formal staffing figures alone do not fully reflect scale, reach, or impact, particularly for networked, volunteer-driven, or partnership-based organizations.

The size data show a landscape dominated by small to medium organizations, with only a limited number of large national or international actors. East Africa stands out not just for the number of organizations, but for the full range of sizes represented, from start-ups to very large institutions. In contrast, other regions are characterized by fewer, generally smaller organizations, suggesting uneven capacity and scale across the continent.

Table 12.2.3: Distribution of Organizations by Size Category and African Region

Size Category	African Regions (No. of Organizations)	Typical Size Indicators Used	No. of Organizations
Very small (start-up / micro)	East Africa (5), West Africa (2), Southern Africa (1)	1–5 staff, founders only, project-based teams	8
Small	East Africa (7), Southern Africa (3), West Africa (1), Multi-regional (1)	6–20 staff, small boards, limited national reach	12
Small–medium	East Africa (6), Southern Africa (2), West Africa (1), Multi-regional (2)	21–50 staff, mix of staff and volunteers, multi-project operations	11
Medium	East Africa (5), Southern Africa (2), West Africa (1), North Africa (1), Multi-regional (1)	51–200 staff, formal departments, national service coverage	10
Large (national)	East Africa (4), Southern Africa (2), Multi-regional (3)	200+ staff or very large national membership/volunteer base	9
Very large / international	East Africa (3), Multi-regional (2)	1,000+ staff globally, multi-country operations, large budgets	5
Total			**58**

- ***Implication of Organizations' size on Employment Creation***

The predominance of small and medium organizations suggests that employment creation in the AT sector is **widely distributed but fragmented**, with many roles generated at community and local levels rather than through large employers. While larger national and international organizations offer more stable and specialized employment opportunities, smaller organizations tend to create flexible, skills-based roles such as technicians, trainers, and community workers, often linked to service delivery and outreach. Strengthening the capacity of smaller organizations to scale could enhance both the quantity and quality of jobs, particularly for persons with disabilities and technical professionals.

12.3 ASSISTIVE TECHNOLOGY PRODUCT ACROSS AFRICA

ASSISTIVE TECHNOLOGY TYPES ACROSS AFRICAN REGIONS

Table 12.3.1 shows a strong concentration of organizational activity around mobility-related assistive technologies, reflecting long-standing rehabilitation and physical access needs across the continent. Vision, communication, and digital access technologies form a substantial secondary focus, while hearing, cognition, and self-care technologies are less consistently addressed and often embedded within broader rehabilitation or health program s. Overall, the pattern suggests a sector expanding beyond traditional mobility support but still facing gaps in more specialized and integrated AT domains.

Across African regions, clear differences emerge in the focus and breadth of AT provision. **East Africa** shows the widest coverage, with strong representation across mobility, vision, and digital or communication technologies, reflecting a relatively mature and diversified ecosystem. **Southern Africa** combines long-established mobility and rehabilitation services

with growing private-sector involvement in specialized equipment, while **West and North Africa** are characterized by fewer organizations and a narrower concentration, largely centered on mobility and basic rehabilitation. **Multi-regional organizations** help bridge these gaps by supporting vision, hearing, and system-level AT initiatives across countries, but the overall pattern points to uneven regional capacity and opportunities to strengthen underserved AT domains outside the main regional hubs.

Table 12.3.1: Distribution of Assistive Technology Types Covered by Organizations Across Africa

AT Type	Countries	AT Products	Frequency of Organizations (%)	References
Mobility	Kenya, Uganda, Rwanda, Ethiopia, South Africa, Zimbabwe, Sierra Leone, Malawi, Sudan, Nigeria, Ghana, DR Congo, Burkina Faso, Togo, Egypt	Manual and rough-terrain wheelchairs, sports wheelchairs, prosthetics, orthotics, tricycles, crutches, walkers, standing frames, seating and posture systems	**50 (86%)**	Motivation Charitable Trust (1992); Whirlwind Wheelchair International (1989); APDK (1958); Katalemwa Cheshire Home (1970); CORSU Hospital (1997); INS Orthotics (2015); Cheshire Ethiopia (1962); Cheshire Foundation–Action for Inclusion (1985); Jairos Jiri Association (1950); Sitwell Technologies (2015); Kyaninga Child Development Centre (2014); Mobility Sierra Leone (2008); Walkabout Foundation (2009); NAPO Sudan (1975); OADCPH (2012)
Vision	Kenya, Rwanda, Ethiopia, South Africa, Zimbabwe, Egypt, Nigeria, Malawi, DR Congo, Tanzania	Eyeglasses, magnifiers, white canes, Braille slates, Braille displays and embossers, screen readers, low-vision devices	**27 (47%)**	Lapaire Glasses (2018); Light for the World (1988); inABLE (2009); Seeing Hands Rwanda (2017); Kilimanjaro Blind Trust Africa (2005); CBM (1967); GrossCare International (2015); Helm (2015); Accesstech Innovation and Research Center (2023); HVP-Gatagara (1962)
Hearing	Kenya, Rwanda, Ethiopia, Zimbabwe, Egypt, multiple African countries	Hearing aids, audiometers, assistive listening devices, cochlear-implant support services	**14 (24%)**	ATscale (2018); CHAI (2002); CBM Global Disability Inclusion (2019); CBM (1967); GrossCare International (2015); Edit Microsystems (1991); Light for the World (1988)
Communication / AAC / Digital Access	Kenya, Rwanda, Uganda, South Africa, Zimbabwe, Nigeria, Egypt	AAC devices, communication boards, screen-reader software, accessible ICT, smartphones, digital learning platforms	**22 (38%)**	Edit Microsystems (1991); RATA (2018); EnableMe Kenya (2021); Innovate Now (2019); Seeing Hands Rwanda (2017); GrossCare International (2015); CHAI (2002); CBM (1967); Kyambogo University (2003)

AT Type	Countries	AT Products	Frequency of Organizations (%)	References
Self-care / Activities of Daily Living (ADLs)	Uganda, Ethiopia, South Africa, Rwanda, Malawi, Kenya	Shower and toilet chairs, commodes, adaptive utensils, bathing aids, posture-support chairs	**18 (31%)**	Agape Mobility Ethiopia (2011); Sitwell Technologies (2015); Malamulele Onward (2006); INS Orthotics (2015); Wheelchairs Uganda (2015); Kyaninga Child Development Centre (2014); Beit-CURE Malawi (2002); HVP-Gatagara (1962)
Cognition / Learning / Education AT	Kenya, Uganda, Rwanda, Ethiopia, South Africa	Accessible learning software, educational AT, therapy and play materials, cognitive-support tools	**16 (28%)**	Kyambogo University (2003); CORSU Hospital (1997); LoHo Learning (2023); inABLE (2009); Innovate Now (2019); Light for the World (1988); CBM (1967)
Multi-domain / Comprehensive AT	Multi-country (pan-African)	Integrated mobility, vision, hearing, communication, cognition and self-care solutions	**15 (26%)**	CBM (1967); CHAI (2002); Humanity & Inclusion (1994); ATscale (2018); AIFO (1961); CBM Global Disability Inclusion (2019)

* AIFO: Associazione Italiana Amici di Raoul Follereau; APDK: The Association for the Physically Disabled of Kenya; CBM: Christian Blind Mission; CHAI: Clinton Health Access Initiative; CORSU: Comprehensive Rehabilitation Services for People with Disability in Uganda; HVP: Home de la Vierge des Pauvres; NAPO: National Authority for Prosthetics and Orthotics; OADCPH: Organization for the Development of Centers for Persons with Disabilities; RATA: Rwanda Assistive Technology Access

ASSISTIVE TECHNOLOGY FOCUS AREAS OF ORGANIZATIONS ACROSS AFRICA

Across regions, clear differences emerge in how AT systems are organized and where organizational effort is concentrated (Table 12.3.2). East Africa stands out for its breadth, combining long-established service providers with newer innovation-driven and training-oriented organizations, suggesting a more balanced ecosystem that spans access, capacity building, and local production. Southern Africa shows a more institutional and historically rooted model, with strong fabrication capacity and advocacy structures, but relatively fewer newer innovation actors.

West and North Africa display narrower profiles, with organizational activity largely focused on meeting immediate access needs through mobility and rehabilitation services, and limited engagement in system-level reform or market development. In contrast, multi-regional organizations operate at a different scale, shaping policy, markets, and financing across countries, and helping to compensate for regional gaps. Taken together, the comparison points to uneven maturity across regions and highlights the importance of linking local service delivery with regional and continental efforts to strengthen systems.

Table 12.3.2: Regional Distribution of Organizational Focus Areas Across the Assistive Technology Value Chain in Africa

African Region	Dominant AT Focus Areas	Secondary / Emerging Focus Areas	Key Organizations (Year)	Regional Emphasis and Characteristics
East Africa	Access & service delivery; Supply & provision; Capacity building & training	Innovation (digital AT, co-design, 3D printing); Local manufacturing; Policy engagement	Motivation Charitable Trust (1992); APDK (1958); Katalemwa Cheshire Home (1970); RATA (2018); Kyambogo University (2003); Innovate Now (2019)	Most diversified AT ecosystem, combining service delivery with strong training institutions, innovation hubs, and growing local manufacturing capacity, particularly in mobility and digital AT.
Southern Africa	Supply & access; Manufacturing & fabrication; Advocacy	Innovation; Professional training; Systems strengthening	Jairos Jiri Association (1950); Leonard Cheshire Disability Zimbabwe (1981); Sitwell Technologies (2015); NCPD (1939); Vencorp Foundation (2010)	Characterized by long-established rehabilitation organizations with in-house workshops, complemented by private suppliers and strong advocacy platforms.
West Africa	Access & distribution; Supply of mobility AT	Capacity building; Early-stage innovation	Mobility Sierra Leone (2008); Walkabout Foundation (2009); OADCPH Togo (2012); Accesstech Innovation and Research Center (2023)	Smaller and more service-oriented ecosystem, focused largely on addressing immediate access gaps, particularly for mobility aids and basic rehabilitation services.
North Africa	Manufacturing & production; Clinical service provision	Training; Regulation	NAPO, Sudan (1975); Helm Egypt (2015)	Narrow but specialized focus centered on national prosthetics, orthotics, and rehabilitation systems, with limited diversification across AT domains.
Multi-regional (African Region)	Policy & regulation; System strengthening; Market shaping; Supply & access	Innovation; Research & evidence generation	ATscale (2018); CBM (1967); CHAI (2002); Humanity & Inclusion (1994); Light for the World (1988)	Dominated by large international and regional actors shaping markets, standards, financing, and national AT strategies across multiple countries rather than delivering direct services.

