BUILDING AN ECOSYSTEM TO SUPPORT ASSISTIVE TECHNOLOGY ACCESS IN ARMENIA

A key to independent living across the life cycle

Assistive technology (AT) enables children and adults with disabilities to enjoy and exercise their rights, including the right to education, health, social protection and participation in public activities. AT is a vital part of helping children become more mobile, communicate, see and hear better, and participate more fully in family and community life. The provision of AT not only benefits individuals and helps fulfil their human rights, it facilitates access to health and education services, and reduces the need for long-term care and caregiving work.

“Assistive technology is an umbrella term covering the systems and services related to the delivery of assistive products and services. Without assistive technology, people are often excluded, isolated, and locked into poverty, which thereby increases the impact of disease and disability on a person, their family, and society.”

Globally, there are an estimated 240 million children with disabilities, and more than a billion people need at least one type of AT. Yet only 1 in 10 have access to the AT products and services they need. For a child in a low- or middle-income country, access to AT can make a difference of $100,000 in lifetime income. Furthermore, investment in the provision of four assistive products – hearing aids, prostheses, eyeglasses and wheelchairs – can result in a return on investment of 9 to 1.

Ensuring inclusive and reliable access to AT is also vital to achieve many global commitments, including universal health coverage, the Sustainable Development Goals, and the principles of the United Nations Convention on the Rights of Persons with Disabilities (CRPD). The countries that have ratified the CRPD are committed to ensuring affordable access to AT and to fostering international cooperation in order to achieve this goal.4

During the first ever Global Disability Summit, held in London in 2018, the AT Scale Global Partnership for Assistive Technology was launched and all partners committed to catalysing action to reach 500 million more people with life-changing AT by 2030. The second Global Disability Summit (6–17 February 2022) took stock of the progress achieved and increased the number of governments and partners engaged.5

Since the first global summit, UNICEF in collaboration with the World Health Organization (WHO) has accelerated efforts to develop guidance and resources, as well as supporting governments in strengthening capacities for national procurement and building a national ecosystem for AT.

WHO developed 5 interlinked areas of AT (5Ps) that constitute a national ecosystem for AT. All five areas – people-centred, policy, products, personnel and provision – should be considered together when building an ecosystem for using assistive technologies.6

### Case study: Building an ecosystem to support assistive technology access in Armenia

### AT products: Categories and examples

#### Mobility and personal assistance
- Walking stick, crutch, walking frame, manual and powered wheelchair, tricycle, corner chair, special seat, standing frame, shower seat, toilet seat, toilet frame
- Prosthetics (artificial leg or hand), caliper, hand splint, foot brace
- Dressing stick, adapted cutlery and cooking utensils, feeding robot

#### Vision
- Eyeglasses, magnifier, magnifying software for computer; white cane, GPS-based navigation device
- Braille systems for reading and writing, screen reader for computer, talking book player, audio recorder and player; Braille chess, balls that emit sound

#### Hearing and communication
- Hearing aids, hearing loop, headphones, amplified telephone
- Communication cards with text, communication board with letters, symbols or pictures; electronic communication device with recorded or synthetic speech

#### Cognition
- Adapted toys and games
- Task lists, picture schedule and calendar, picture-based instructions; timer, manual or automatic reminder
- Smartphone with adapted task lists, schedules, calendars and audio recorder

Promoting and supporting AT in the Europe and Central Asia region

A recent UNICEF report estimated there are 10.8 million children aged 0–17 living with disabilities in Europe and Central Asia. It also found that children with disabilities are 24% less likely to receive early stimulation and responsive care, 25% less likely to attend early childhood education, and 49% more likely to have never attended school compared to children without disabilities.7

In line with the international framework and global initiatives, the UNICEF Europe and Central Asia Regional Office (ECARO) has been supporting countries to map and build national ecosystems to promote the use of assistive technologies as part of early intervention, inclusive education, rehabilitation and community-based care and support.

UNICEF works in close cooperation with other United Nations agencies, primarily WHO and the United Nations Development Programme (UNDP) as well as a broad community of multisectoral stakeholders, including line ministries, service providers, non-governmental organizations (NGOs), organizations of people with disabilities (OPDs), individuals with disabilities, and parents of children with disabilities and developmental delays.

This effort aims to:

- Raise awareness on the importance of AT for children’s development, learning and participation.8
- Build capacities of services (early intervention, education, health and social protection) to ensure that all children and adults throughout the region have timely and individualized access to AT as needed.
- Support the development and implementation of effective government policies to promote the availability of AT.
- Support national capacities for procurement of assistive technologies, and procurement of affordable and quality AT in line with international standards.9

This case study outlines one component of UNICEF’s support for the disability reform in Armenia – engagement with multiple stakeholders to build an ecosystem that enables access to assistive technologies across the life cycle, thus promoting children’s right to meaningful participation and support for independent living.

Context and challenges for Armenia

As of 2020, 8,771 children with disabilities in Armenia (around 1.2% of all children aged 0–18) were officially registered; 2,757 of them are girls.10 However, a UNICEF report in 2012 noted that around 12,000 of the country’s children with disabilities are likely not registered.11 This gap in identifying and registering all children with disabilities obstructs their ability to receive appropriate social services, support and assistive technologies. The high level of child poverty in Armenia – 34.2% as of 201712 – is another barrier, as the costs of AT can be prohibitive.

Inclusive education is a major focus across the country, as Armenia’s Law on Mainstream Education was revised in 2014 to ensure provisions for making the education system fully inclusive by 2025. However, universal and meaningful participation of children with disabilities has still not been achieved throughout the education system.

The Government of Armenia has been implementing dynamic reforms for inclusion of children with disabilities across sectors. Given the high institutionalization rates in the country, deinstitutionalization has been the main priority. In the framework of the associated reforms, the Ministry of

"With regard to international cooperation, and in line with Sustainable Development Goal 4 and the Education 2030 Framework for Action, all bilateral and multilateral cooperation must aim to advance inclusive and equitable quality education and promote lifelong learning opportunities for all, including support for capacity-building, information-sharing and the exchange of best practices, research, technical and economic assistance, and access to accessible and assistive technologies.”

Committee on the Rights of Persons with Disabilities, General Comment No. 4 (2016) on the right to inclusive education, para. 43
Labor and Social Affairs (MoLSA) and the Ministry of Education, Science, Culture and Sport (MoESCS) support reorganization and transformation of special boarding schools and night-care institutions to stop the institutionalization of socially vulnerable children, including children with disabilities.

MoLSA, MoESCS and the Ministry of Health (MoH) are working to harmonize their support for children and adults with disabilities, including services and AT provision at different levels. MoLSA is responsible for disability assessment, certification and provision of limited types of AT, such as wheelchairs, walkers, some prostheses and hearing devices. It also sets the standards for AT provision; initiated in 2017 the delivery of vouchers to eligible individuals to obtain necessary products; and is expected to map the existing resources and estimate AT needs for the best possible and unified response.

Key challenges related to AT: A report issued by Armenia’s Ministry of Health, UNICEF Armenia and the Arabkir Medical Centre in 2019 found that there is a significant shortfall between the need for assistive technologies, the levels of awareness, and the provision of AT products and services. In addition, although the assessment of special education needs is based on WHO’s International Classification of Functioning, Disability and Health (ICF) and is conducted regularly to identify children’s needs for assistive technologies and environmental adaptations, the focus remains very much on specialist support to children. Assistive technologies for education are not prioritized, and access is not adequately reflected in education policy and programmes.

Access to assistive products is frequently deficient; affordability and quality are often an issue. In particular, the variety and quality of AT are insufficient to meet the needs of children with multiple disabilities. For example, up-to-date and more expensive high-tech devices such as software programs and augmentative and alternative communication are not available, creating a barrier to participation in education for children who cannot communicate through speech and movement. Some paediatric products (child wheelchairs, walkers, standing tables) are in short supply or not available, and parents purchase them or receive them from humanitarian organizations. When users are concerned about the quality of devices provided, there is no regular feedback mechanism to record and address their grievances.

“The efficacy of assistive products depends on the context in which they are supplied. The physical environment, societal attitudes and health-care services can all act as facilitators or as barriers to their use. Inaccessible infrastructure, for example, will reduce the mobility of a wheelchair user. Likewise, societal attitudes can deter people from using assistive products, such as hearing aids, because they do not want to be stigmatized as being disabled. ... Development of the assistive technology sector needs to go hand in hand with interventions that are aimed at reducing barriers to the use of the products, so as to maximize the benefits to both users and society.”


The ecosystem-building work

To improve the functioning and social inclusion of adults and children with disabilities and ensure opportunities for equal participation in public life, Armenia is using the ongoing disability assessment and service provision reforms as an entry point to model an AT ecosystem. The reforms are implemented as a joint effort by MoLSA, the MoH, the MoESCS and organizations of people with disabilities.

In line with the 5Ps and embedded in the ongoing disability inclusive reforms, the overarching goal of the reforms is to model an ecosystem that addresses the connections between AT policy, provision and social inclusion; and serves as a starting point for building a national system that provides accessible, affordable and appropriate assistive technologies, while strengthening the national capacity.

In addition, the World Bank and the European Union have provided support to the Government on establishing integrated social service centres in response to the multifaceted needs of children, their families and communities.