* APDK: The Association for the Physically Disabled of Kenya; CBM: Christian Blind Mission; CHAI: Clinton Health Access Initiative; NAPO: National Authority for Prosthetics and Orthotics; NCPD: National Council of and for Persons with Disabilities; OADCPH: Organization for the Development of Centers for Persons with Disabilities; RATA: Rwanda Assistive Technology Access

ORGANIZATIONS TARGET GROUPS

Across the 58 organizations, target groups are defined broadly, with most actors engaging multiple beneficiary groups rather than a single population. Persons with disabilities sit at the

center of nearly all program s, reflecting a strong cross-disability and rights-based orientation, as seen in organizations such as CBM (1967), NCPD (1939), and Leonard Cheshire Disability Zimbabwe (1981).

A substantial share of organizations prioritizes children and young persons with disabilities, particularly in early intervention, rehabilitation, and inclusive education. This focus is evident in service providers such as Katalemwa Cheshire Home (1970), CORSU Hospital (1997), and Cheshire Ethiopia (1962), as well as skills- and employment-oriented initiatives like Seeing Hands Rwanda (2017) and RATA (2018). Many organizations also specialize in specific impairment groups, most commonly people with mobility impairments and visual impairments, supported by actors such as Motivation Charitable Trust (1992), APDK (1958), inABLE (2009), and Light for the World (1988).

Beyond individuals, organizations frequently target families and caregivers, rehabilitation and education professionals, and institutions and policymakers, recognizing their role in sustaining access and inclusion. Capacity-building and systems-level work by organizations such as the International Society of Wheelchair Professionals (ISWP) (2015), Kyambogo University (2003), ATscale (2018), and CHAI (2002) highlights a shift toward strengthening enabling environments.

Overall, the pattern shows a sector centered on persons with disabilities, especially children and youth, while increasingly combining service delivery with workforce development, policy engagement, and innovation to support longer-term impact.

ASSISTIVE TECHNOLOGY SERVICES PROVIDED BY ORGANIZATIONS

Figure 12.3.1 shows that most organizations focus on **direct service delivery**, particularly the distribution of assistive devices, training, and rehabilitation, highlighting the priority placed on meeting immediate access needs. A substantial share also engages in repair and advocacy, suggesting awareness of sustainability and rights-based approaches beyond one-off provision. In contrast, fewer organizations work on manufacturing, research, and systems strengthening, pointing to ongoing gaps in upstream functions that are critical for long-term, scalable AT systems.

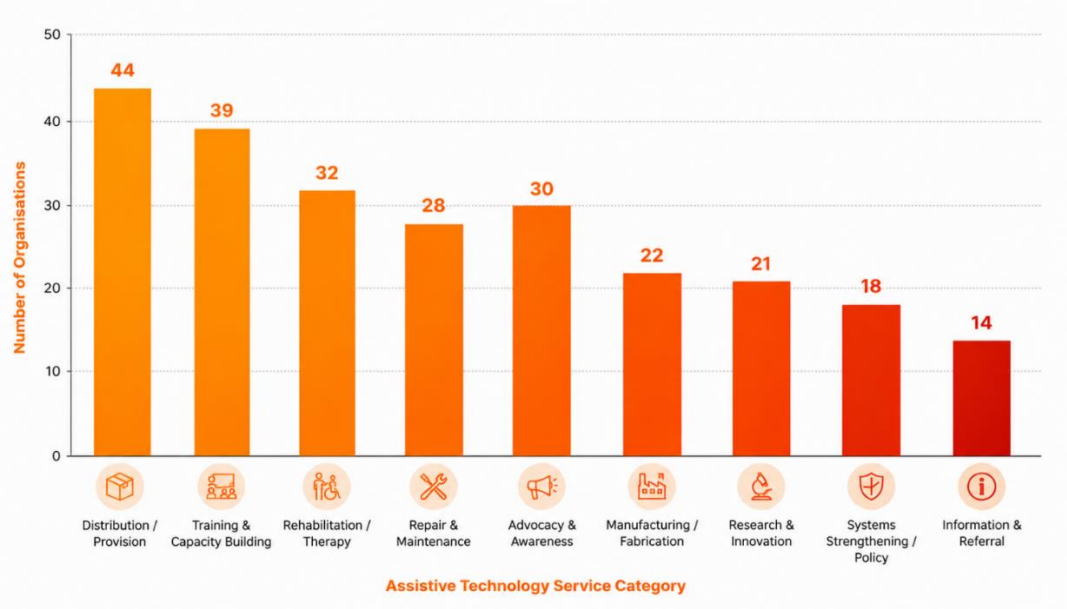


Figure 12.3.1: Distribution of Assistive Technology Services Provided by Organizations

12.4 INCOME AND EXPENDITURE OF ORGANIZATIONS

OVERVIEW OF FINANCIAL TRANSPARENCY AMONG ORGANIZATIONS

Out of the 58 organizations reviewed, only 14 organizations have publicly available income and or expenditure data (Table 12.4.1). These are predominantly large national or multi-country organizations that publish audited accounts or consolidated financial statements, such as CHAI (2002), CBM (1967), Light for the World (1988), AIFO (1961), and Humanity & Inclusion (1994). A small number of nationally based organizations also report financial data, including Motivation Charitable Trust (1992), Caritas Rwanda (1962), Katalemwa Cheshire Home (1970), Kyambogo University (2003), CORSU Hospital (1997), Kyaninga Child Development Centre (2014), Malamulele Onward NPC (2006), and Walkabout Foundation (2009).

This means that 44 of the 58 organizations do not publicly disclose income or expenditure figures, or only reference project-level funding without consolidated annual totals. The available data therefore provide insight mainly into the financial scale of system-level and internationally connected actors, while offering limited visibility into the resources of small and medium, nationally based organizations. Overall, the pattern points to significant gaps in financial transparency and comparability across the AT ecosystem, particularly at country and community levels, where many organizations operate with limited publicly reported financial information.

Table 12.4.1: Availability and Distribution of Publicly Reported Income and Expenditure Data Among Assistive Technology Organizations Across Africa

Region (Total with Financial Data)	Country	Country Count	Data Available (Organizations)	Expenditure Data Available (Organizations)
East Africa (7)	**Kenya**	2	Motivation Charitable Trust (1992); Kyambogo University – budget proxy (2003)	Motivation Charitable Trust (1992); Kyambogo University (2003)
	Uganda	3	CORSU Hospital (1997); Kyambogo University (2003); Kyaninga Child Development Centre – via UK charity (2014)	Katalemwa Cheshire Home (1970); Kyambogo University (2003); Kyaninga Child Development Centre – via UK charity (2014)
	Rwanda	1	Caritas Rwanda (1962)	Caritas Rwanda (1962)
	Ethiopia	0	None	None
	Malawi	0	None	None
Southern Africa (3)	**South Africa**	1	Malamulele Onward (2006)	Malamulele Onward (2006)
	Zimbabwe	0	None	None

Region (Total with Financial Data)	Country	Country Count	Data Available (Organizations)	Expenditure Data Available (Organizations)
	Malawi	0	None	None
West Africa (1)	**Sierra Leone**	1	Walkabout Foundation (2009)	Walkabout Foundation (2009)
	Nigeria	0	None	None
	Togo	0	None	None
	Burkina Faso	0	None	None
North Africa (0)	Sudan	0	None	None
	Egypt	0	None	None
African Region / Multi-country (6)	Multi-country organizations	6	CHAI (2002); Humanity & Inclusion (1994); CBM (1967); CBM Global Disability Inclusion (2019); AIFO (1961); Light for the World (1988)	CHAI (2002); CBM (1967); CBM Global Disability Inclusion (2019); AIFO (1961); Light for the World (1988); Whirlwind Wheelchair International (1989)

* AIFO: Associazione Italiana Amici di Raoul FollereauCBM: Christian Blind Mission; CHAI: Clinton Health Access Initiative; CORSU: Comprehensive Rehabilitation Services for People with Disability in Uganda

ORGANIZATIONS INCOME

Table 12.4.2 highlights that income data are available for only a limited subset of organizations, with reporting concentrated among a small group of actors that operate at national or multi-country scale. Organizations such as CHAI (2002), CBM (1967), Light for the World (1988), AIFO (1961), and Humanity & Inclusion (1994) dominate the reported income figures, reflecting consolidated, organization-wide reporting rather than country- or program - specific disclosure. Where income data are available for nationally based organizations, including Motivation Charitable Trust (1992), CORSU Hospital (1997), and Caritas Rwanda (1962), figures often rely on institutional budgets or donor-linked reporting rather than assistive-technology-specific income streams.

Overall, income visibility is shaped less by geographic spread and more by organizational scale and reporting capacity, reinforcing the challenge of assessing financial resources at country level. The pattern suggests that while system-level actors are financially visible, the funding realities of many locally embedded organizations remain largely undocumented, limiting evidence-based planning and comparative financial analysis within the AT ecosystem.

Table 12.4.2: Publicly Reported Income Data of Assistive Technology Organizations in Africa: Regional and Country Distribution

Region (No. of Countries with Income Data)	Country (No. of Organizations with Income Data)	Organization	Income Data
East Africa (3)	**Kenya (1)**	Motivation Charitable Trust (1992)	£3,534,938 total income (FY2023, audited, organization-wide)
	Uganda (3)	CORSU Hospital (1997)	UGX 18.02bn (2023); UGX 15.20bn (2022)
		Kyambogo University (2003)	UGX 138.49bn approved budget (FY2017/18, proxy income)
		Kyaninga Child Development Centre (2014)	£187.99k (2024); £163.12k (2023), UK charity income
	Rwanda (1)	Caritas Rwanda (1962)	RWF 6.9bn (~USD 5.8m) reported income (2020)
Southern Africa (1)	**South Africa (1)**	Malamulele Onward (2006)	ZAR 2,895,577 total income (FY2020)
West Africa (1)	**Sierra Leone (1)**	Walkabout Foundation (2009)	£513,312 total income (FY2023)
African Region / Multi-country (6)	**Multi-country organizations (6)**	CHAI (2002)	USD 226.8m total income (2023, consolidated)
		Humanity & Inclusion (1994)	~€254m total income (latest reported)
		AIFO (1961)	€4.38m total income (FY2023)
		CBM (1967)	~€342.1m total income (2024)
		CBM Global Disability Inclusion (2019)	€24.16m total income (FY2024)
		Light for the World (1988)	€29.45m total income (2023)

*AIFO: Associazione Italiana Amici di Raoul Follereau; CBM: Christian Blind Mission; CHAI: Clinton Health Access Initiative; CORSU: Comprehensive Rehabilitation Services for People with Disability in Uganda

ORGANIZATIONS EXPENDITURE

The pattern of publicly available expenditure data reveals how spending power and financial visibility are concentrated within a small group of organizations, rather than evenly distributed across the AT ecosystem (Table 12.4.3). Organizations with disclosed expenditure tend to be those with formalized financial systems, external audit requirements, and long-standing relationships with international donors, such as CBM (1967), Light for the World (1988), CHAI (2002), and AIFO (1961). Their expenditure figures reflect consolidated organizational operations and signal where much of the sector's financial decision-making and resource allocation capacity sits.

At the national level, expenditure data appear primarily among institutions with strong governance or statutory reporting obligations, including Motivation Charitable Trust (1992), Kyambogo University (2003), Katalemwa Cheshire Home (1970), and Walkabout Foundation (2009). The absence of expenditure data for most smaller and community-based organizations suggests not a lack of activity, but rather limited incentives or capacity to publish detailed financial accounts. Overall, the expenditure landscape underscores a structural divide between organizations that shape systems through large-scale spending and those that deliver services on the ground with far less financial visibility, pointing to important gaps for accountability, planning, and long-term sustainability within the sector.

Table 12.4.3: Publicly Reported Expenditure of Assistive Technology Organizations in Africa: Regional and Country Distribution

Region (No. of Countries with Expenditure Data)	Country (No. of Organizations with Expenditure Data)	Organization	Expenditure Data
East Africa (3)	**Kenya (1)**	Motivation Charitable Trust (1992)	£3,465,238 total expenditure (FY2023, audited, organization-wide)
	Uganda (3)	Katalemwa Cheshire Home (1970)	UGX 5 billion annual budget (2013)
		Kyambogo University (2003)	UGX 126.42 billion total expenditure (FY2019/2020)
		Kyaninga Child Development Centre (2014)	£163,120 (2023); £187,990 (2024), UK charity accounts
	Rwanda (1)	Caritas Rwanda (1962)	USD 2,952,862 (2023, USAID project expenditure)
Southern Africa (1)	**South Africa (1)**	Malamulele Onward NPC (2006)	ZAR 1,886,449 operating expenses (FY2020)
West Africa (1)	**Sierra Leone (1)**	Walkabout Foundation (2009)	£768,104 total expenditure (FY2023)
African Region / Multi-country (6)	**Multi-country organizations (6)**	CHAI (2002)	USD 226,057,453 total expenditure (2023, consolidated)
		AIFO (1961)	€4,744,247 total costs (FY2023)
		CBM (1967)	~€334.2 million total expenditure (2024)
		CBM Global Disability Inclusion (2019)	€24,174,930 consolidated expenditure (FY2024)
		Light for the World (1988)	€30,024,742 total expenditure (2023)
		Whirlwind Wheelchair International (1989)	USD 103,000 (2019); USD 109,128 (2018); USD 106,578 (2017)

*AIFO: Associazione Italiana Amici di Raoul Follereau; CBM: Christian Blind Mission; CHAI: Clinton Health Access Initiative

12.5 PARTNERSHIPS

OVERVIEW OF ORGANIZATIONS PARTNERSHIPS

Most organizations maintain formal partnerships with government institutions, particularly ministries of health, education, and social protection, national disability councils, and public hospitals. These relationships anchor service delivery, training, and policy engagement at country level, as seen among organizations such as APDK in Kenya, Caritas Rwanda, CORSU Hospital in Uganda, and Cheshire Ethiopia.

A second core partnership layer involves international NGOs and global disability alliances. Many organizations are part of long-standing networks such as CBM, Humanity & Inclusion, Motivation Charitable Trust, Leonard Cheshire Disability Zimbabwe, Light for the World, and CURE Zimbabwe. These partnerships typically provide technical expertise, quality standards, and funding while supporting locally led implementation.

Donors and development partners play a central enabling role, often through multi-country or consortium arrangements. Agencies and foundations such as USAID, the EU, Norad, the LEGO Foundation, Liliane Fonds, UNDP, and the World Bank support program s in assistive technology, inclusive education, rehabilitation, and innovation. Platforms such as ATscale and the AT2030/GDI Hub illustrate how funding, coordination, and technical leadership are combined within shared initiatives.

Partnerships with universities and research institutions are common, particularly among hospitals, training institutions, and innovation hubs, supporting workforce development, clinical placements, and applied research. Examples include collaborations involving Kyambogo University, the University of Rwanda, and international academic partners.

Engagement with OPDs is a defining feature across many organizations, ensuring community reach, accountability, and rights-based programming. At the same time, private-sector partnerships are increasingly prominent, especially among assistive-technology manufacturers and accelerators such as Lapaire Glasses, inABLE, and Innovate Now, linking innovation, investment, and market access.

Overall, the partnership landscape shows organizations functioning as part of interconnected national and global systems rather than as stand-alone actors, with effectiveness closely tied to the strength and diversity of these collaborations.

PARTNERSHIP LANDSCAPE AND ROLES ACROSS AFRICAN REGIONS

Table 12.5.1 highlights a broad, layered, and strongly systems-oriented partnership landscape across African regions. Organizations rarely rely on a single type of partner. Instead, they combine government engagement, civil-society collaboration, and international support to deliver and sustain their work.

Across all regions, partnerships with government institutions remain central, particularly for service delivery, training, and policy alignment. This reflects a clear recognition that long-term impact in AT and disability services depends on working within national systems rather than alongside them. International NGOs, donors, and global alliances play a complementary role, providing funding, technical expertise, and access to global standards. In East and Southern Africa especially, organizations are embedded in long-standing international networks such

as CBM, Humanity & Inclusion, Leonard Cheshire Disability Zimbabwe, and ATscale, which help stabilize program s and support scale across countries.

The table also shows growing differentiation by region. East Africa displays the most diverse partnership mix, combining public sector, academia, private sector, and innovation-focused collaborations. West Africa partnerships are more tightly concentrated on service delivery and donor support, while Southern Africa shows stronger links to corporate partners, suppliers, and federated NGO models.

Across regions, engagement with organizations of persons with disabilities emerges as a critical cross-cutting feature, reinforcing participatory, rights-based approaches. Overall, the pattern suggests that organizational effectiveness is closely tied to the ability to balance local ownership with regional and global partnerships that bring resources, credibility, and technical depth.

Table 12.5.1: Overview of Key Partnership Categories, Partner Roles, and Scope of Collaboration Across African Regions

African Region	Partnership Category	Role of Partners	Scope of Partnership	Example Organizations (Name, Year)
East Africa	Government and public institutions	Policy alignment, service delivery, regulation, referrals	National and sub-national	APDK (1958); Caritas Rwanda (1962); CORSU Hospital (1997); Cheshire Ethiopia (1962)
	International NGOs & global alliances	Technical support, funding, quality standards, program co-implementation	Regional and global	CBM (1967); Motivation Kenya (2003); Light for the World (1988); Humanity & Inclusion (1994)
	Donors & development agencies	Program and core funding, innovation support	Global	USAID; Norad; LEGO Foundation; Liliane Fonds; UNDP (via partner organizations)
	Academic & research institutions	Training, clinical placements, research and innovation	National and international	Kyambogo University (2003); University of Rwanda partnerships via RATA (2018)
	OPDs & civil society	Community outreach, co-design, advocacy, accountability	Local and national	NCPD Rwanda (1939); UDPK Kenya partnerships via EnableMe Kenya (2021)
	Private sector & investors	Technology, market access, investment, employment pathways	National and global	Lapaire Glasses (2018); inABLE (2009); Innovate Now (2019)
West Africa	Government and public institutions	National coordination, service delivery, regulation	National	OADCPH Togo (2012); Accesstech Innovation and Research Center Nigeria (2023); Mobility Sierra Leone (2008)
	International NGOs & donors	Funding, humanitarian response, technical assistance	Regional and global	CBM partnerships via OADCPH (2012); Walkabout Foundation (2009)

African Region	Partnership Category	Role of Partners	Scope of Partnership	Example Organizations (Name, Year)
	OPDs & community organizations	Local implementation and beneficiary identification	Local	Mobility Sierra Leone (2008); ERGO TOGO (2016)
Southern Africa	Government and public institutions	Health services, national program s, legitimacy	National	NCPD South Africa (1939); CURE Zimbabwe (2021)
	Global NGO networks	Funding, governance, standards, cross-country learning	Global	Leonard Cheshire Disability Zimbabwe (1981); CBM Global Disability Inclusion (2019)
	Donors & corporate partners	Financing, fundraising, service expansion	Global and national	King Baudouin Foundation via Malamulele Onward (2006); Stanbic Bank Zimbabwe via CURE (2021)
	Private sector & suppliers	Product sourcing, service delivery, professional networks	Global and national	Edit Microsystems (1991)Sitwell Technologies (2015); Edit Microsystems (1991)
North Africa	International humanitarian partners	Technical support, conflict and emergency response	Global	NAPO Sudan with ICRC (1975)
Multi-regional / Pan-African	Global partnerships & consortia	Coordination, standards setting, large-scale financing	Global	ATscale (2018); CHAI (2002); ISWP (2015)
	Federated or network models	Shared governance, technical assistance, advocacy	Regional and global	Caritas Confederation via Caritas Rwanda (1962); KITUMO consortium via HVP-Gatagara (1962)

* APDK: The Association for the Physically Disabled of Kenya; CBM: Christian Blind Mission; CHAI: Clinton Health Access Initiative; CORSU: Comprehensive Rehabilitation Services for People with Disability in Uganda; HVP: Home de la Vierge des Pauvres; ICRC: International Committee of the Red Cross; ISWP: International Society of Wheelchair Professionals; KBTA: Kilimanjaro Blind Trust Africa; NAPO: National Authority for Prosthetics and Orthotics; NCPD: National Council of and for Persons with Disabilities; RATA: Rwanda Assistive Technology Access; UDPK: United Disabled Persons of Kenya; UNDP: United Nations Development Program ; USAID: United States Agency for International Development

12.6 FUNDING SOURCES

OVERVIEW OF FUNDING SOURCES

Across the 58 organizations, funding models are diverse but uneven. **Donor and foundation funding** remains the primary source across all regions, particularly for NGOs, hospitals, and service providers, with bilateral agencies and large foundations underpinning most operations. This provides stability but also creates long-term dependence.

Government funding plays a more limited and targeted role, mainly supporting public institutions and a small number of hospitals embedded in national systems, often through co-financing or indirect support rather than core grants. **Self-generated and commercial income** distinguishes private companies, social enterprises, and a few NGOs that have developed sales, fees, or consulting models to supplement donor funding.

Regionally, **East Africa** shows the most complex funding mix, **Southern Africa** displays stronger private-sector and commercial revenue, and **West Africa** remains more donor-reliant. Overall, the landscape points to a gradual move toward hybrid financing models, but external donors continue to underpin the sector.

FUNDING LANDSCAPE AND FINANCING MODELS ACROSS AFRICAN REGIONS

Table 12.6.1 below shows clear regional patterns in how organizations finance AT and disability-related work across Africa. **East Africa** exhibits the most diversified funding landscape, combining international donor support, government financing, self-generated income, and innovation-oriented development finance, reflecting a relatively mature and mixed ecosystem. **West Africa** organizations remain more heavily reliant on donor and development partner funding, with fewer examples of established social enterprise or commercial revenue models. In **Southern Africa**, funding profiles are more polarized, with a strong presence of corporate, private-sector, and commercial income alongside traditional donor support, particularly among service providers and suppliers. **North Africa** shows a narrower funding base, largely anchored in government financing supplemented by humanitarian partners.

Finally, **pan-African organizations** draw primarily on bilateral and multilateral donors to support large-scale, multi-country program s and systems-level initiatives. Overall, the table highlights both the dominance of external donor funding and a gradual shift toward hybrid and self-sustaining models, especially in regions with stronger private-sector and innovation ecosystems.

Table 12.6.1: Key Funding Sources, Organizational Financing Models, and Regional Patterns Across Africa

African Region	Funding Sources	Organizations (Country)	Frequency	Role and scope of funding
East Africa	International donors & foundations	Caritas (Rwanda) 1962; Katalemwa Cheshire Home (Uganda) 1970; (ECDD) (Ethiopia) 2005; RATA (Rwanda); Seeing Hands (Rwanda); APDK (Kenya) 1958; Cheshire CF-AI (Ethiopia)	7	Core and project funding for service delivery, rehabilitation, inclusive education, and AT provision
	Government & public funding	Kyambogo University (Uganda) 2003; HVP Gatagara (Rwanda) 1962	2	Public subventions, institutional support, and integration into national systems
	Self-generated / social enterprise	CORSU Hospital (Uganda) 1997; INS Orthotics (Uganda) 2015; Wheelchairs (Uganda); Kumi Orthopedic Centre (Uganda); LoHo Learning (Kenya)	5	Patient fees, device sales, subscriptions, and service-based revenue
	Innovation & development finance	Innovate Now (Kenya) 2019; Motivation Kenya 2003; ATscale-linked program s (Kenya/Rwanda)	3	Accelerator funding, AT innovation, systems building
West Africa	Donors & development partners	OADCPH (Togo) 2012; Walkabout Foundation (Sierra Leone) 2009; Mobility Sierra Leone (Sierra Leone)	3	Program grants, humanitarian support, AT access

African Region	Funding Sources	Organizations (Country)	Frequency	Role and scope of funding
	Self-generated / hybrid	Accesstech Innovation and Research Center (Nigeria) 2023	1	Sales, training fees, disability inclusion services
Southern Africa	Donors & foundations	Beit-CURE (Malawi) 2002; Leonard Cheshire Disability Zimbabwe 1981; Jairos Jiri Association (Zimbabwe)	3	Free or subsidized clinical and rehabilitation services
	Corporate & private sector	Malamulele Onward (South Africa) 2006; Vencorp Foundation (South Africa) 2010; CURE (Zimbabwe)	3	CSR funding, sponsorships, philanthropic corporate support
	Commercial revenue	Sitwell Technologies (South Africa) 2015; Edit Microsystems (South Africa) 1991; GrossCare International (Zimbabwe)	3	AT sales, consulting, insurance-linked payments
North Africa	Government with humanitarian partners	NAPO (Sudan) 1975	1	National prosthetics and orthotics services with ICRC support
Pan-African / Multi-regional	Bilateral & multilateral donors	CBM Global Disability Inclusion (Multiple) 1967; CHAI (Multiple) 2002; ATscale (Multiple) 2018; AIFO (Multiple); ISWP (Multiple)	5	Large-scale, multi-country program s, coordination, standards, and systems strengthening

* AIFO: Associazione Italiana Amici di Raoul Follereau; APDK: The Association for the Physically Disabled of Kenya; CBM: Christian Blind Mission; CF-AI: Cheshire Foundation – Action for Inclusion; CHAI: Clinton Health Access Initiative; CORSU: Comprehensive Rehabilitation Services for People with Disability in Uganda; ECDD: Ethiopian Center for Disability and Development; ISWP: International Society of Wheelchair Professionals; NAPO: National Authority for Prosthetics and Orthotics; RATA: Rwanda Assistive Technology Access

12.7 Economic Inclusion and Livelihood-Oriented Initiatives

Overview of Economic Inclusion through Livelihoods, Employment, and Market-Based Initiatives

This section synthesizes the economic and livelihood-oriented initiatives implemented by organizations across the dataset, highlighting how disability-focused interventions are increasingly linked to **employment, entrepreneurship, and market participation.**

Rather than treating economic support as a stand-alone activity, most organizations embed livelihoods within broader rehabilitation, education, and assistive-technology program s. Common approaches include skills and vocational training, inclusive employment pipelines, micro-enterprise support, and savings and financial inclusion mechanisms, often targeted at persons with disabilities and their caregivers. A notable share of initiatives leverages **AT production, service delivery, and innovation** as pathways to job creation and enterprise development, while others focus on market shaping and ecosystem strengthening to enable sustainable work opportunities at scale. Overall, the section reflects a clear shift toward **integrated economic inclusion**, where restoring function, building skills, and strengthening markets are combined to support long-term financial independence and resilience.

ECONOMIC AND LIVELIHOOD INITIATIVES SUPPORTING EMPLOYMENT, ENTREPRENEURSHIP, AND MARKET PARTICIPATION ACROSS AFRICA

Table 12.7.1 shows clear regional patterns in how organizations link disability inclusion to livelihoods and economic participation. **East Africa** presents the most diverse mix of initiatives, combining employability program s, entrepreneurship support, savings mechanisms, assistive-technology manufacturing, and innovation-led models. Organizations such as Motivation Charitable Trust (1992), APDK (1958), Katalemwa Cheshire Home (1970), Innovate Now (2019), and HVP Gatagara (1962) illustrate how rehabilitation, skills development, and local production are deliberately connected to employment and enterprise pathways.

In **Southern Africa**, initiatives place stronger emphasis on **inclusive employment systems and market-based participation**, including employer engagement, job matching, and commercially viable AT services, as seen in NCPD South Africa (1939), Sitwell Technologies (2015), and Leonard Cheshire Disability Zimbabwe (1981). **West Africa** reflects a more limited but emerging focus, with livelihoods largely embedded in donor-supported program s alongside skills-based social enterprises such as Accesstech Innovation and Research Center (2023). **North Africa** is represented mainly through rehabilitation-led approaches, where restored mobility underpins economic participation, exemplified by NAPO Sudan (1975).

At the **pan-African level**, initiatives shift toward **market shaping and workforce professionalization**, with platforms such as ATscale (2018), CHAI (2002), ISWP (2015), and Whirlwind Wheelchair International (1989) strengthening systems that enable employment and enterprise at scale. Overall, Table 10 highlights a shift toward integrated economic inclusion models that align skills, assistive technology, and markets to support sustainable livelihoods.

Table 12.7.1: Economic and Livelihood Initiative Categories, Implementation Focus, and Regional Distribution Across African Regions

African Region	Initiative Category	Description of Initiative Focus	Example Organizations (Country)
East Africa	Employment and employability program s	Vocational training, digital and ICT skills, internships, job placement, and inclusive employment pipelines for persons with disabilities	RATA (Rwanda); Seeing Hands Rwanda (Rwanda); inABLE (Kenya); KBTA (Kenya)
	Entrepreneurship and micro-enterprise development	Business skills training, startup kits, micro-enterprises, income-generating activities for persons with disabilities and caregivers	APDK (Kenya); Katalemwa Cheshire Home (Uganda); ECDD (Ethiopia); KCDC (Uganda)
	Savings and financial inclusion	Village Savings and Loan Associations, savings groups, financial literacy and access to microcredit	Motivation Kenya; Motivation Uganda; CBM partners; Light for the World program s
	Assistive technology manufacturing and services	Local production, repair, and distribution of wheelchairs and orthopedic devices linked to job creation	Motivation Kenya; HVP Gatagara (Rwanda); Cheshire Ethiopia (Ethiopia); INS Orthotics (Uganda)

African Region	Initiative Category	Description of Initiative Focus	Example Organizations (Country)
	AT innovation and venture acceleration	Startup incubation, investor readiness, scaling of AT enterprises	Innovate Now (Kenya)
	Rehabilitation-linked economic enablement	Restoring mobility and function as a pathway to education, work, and independence	CORSU Hospital (Uganda); Agape Mobility (Ethiopia); Ugani Foundation (multiple)
West Africa	Donor-supported livelihood program s	Livelihood and resilience support embedded in disability and child-focused program s	TIC Rwanda*; Walkabout Foundation (Sierra Leone)
	Social enterprise and skills-based income	Digital skills training, fee-for-service models, and inclusive labor-market services	Accesstech Innovation and Research Center (Nigeria)
Southern Africa	Inclusive employment and job-matching	Career portals, internships, learnerships, and employer engagement	NCPD South Africa (South Africa); Western Cape Network on Disability (South Africa)
	Corporate and market-based employment	Direct job creation through private sector AT supply and consulting	Lapaire Glasses*; Sitwell Technologies (South Africa); Edit Microsystems (South Africa)
	Community-based inclusive development with livelihoods	CBID programs integrating income generation, food security, and local enterprises	Jairos Jiri Association (Zimbabwe); Leonard Cheshire Disability Zimbabwe (Zimbabwe)
North Africa	Rehabilitation-led economic participation	Provision of prosthetics and orthotics enabling participation in work and society	NAPO Sudan (Sudan)
Pan-African / Multi-regional	Market shaping and ecosystem strengthening	Strengthening AT markets, supply chains, affordability, and policy environments	ATscale (multiple); CHAI (multiple)
	Workforce development and professionalization	Training and certification of rehabilitation and wheelchair service professionals	ISWP (multiple); FATO (Burkina Faso-based, regional)
	Social enterprise manufacturing networks	Decentralized local production and repair businesses	Whirlwind Wheelchair International (multiple); Motivation Charitable Trust global model

* APDK: The Association for the Physically Disabled of Kenya; CBM: Christian Blind Mission; CHAI: Clinton Health Access Initiative; CORSU: Comprehensive Rehabilitation Services for People with Disability in Uganda; ECDD: Ethiopian Center for Disability and Development; FATO: African Federation of Rehabilitation Professionals; HVP: Home de la Vierge des Pauvres; ISWP: International Society of Wheelchair Professionals; KBTA: Kilimanjaro Blind Trust Africa; NAPO: National Authority for Prosthetics and Orthotics; NCPD: National Council of and for Persons with Disabilities; RATA: Rwanda Assistive Technology Access; TIC: Tiberias Initiative for Children

12.8 BARRIERS FACED BY ORGANIZATIONS

OVERVIEW OF BARRIERS ORGANIZATIONS IN AFRICA

A review of the 58 organizations identifies barriers that are predominantly **structural and system-wide**, shaping both organizational performance and beneficiary outcomes (Table 12.8.1). A key constraint across regions is **limited and unstable financing**. Heavy reliance on external, project-based donor funding, coupled with limited domestic or unrestricted resources, undermines long-term sustainability, planning, and scale. This financial pressure is compounded by **weak AT and rehabilitation systems**, marked by fragmented supply chains, high import and logistics costs, limited local manufacturing capacity, and inadequate repair and maintenance services, all of which increase costs and restrict access.

Many organizations also face a persistent **shortage of skilled human resources**, including therapists, technicians, educators, and rehabilitation professionals. Gaps in training pipelines, staff retention challenges, and limited professional development opportunities are particularly acute in rural and low-resource settings. In parallel, **physical and digital inaccessibility** remains widespread, with poorly designed infrastructure, inaccessible transport, unreliable connectivity, and weak enforcement of accessibility standards constraining participation and service delivery.

Finally, **societal stigma, low awareness, and weak policy implementation** continue to limit impact. Negative attitudes toward disability reduce service uptake and employment opportunities, while fragmented governance, limited data, and insufficient budget allocation slow the translation of policy commitments into practice. Overall, the barriers documented point to the need for coordinated, system-level approaches that address financing, workforce development, infrastructure, and social norms alongside program delivery.

Table 12.8.1: Summary of Barriers across African Regions

African Region	Barrier Category	Summary of Barrier	Organizations Facing Barrier (Name, Year)	Frequency
East Africa	Funding instability	Heavy reliance on donor and project-based funding, limited unrestricted or domestic financing, difficulty sustaining and scaling program s	Motivation Charitable Trust (1992); Caritas Rwanda (1962); Katalemwa Cheshire Home (1970); CBM (1967); Seeing Hands Rwanda (2017)	12
	Weak AT and rehabilitation supply chains	Fragmented procurement, high import and logistics costs, limited local manufacturing, poor repair and maintenance services	RATA (2018); OADCPH partners; HVP Gatagara (1962); Cheshire Ethiopia (1962); Innovate Now (2019)	14
	Skilled workforce shortages	Limited availability of trained therapists, technicians, educators, and AT professionals; retention challenges	CORSU Hospital (1997); ISWP (2015); Malamulele Onward*; Cheshire Ethiopia (1962)	10
	Inaccessible physical and	Poorly designed buildings, inaccessible transport,	Kyambogo University (2003); EnableMe Kenya	11

African Region	Barrier Category	Summary of Barrier	Organizations Facing Barrier (Name, Year)	Frequency
	digital environments	unreliable internet/electricity, lack of accessible digital platforms	(2021); Helm (2015); Edit Microsystems (1991)	
	Stigma and discrimination	Negative attitudes, stereotypes, and low awareness reducing service uptake, inclusion, and employment	Humanity & Inclusion (1994); (APDK) (1958); Seeing Hands Rwanda (2017); KCDC (2014)	13
West Africa	Affordability and poverty constraints	High cost of assistive products and services relative to income levels; limited insurance coverage	OADCPH (2012); Walkabout Foundation (2009); Accesstech Innovation and Research Center (2023)	6
	Weak systems and coordination	Limited integration with public health systems, weak referral pathways, fragmented service provision	OADCPH (2012); ERGO TOGO (2016)	4
Southern Africa	Policy implementation gaps	Progressive disability policies exist but are poorly implemented or underfunded	NCPD South Africa (1939); Western Cape Network on Disability (1997); Leonard Cheshire Disability Zimbabwe (1981)	7
	Infrastructure and geographic barriers	Rural isolation, poor roads, transport barriers, and uneven service coverage	Malamulele Onward (2006); Jairos Jiri Association (1950)	5
	Market and cost barriers	High cost of specialized AT, limited purchasing power, fragmented markets	Sitwell Technologies (2015); Edit Microsystems (1991); Vencorp Foundation (2010)	6
North Africa	Conflict and instability	Conflict-related disruptions affecting logistics, service continuity, and supply chains	NAPO Sudan (1975)	1
Pan-African / Multi-regional	System-wide AT market failures	Underdeveloped AT markets, fragmented supply chains, weak demand aggregation, limited investment	ATscale (2018); CHAI (2002); Whirlwind Wheelchair International (1989)	6
	Data and evidence gaps	Lack of reliable data on disability prevalence, AT needs, and service coverage	ATscale (2018); CHAI (2002); NCPD South Africa (1939); CBM (1967)	8
	Governance and coordination challenges	Fragmented institutional mandates, weak cross-sector coordination, limited accountability	CBM Global Disability Inclusion (2019); Light for the World (1988); ISWP (2015)	7

* APDK: The Association for the Physically Disabled of Kenya; CBM: Christian Blind Mission; CHAI: Clinton Health Access Initiative; CORSU: Comprehensive Rehabilitation Services for People with Disability in Uganda; HVP: Home de la Vierge des Pauvres; ISWP: International Society of Wheelchair Professionals; KCDC: Kyaninga Child Development Centre; NAPO: National Authority for Prosthetics and Orthotics; NCPD: National Council of and for Persons with Disabilities; OADCPH: Organization for the Development of Centers for Persons with Disabilities; RATA: Rwanda Assistive Technology Access

The barriers identified have clear and reinforcing implications for persons with disabilities. **Unstable funding** leads to uneven coverage, short-term services, and long waiting times, often leaving access dependent on location or donor priorities rather than need. **Weak AT and rehabilitation systems** result in high costs, limited availability, and inappropriate devices, reducing mobility, independence, and participation in education and work.

Shortages of skilled personnel affect service quality and safety, with poor assessment, fitting, and follow-up increasing the risk of device failure and health complications. At the same time, **inaccessible physical and digital environments** continue to exclude persons with disabilities from schools, workplaces, health services, transport, and online platforms, even where services exist.

Finally, **stigma, discrimination, and weak policy implementation** undermine rights and inclusion, limiting employment opportunities and discouraging service uptake. Together, these barriers trap many persons with disabilities in a cycle of higher costs, fewer choices, and reduced economic and social participation, underscoring the need for coordinated, system-level responses.

KEY BARRIERS

1. Funding instability and financial constraints *(predominant in East and West Africa)*

- Heavy reliance on external, project-based donor funding
- Limited access to unrestricted or domestic financing
- Short funding cycles that disrupt continuity of services
- Difficulty sustaining and scaling program s beyond pilots

2. Weak AT and rehabilitation systems *(predominant in East and West Africa)*

- Fragmented and inefficient AT supply chains
- High import duties, logistics, and transportation costs
- Limited local manufacturing, fitting, and repair capacity
- Inconsistent availability of spare parts and maintenance services

3. Shortage of skilled personnel *(predominant in East and Southern Africa)*

- Insufficient numbers of trained therapists, technicians, and rehabilitation professionals
- Weak training pipelines and limited professional development opportunities
- High staff turnover, particularly in rural and underserved areas
- Overburdened specialist affecting service quality and follow-up

4. Inaccessible physical and digital environments *(predominant across all regions, especially East and Southern Africa)*

- Poorly designed or inaccessible buildings, schools, and workplaces
- Limited accessible public transport and rural connectivity
- Weak enforcement of accessibility standards and building codes
- Digital exclusion due to inaccessible platforms, poor internet, and unreliable power

5. Societal stigma, discrimination, and low awareness *(predominant across all regions, acute in East and West Africa)*

- Negative attitudes and stereotypes toward disability
- Discrimination in education, employment, and service access
- Families discouraged from seeking services due to social pressure and misconceptions
- Low awareness among employers, service providers, and policymakers

6. Policy, governance, and coordination gaps *(predominant in Southern and West Africa)*

- Weak implementation of disability and inclusion legislation
- Fragmented institutional mandates across ministries and agencies
- Limited government budget allocation for disability and AT services
- Poor coordination between governments, NGOs, and service providers

7. Data and evidence gaps *(predominant at pan-African and multi-country levels)*

- Lack of reliable data on disability prevalence and AT needs
- Weak monitoring, evaluation, and information systems
- Limited evidence to guide planning, budgeting, and procurement
- Difficulty demonstrating demand to attract public and private investment
-

8. Geographic, conflict, and infrastructure challenges *(predominant in West and North Africa, and fragile contexts)*

- Remote and hard-to-reach communities with poor road networks
- Conflict and political instability disrupting services and supply chains
- High costs and delays in last-mile delivery

Uneven national coverage of rehabilitation and AT services

12.9 Enablers to organizations success

Overview of enablers organizations' success in Africa

A review of all **58 organizations** highlights that success is driven by a common set of **structural and strategic enablers** rather than isolated activities.

Across organizations, strong, **diversified partnerships** with governments, OPDs, NGOs, donors, academia, and the private sector provide legitimacy, resources, technical expertise, and access to national systems. **Deep local anchoring**, through community-based and decentralized delivery models, volunteer networks, and caregiver engagement, strengthens trust, relevance, and sustainability.

Capacity building and workforce development are also central, with many organizations investing in training local professionals, technicians, educators, and caregivers to improve service quality and reduce reliance on external expertise. Finally, **innovation and sustainable operating models**, including user-centered design, local manufacturing, digital platforms, and social enterprise approaches, enhance affordability, scalability, and organizational resilience.

Overall, the experience of the 58 organizations shows that impact is sustained where partnerships, community grounding, capacity development, and innovation are aligned within supportive systems. Table 12.9.1 highlights that organizational success across regions is enabled less by single interventions and more by **how organizations are positioned within systems. East Africa** benefits from strong government engagement, community-based models, and growing innovation ecosystems, enabling scale and sustainability. **West Africa** relies more heavily on NGO partnerships and donor support, with social enterprise models beginning to strengthen resilience. In **Southern Africa**, advocacy capacity, corporate engagement, and professionalized service delivery are prominent enablers, supporting both policy influence and market-based approaches. **Pan-African organizations** play a distinct catalytic role, focusing on market shaping, standards, and policy to enable impact at scale across countries. Overall, the enablers point to the importance of aligning partnerships, local capacity, innovation, and systems engagement to sustain impact for persons with disabilities.

Table 12.9.1: Overview of Key Enablers of Organizational Success by African Region and Type of System Engagement

African Region	Key Enablers	What this Enables in Practice	Example Organizations (Name, Year)
East Africa	Strong government partnerships; community-based delivery (CBID/CBR); local manufacturing; capacity building; innovation hubs	System integration, wide geographic reach, workforce development, affordable and appropriate AT, scalable innovation	APDK (1958); Caritas Rwanda (1962); Katalemwa Cheshire Home (1970); Motivation Charitable Trust (1992); Innovate Now (2019); RATA (2018)
West Africa	Strategic NGO partnerships; donor backing; volunteer networks; emerging social enterprise models	Program continuity, access to AT supply chains, growing sustainability through hybrid models	OADCPH (2012); ERGO TOGO (2016); Walkabout Foundation (2009); Accesstech Innovation and Research Center (2023)
Southern Africa	Strong advocacy networks; corporate and private-sector engagement; professional expertise; diversified financing	Policy influence, market-based service delivery, financial stability, high service quality	NCPD South Africa (1939); Leonard Cheshire Disability Zimbabwe (1981); Sitwell Technologies (2015); Vencorp Foundation (2010)
North Africa	Long-standing humanitarian partnerships; government recognition; workforce training	Service continuity in fragile settings, national referral capacity	NAPO Sudan (1975)

African Region	Key Enablers	What this Enables in Practice	Example Organizations (Name, Year)
Pan-African / Multi-regional	Systems-level partnerships; market shaping; data and evidence; policy advocacy; global networks	Scale, affordability, standardization, and long-term systems change	ATscale (2018); CHAI (2002); CBM (1967); ISWP (2015); Whirlwind Wheelchair International (1989)

* APDK: The Association for the Physically Disabled of Kenya; CBM: Christian Blind Mission; CHAI: Clinton Health Access Initiative; ISWP: International Society of Wheelchair Professionals; NAPO: National Authority for Prosthetics and Orthotics; NCPD: National Council of and for Persons with Disabilities; OADCPH: Organization for the Development of Centers for Persons with Disabilities; RATA: Rwanda Assistive Technology Access

KEY ENABLERS

1. Strong and diversified partnerships *(East Africa, Pan-African; also evident in Southern and West Africa)*

- Collaboration with governments, OPDs, NGOs, donors, academia, and the private sector
- Legitimacy, access to policy processes, and integration into national systems
- Shared resources, technical expertise, and coordinated delivery

2. Local anchoring and community-based delivery *(East and Southern Africa)*

- CBID/CBR approaches, decentralized service points, and volunteer networks
- Engagement of families and caregivers to improve relevance and uptake
- Strong reach into rural and underserved communities

3. Capacity building and workforce development *(East Africa, Pan-African)*

- Training of therapists, technicians, educators, caregivers, and peer mentors
- Improved service quality and reduced dependence on external expertise
- Strengthened professional pipelines and institutional capacity

4. Innovation and appropriate technology *(East Africa, Pan-African)*

- User-centered design and co-creation with persons with disabilities
- Local manufacturing, repairability, and affordability
- Digital platforms and scalable delivery models

5. Systems-level engagement and policy alignment *(Pan-African, Southern Africa)*

- Alignment with national strategies and global frameworks
- Market shaping, standards setting, and supply-chain strengthening
- Advocacy that enables scale beyond individual projects

6. Sustainable and hybrid operating models *(Southern and East Africa)*

- Social enterprise and revenue-generating activities alongside donor funding
- Reinvestment of surplus into mission-driven work
- Greater financial resilience and adaptability

12.10 MONITORING AND EVALUATION WITHIN ORGANIZATIONS

OVERVIEW OF ORGANIZATIONS MONITORING AND EVALUATION PROCESSES

A review of the 58 organizations reveals that they operate with different levels of Monitoring and Evaluation (M&E) system maturity, influenced by organizational size, mandate, funding model, and role within national or regional systems.

Overall, M&E systems vary from simple activity tracking to highly structured, learning-focused frameworks. Larger international and pan-African organizations tend to utilize formal M&E systems that include routine monitoring, baseline and endline studies, external evaluations, and thematic learning. These systems aim not only for accountability but also to guide program adjustments, policy engagement, and system or market reforms.

National NGOs and service providers typically implement project-level, donor-driven M&E, concentrating on monitoring outputs and outcomes against established indicators, supported by periodic reviews and external evaluations. Many also incorporate qualitative methods such as beneficiary feedback, case studies, and partner reflections to enhance service quality and relevance.

Organizations involved in assistive technology, rehabilitation, and innovation often prioritize practice-based and user-centered monitoring and evaluation (M&E), emphasizing quality assurance, user experience, and real-world performance of products and services. Private-sector and social enterprise actors typically focus on performance and utilization metrics, using operational data and customer feedback to guide scale and sustainability.

Overall, M&E primarily fulfils four roles: ensuring accountability to donors and partners, facilitating learning and ongoing improvement, assuring quality, and producing evidence to support policy and system change. Although the extent of M&E varies, a noticeable trend emerges toward more robust, learning-focused systems, in which organizations participate in policy advocacy, innovation, or extensive implementation.

KEY MONITORING AND EVALUATION PRACTICES

Table 12.10.1 shows that monitoring and evaluation practices vary widely across organizations and regions, reflecting differences in mandate, scale, and system engagement. **East Africa and pan-African organizations** tend to apply more structured and learning-oriented M&E systems, combining routine monitoring with evaluations, user feedback, and evidence generation to inform program adaptation, innovation, and policy or market reform. This aligns with the strong presence of international NGOs, innovation hubs, and system-level actors in these contexts.

In **West Africa**, M&E is more commonly focused on **output and activity tracking**, largely shaped by donor reporting requirements and resource constraints. While these approaches support accountability, they often allow less scope for deeper outcome or impact evaluation. **Southern Africa** emphasizes advocacy, policy outcomes, and clinical quality monitoring, reflecting the roles of organizations engaged in rights-based advocacy, professionalized service delivery, and health systems.

Across all regions, the table highlights a clear pattern: organizations with broader system or market mandates invest in more comprehensive M&E, while service-delivery and smaller organizations prioritize practical, project-level monitoring. Overall, Table 12.10.1 underscores

M&E as not only an accountability tool, but a key mechanism for learning, quality assurance, and long-term systems change.

Table 12.10.1: Summary of Monitoring and Evaluation Approaches, Scope, and Organizational Application Across African Regions

African Region	Type of M&E	What This Type of M&E Entails	Organizations Using This M&E Type (Name, Year)
East Africa	Systems-level and strategic M&E	Structured M&E frameworks, external evaluations, learning agendas, and data systems used to inform policy influence, market shaping, and long-term systems reform	ATscale (2018); CHAI (2002); Light for the World (1988); CBM (1967); Humanity & Inclusion (1994)
	Project-level and donor-driven M&E	Routine monitoring of outputs and outcomes, baseline and endline studies, mid-term reviews, and donor reporting for accountability and program improvement	Motivation Charitable Trust (1992); Caritas Rwanda (1962); Katalemwa Cheshire Home (1970); CORSU Hospital (1997); Kyaninga Child Development Centre (2014); RATA (2018); TIC Rwanda (2011)
	Practice-based and user-centered M&E	Continuous user feedback, field testing, service-quality monitoring, and practitioner learning to refine products and services	Whirlwind Wheelchair International (1989); Innovate Now (2019); Seeing Hands Rwanda (2017); ISWP (2015); Motivation Charitable Trust country program s (2003–2004)
	Institutional and academic M&E	Internal reviews, disability audits, applied research, and dissemination workshops to inform institutional learning and policy dialogue	Kyambogo University (2003); Addis Guzo Association (2012)
West Africa	Output and activity-based monitoring	Tracking activities, devices distributed, people reached, and trainings delivered, often through narrative or periodic reports	OADCPH (2012); Walkabout Foundation (2009); Accesstech Innovation and Research Center (2023); ERGO TOGO (2016)
	Project-based donor M&E	Monitoring implementation progress and basic outcomes to meet donor requirements, with limited evaluation depth	OADCPH (2012)
Southern Africa	Advocacy- and policy-oriented M&E	Monitoring advocacy outcomes, policy influence, accessibility improvements, and institutional change	NCPD South Africa (1939); Western Cape Network on Disability (1997)
	Clinical quality and service M&E	Monitoring patient outcomes, surgical volumes, safety standards, training outputs, and service quality	Beit-CURE Malawi (2002); CURE Zimbabwe (2021); Sitwell Technologies (2015)
	Longitudinal and research-based M&E	Long-term qualitative and quantitative follow-up to understand sustained outcomes over time	Malamulele Onward (2006)

African Region	Type of M&E	What This Type of M&E Entails	Organizations Using This M&E Type (Name, Year)
North Africa	Administrative and service monitoring	Basic tracking of service delivery and institutional performance within national systems	NAPO Sudan (1975)
Pan-African / Multi-regional	Market-shaping and evidence-generation M&E	Market analyses, costing tools, capacity assessments, meta-evaluations, and cross-country synthesis to guide large-scale investment and policy	CHAI (2002); ATscale (2018); ISWP (2015); CBM (1967); Whirlwind Wheelchair International (1989)
	Partner feedback and accountability M&E	Partner reporting, audits, complaints mechanisms, and standards compliance to ensure accountability and quality	CBM Global Disability Inclusion (2019); Light for the World (1988)

* CBM: Christian Blind Mission; CHAI: Clinton Health Access Initiative; ISWP: International Society of Wheelchair Professionals; NAPO: National Authority for Prosthetics and Orthotics; NCPD: National Council of and for Persons with Disabilities; OADCPH: Organization for the Development of Centers for Persons with Disabilities; RATA: Rwanda Assistive Technology Access; TIC: Tiberias Initiative for Children

12.11 KEY FINDINGS/MESSAGES

1. **Strong regional imbalances persist across the ecosystem.**
   East Africa hosts the largest and most diverse concentration of organizations, covering the full range from service delivery to innovation and systems strengthening. Southern Africa has long-established institutional capacity and growing private-sector involvement. West and North Africa have fewer organizations, narrower focus areas, and more limited system-level engagement, indicating persistent geographic inequities in access to AT and disability services.
2. **The sector is dominated by NGOs, with limited public and academic leadership.**
   Across regions, NGOs account for many organizations involved in disability inclusion and assistive technology. Government and academic institutions play comparatively marginal roles, suggesting that regulation, workforce development, and long-term system stewardship remain weak in many contexts.
3. **Assistive technology provision remains heavily skewed toward mobility.**
   Mobility-related assistive technologies dominate organizational portfolios across all regions. While vision, communication, and digital access technologies are increasingly present, hearing, cognition, and self-care technologies receive less consistent attention, often embedded within broader rehabilitation programs rather than addressed as stand-alone domains.
4. **Service delivery outweighs systems strengthening.**
   Most organizations prioritize direct service provision, training, and device distribution to meet immediate access needs. Far fewer engage in manufacturing, market development, research, or policy reform, leaving upstream system constraints largely unaddressed and limiting scalability.
5. **Financial transparency is limited and uneven.**
   Only a small minority of organizations publicly report income or expenditure data, mostly large national or multi-country actors with formal reporting obligations. The financial realities of small and medium, locally embedded organizations remain largely undocumented, constraining comparative analysis, planning, and investment decisions.
6. **Economic inclusion is increasingly integrated but unevenly developed.**
   Many organizations now link AT and rehabilitation to livelihoods, employment, and entrepreneurship. East Africa demonstrates the most diverse and integrated models, while West and North Africa show more limited and donor-dependent approaches.

7. **Barriers are structural and reinforcing.**
   Common challenges include unstable donor-dependent financing, weak AT supply chains, shortages of skilled personnel, inaccessible environments, stigma, weak policy implementation, and limited data. These barriers reinforce one another and directly affect access, quality, and sustainability for persons with disabilities.
8. **Success is driven by systems positioning rather than isolated interventions.**
   Organizations that combine strong partnerships, local anchoring, capacity building, innovation, and policy engagement are better positioned to sustain impact. Pan-African actors play a catalytic role by shaping markets, standards, and financing, while locally grounded organizations ensure reach and relevance.

12.12 RECOMMENDATIONS

1. **Prioritize investment in underrepresented regions.**
   Funders and policymakers should direct targeted support to West and North Africa to strengthen organizational presence, local capacity, and system development, while leveraging the experience of established regional and pan-African actors.
2. **Strengthen government and academic engagement.**
   Greater public-sector leadership is needed in regulation, workforce development, and integration of AT into health, education, and social protection systems. Partnerships with universities and training institutions should be expanded to address skills shortages.
3. **Rebalance portfolios toward system-level functions.**
   Alongside service delivery, increased investment is needed in local manufacturing, repair and maintenance, market development, data systems, and policy implementation to address structural constraints and enable scale.
4. **Support diversified and sustainable financing models.**
   Donors should encourage longer-term, flexible funding and support hybrid models that combine grants with social enterprise or cost-recovery approaches, particularly for small and medium organizations.
5. **Improve financial transparency and data availability.**
   Common reporting standards and incentives for financial disclosure would strengthen accountability, comparability, and evidence-based planning across the sector.
6. **Invest in workforce development.**
   Scaling training pipelines for therapists, technicians, and AT professionals is critical to improving quality and coverage, especially in rural and underserved areas.
7. **Embed economic inclusion more deliberately.**
   Assistive technology programs should continue to link access with skills development, employment, and enterprise pathways, recognizing economic participation as central to inclusion.
8. **Strengthen learning-oriented monitoring and evaluation.**
   Organizations, particularly smaller and nationally based actors, should be supported to move beyond output tracking toward M&E systems that inform learning, quality improvement, and policy engagement.

12.13 Conclusion

The review of 58 organizations reveals a dynamic but uneven AT and disability inclusion ecosystem across Africa. While pockets of maturity and innovation exist, particularly in East and Southern Africa, significant gaps remain in geographic coverage, system capacity, and financial transparency. The dominance of NGOs in service delivery has enabled critical access for many persons with disabilities but has not been sufficient to address the underlying system constraints that limit scale and sustainability.

The findings point to a clear need for more balanced regional investment, stronger public-sector leadership, diversified financing, and greater emphasis on systems strengthening alongside service provision. Where organizations are well embedded in partnerships, communities, and policy processes, and where innovation and capacity building are aligned with local realities, impact is more likely to be sustained.

Overall, the report underscores that improving access to AT in Africa is not only a question of expanding services, but of building coherent systems that connect policy, markets, workforce development, and community-level delivery.

13 STAKEHOLDERS IN AFRICA'S ASSISTIVE TECHNOLOGY ECOSYSTEM

13.1 INTRODUCTION

Effective AT systems rely on the interaction of diverse actors across governance, service delivery, advocacy, market, and user domains. Mapping these actors provides insight into how AT ecosystems are structured and how capacity is distributed. This section presents a descriptive analysis of AT actors across Africa by actor type, region, and country, drawing on data from the stakeholder mapping exercise to provide an ecosystem-level overview of AT engagement on the continent.

13.2 DISTRIBUTION OF ASSISTIVE TECHNOLOGY ACTORS IN AFRICA

DISTRIBUTION OF ASSISTIVE TECHNOLOGY ACTORS BY TYPE

The distribution of actors highlights a **service- and civil-society-centered AT ecosystem** in Africa (Figure 13.2.1). Healthcare and rehabilitation services (20%), organizations of persons with disabilities (20%), and NGO/NPOs (18%) account for the largest share of documented actors, underscoring the strong role of service delivery, advocacy, and user representation in shaping AT access. Government and public-sector actors also feature prominently (13%), reflecting formal stewardship and regulatory responsibilities.

In contrast, **market-shaping actors remain comparatively under-represented**. While AT manufacturers and suppliers are present, private-sector enabling actors and financing-oriented stakeholders are almost absent, indicating a system that is still weakly oriented toward scale, investment, and sustainable market development. This imbalance helps explain persistent challenges in expanding production capacity, financing innovation, and translating AT access into employment and economic opportunities—particularly for youth.

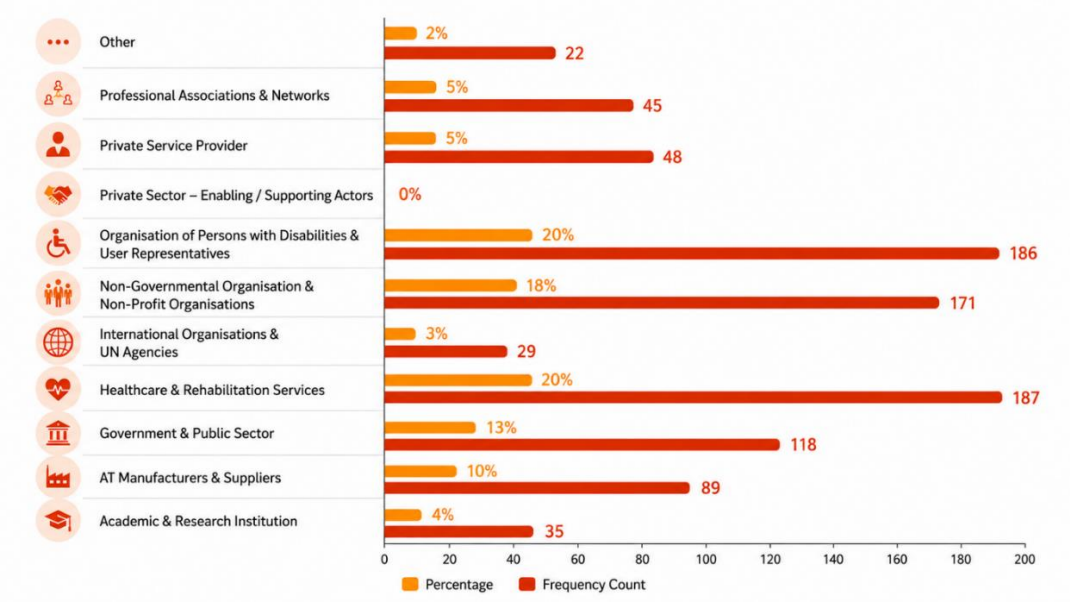


Figure 13.2.1: Distribution of Assistive Technology Actors in Africa by Actor Type

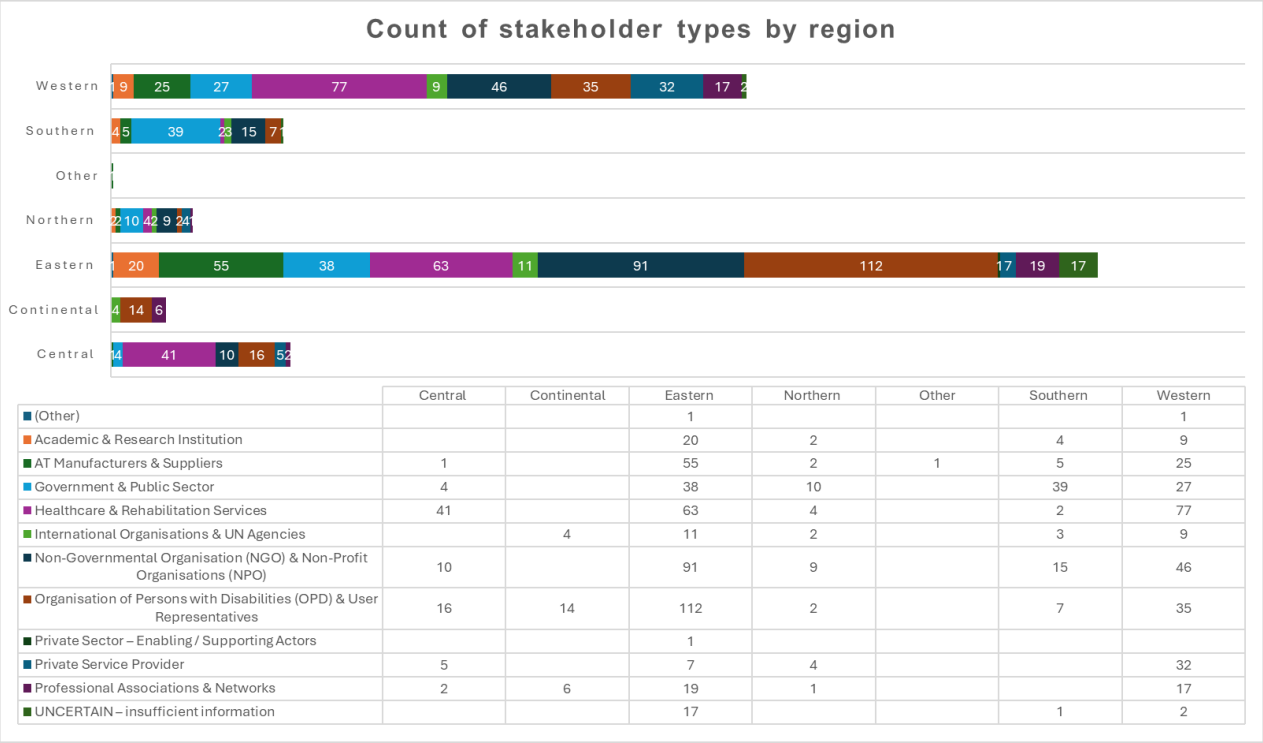
REGIONAL DISTRIBUTION OF ASSISTIVE TECHNOLOGY ACTORS IN AFRICA

The distribution of AT actors across Africa reveals a highly uneven ecosystem (Figure 13.2.2). Eastern and Western Africa emerge as the principal hubs of AT activity, hosting the most diverse and densely populated ecosystems. In both regions, healthcare and rehabilitation services, OPDs, and NGOs form the backbone of the AT landscape, reflecting strong service delivery and civil-society engagement.

Eastern Africa demonstrates particularly broad stakeholder diversity, with notable participation from government institutions and academic and research actors, suggesting relatively more established coordination and evidence-generation capacities. Western Africa, while similarly diverse, shows stronger engagement of private service providers and professional associations, indicating a growing role for market-based and professionalized AT delivery.

Southern Africa presents a more moderate ecosystem, with visible government and manufacturing participation but lower overall actor density compared with Eastern and Western regions. In contrast, Central and Northern Africa display sparse AT ecosystems, characterized by limited actor diversity and weak representation of private sector, manufacturing, and professional networks.

Pan-African actors remain few and are concentrated in advocacy, coordination, and knowledge-exchange roles. Overall, the distribution highlights significant regional inequities, underscoring the need for targeted, region-specific investments to strengthen AT systems where actor density and diversity remain limited.



	Central	Continental	Eastern	Northern	Other	Southern	Western
(Other)			1				1
Academic & Research Institution			20	2		4	9
AT Manufacturers & Suppliers	1		55	2	1	5	25
Government & Public Sector	4		38	10		39	27
Healthcare & Rehabilitation Services	41		63	4		2	77
International Organisations & UN Agencies		4	11	2		3	9
Non-Governmental Organisation (NGO) & Non-Profit Organisations (NPO)	10		91	9		15	46
Organisation of Persons with Disabilities (OPD) & User Representatives	16	14	112	2		7	35
Private Sector – Enabling / Supporting Actors			1				
Private Service Provider	5		7	4			32
Professional Associations & Networks	2	6	19	1			17
UNCERTAIN – insufficient information			17			1	2

Figure 13.2.2: Regional Distribution of Assistive Technology Actors in Africa

DISTRIBUTION OF ASSISTIVE TECHNOLOGY ACTORS BY COUNTRY

The country-level distribution of AT actors (Figure 13.2.3) reveals a highly concentrated and uneven landscape across Africa. A small number of countries function as national AT hubs, with Uganda, South Africa, Senegal, Ghana, and Ethiopia hosting the largest and most diverse ecosystems. These countries demonstrate strong representation of healthcare and rehabilitation services, OPDs, NGOs, and public sector actors, indicating more mature or better-coordinated AT systems.

In contrast, many countries show limited actor density, often dominated by one or two stakeholder types, with weak representation of manufacturers, private service providers, and professional associations. This pattern is particularly evident in several Central and Northern African countries. While Pan-African and continental actors play important advocacy and coordination roles, they do not substitute for robust country-level delivery capacity.

Overall, distribution underscores the need for **country-specific AT system strengthening**, particularly to expand private sector participation, manufacturing capacity, and professional networks in lower-density countries.

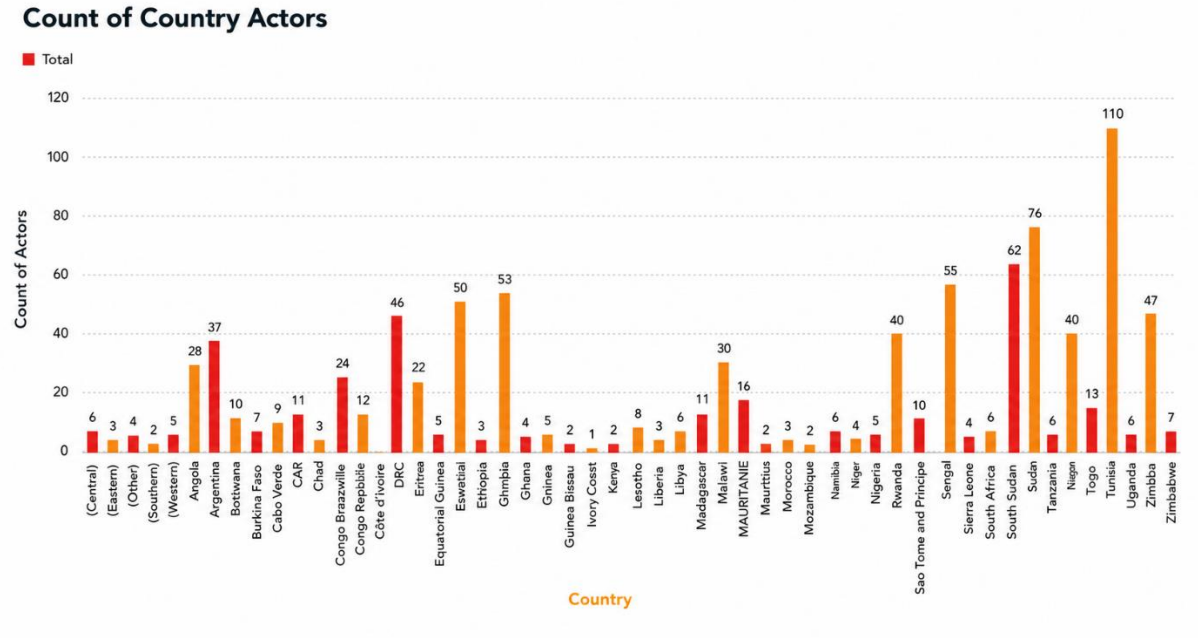


Figure 13.2.3: Country-level Distribution of Assistive Technology Actors in Africa

13.3 CONCLUSION

The stakeholder mapping highlights an AT ecosystem in Africa that is unevenly developed and structurally imbalanced across actor types and geographies. While service delivery, advocacy, and public-sector actors are widely present, market-oriented and enabling stakeholders remain limited in both number and distribution. Regional and country-level disparities further underscore the fragmented nature of AT systems, with a small number of countries and regions acting as hubs while others remain weakly connected and under-resourced. Strengthening AT ecosystems will therefore require deliberate efforts to broaden actor participation, enhance coordination across stakeholder groups, and address regional and national gaps.

The insights provide an empirical foundation for identifying coordination opportunities, regional inequities, and strategic entry points for strengthening AT systems, particularly in ways that support inclusive growth and youth-related economic opportunities.

14 CONCLUSION

This synthesis demonstrates that AT is both a foundational inclusion enabler and a high-potential economic sector for Africa. Across access, policy, markets, production, and organizational ecosystems, the evidence consistently shows that while policy intent and innovation momentum are growing, implementation, coordination, and scale remain the primary constraints, particularly for young persons with disabilities. The findings reinforce that the greatest returns will not come from further descriptive explorations or policy formulation, but from deliberate investment in implementation, systems strengthening, and youth-centered market participation.

From Evidence to Action: Priority Recommendations

Assistive Technology Access

The scientific literature indicates that young persons with disabilities remain structurally invisible within AT systems, constrained by stigma, poor navigability, limited provider awareness, and high out-of-pocket costs. To address these barriers, priority action lies in investing in decentralized, digitally enabled, and youth-centered AT service models, strengthening workforce capacity across formal and community providers, expanding AT portfolios beyond mobility, and embedding peer-based engagement to improve acceptability, continuity of use, and transitions into education and work.

Policy and Governance

AT policy foundations are largely in place across Africa, yet implementation maturity, financing, and accountability lag significantly behind policy intent. The most strategic investments are therefore not in drafting new policies, but in operationalizing existing frameworks, particularly at subnational and institutional levels. Priority recommendations include embedding young persons with disabilities as co-creators in AT governance structures, linking AT policy implementation directly to youth skills development and employment pathways, strengthening national coordination mechanisms, and integrating AT indicators into health, education, and labor-market data systems.

AT Ecosystem and Stakeholders

The AT ecosystem is shifting from fragmented, donor-led provision toward multi-actor systems, with ecosystem maturity strongly associated with stakeholder diversity. To accelerate this transition, investments should anchor funder support within government-led coordination platforms, strengthen the role of academic institutions beyond research into implementation and workforce development, institutionalize youth engagement and peer networks, and address persistent regional inequities, particularly in West and North Africa.

Products, Production, and Innovation

AT provision remains device-centered and heavily skewed toward mobility, limiting participation and employability outcomes for youth. Africa also has untapped potential in local fabrication, repair, refurbishment, and digital innovation. Strategic recommendations include rebalancing AT portfolios toward communication, cognitive, self-care, and digital technologies, strengthening local production and maintenance ecosystems through public–private

partnerships, investing in standards, testing, and certification systems, and supporting cross-regional supply chains to reduce import dependence and improve sustainability.

Market Dynamics and Financing

The review confirms that Africa's AT market is scale-constrained rather than supply-constrained, with weak demand signaling, fragmented procurement, and donor dependence limiting growth. Priority action lies in market-shaping investments fit for Africa: strengthening data on need and coverage, de-risking private-sector participation, expanding blended and integrated financing mechanisms, and aligning procurement and financing with youth employment objectives. These steps are essential to unlock AT as a viable, inclusive economic sector.

Economic Opportunities for Young Persons with Disabilities

Across the AT ecosystem, young persons with disabilities are most often positioned as passive beneficiaries rather than active contributors, and are rarely engaged as co-creators in AT policy, service delivery, innovation, or market development. Where youth participation does occur—as users, repairers, innovators, or entrepreneurs—it remains fragmented, under-supported, and weakly institutionalized. The evidence indicates that the strongest employment returns lie in repair and maintenance, digital AT innovation, distribution, and service coordination, provided these pathways are underpinned by youth-focused skills pipelines, applied research capacity, entrepreneurship finance, and explicit linkages between AT access and labor-market program s.

Strategic Implications

This landscape analysis positions AT as a **catalytic platform for youth employment, entrepreneurship, and inclusive growth**. The opportunity is clear: by investing in youth-inclusive AT implementation, local production and repair ecosystems, skills and workforce pipelines, adjacent fields such as finance, and data science, digital and decentralized service models, and stronger data and financing systems, both disability inclusion and decent work outcomes can be accelerated at scale across Africa.

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