In this context, UNICEF is supporting the development of a national policy on AT in collaboration with local and national authorities, service providers, OPDs, parents of children with disabilities and other key actors.
Along with raising awareness of the variety and benefits of assistive technologies, the government’s AT activities include supporting the development of:

- An AT policy framework, including a national AT list, technical specifications to ensure quality, professional service provision, and funding mechanisms.
- Mechanisms and collaboration between social, education and health systems for unified AT provision.
- Mechanisms for integrating AT into disability assessments, and to identify needs in the health and education systems.
- Targeted support to education service providers on the usage and benefits of AT for education.
- Specialized capacity-building in the education sector and beyond for AT services such as matching, fitting, customizing, user training, follow-up and repair.

Activities in support of this include interventions with a variety of stakeholders:

- National level
  - Advocacy for introducing the national policy on AT.
  - Development of a national list for both low- and high-tech AT.

- Coordination and agreement between line ministries on covering the provision of assistive technologies, e.g., MoLSA covers AT provision in general, while MoESCS has responsibility for providing some learning-specific AT.

- Local level
  - Strengthening the Republican Pedagogical-Psychological Center’s capacity for assessment of children with special education needs, with a specific focus on identifying the need for assistive technologies and carrying out AT matching, fitting, user training and follow-up.
  - Building education providers’ knowledge on types of low-tech AT for learning.
  - Raising awareness among OPDs, adults and children with disabilities and their families on the variety of assistive technologies available and their role in enhancing social inclusion and independent living.
  - Promoting AT use at service provision centres and education facilities.

Source: UNICEF, UNDP, Tech2Life

Tech2Life: Launched in October 2021, Tech2Life aims to support the development of an enabling environment in Armenia, promoting AT services delivery across the life cycle and the ability of children and adults with disabilities to live healthy, productive, independent and dignified lives. During the Tech2Life launch event, Armenian start-ups that specialize in AT presented their products and were given an opportunity to pitch their ideas to investors.

The initiative is part of a joint UNDP-UNICEF project – Stronger Services for Equal Participation and Inclusive Development – which is implemented in partnership with the Armenian Ministry of Labor and Social Affairs and supported by funding from the Russian Federation. This project aims to strengthen the country’s basic service provision system through a life-cycle approach and provision of continuous care and support to children and adults with disabilities. The key objective is to establish an AT ecosystem that can be replicated in other countries, reaching any person, at any age, who might need assistive technology.

Key results: Motivational advocacy and tangible outcomes

The advocacy carried out to revise Armenia’s AT policy, including revision of the products list and provision mechanism, led to an important first step in expanding AT policy, as the Ministry of Labor and Social Affairs introduced a voucher system for providing wheelchairs and hearing aids, the most requested AT products in 2017. Under the new system, the beneficiaries choose the supplier for their AT.

This change is promoting better quality control and increasing the number of suppliers and products available in Armenia. For example, there is a special focus on children’s wheelchairs, which were not available previously. Accessible information for users and specialists on the regulations, how to select, fit and customize the required type of AT were developed and disseminated through the local centres for disability assessment and the MoLSA webpage.

The Workshop on Assistive Technology Procurement organized by UNICEF and WHO and held in Dushanbe, Tajikistan, in 2019, also had a positive impact: Armenian representatives from MoLSA and MoH attended the workshop and, subsequently, MoH delegated the budget line on provision of orthoses/protheses to MoLSA to facilitate providing AT from one budget line and to strengthen the tracking mechanisms.

In 2021, UNICEF and UNDP, in collaboration with organizations of parents of children with disabilities, organized a three-day conference on services and AT products in Armenia. Around 40 participants, including representatives from the National Assembly, MoESCS, MoLSA, MoH, the Office of the Human Rights Defender, government and non-government service providers as well as parents and caregivers, came together for this event. Along with an exhibition of assistive technologies (see photos, below), the conference provided a platform for exchange of experiences and an opportunity to discuss a common vision and objectives for improved and targeted AT services and products for children with disabilities.

March 9, 2021 Yerevan, Armenia. An exhibition of assistive technologies was organized by UNICEF in collaboration with partners during a three-day conference on rehabilitation services and AT products. UNICEF Armenia/2021/Galstyan
In the aftermath of the conference, organizations of parents of children with disabilities became active advocates, distributing AT information throughout the country, and piloting the use of augmentative and alternative communication systems, and Tobii eye gaze systems for children with severe multiple disabilities.

Another driver for strengthening efforts to introduce AT for communication was the participation of an Armenian delegation – including decision makers, specialists and OPDs – at the 13th Eastern and Central European Regional Augmentative and Alternative Communication Conference in 2021, organized by UNICEF Bulgaria and the ASSIST Foundation.14

Tangible outcomes: Within the UNDP-UNICEF joint project, UNDP Armenia, in collaboration with MoLSA and under technical guidance of the WHO Regional Office for Europe, initiated the rapid Assistive Technology Assessment survey to measure access to AT in support of the development of an overarching national policy for AT.

In 2019, the Ministry of Health established a working group comprising representatives from MoH, MoLSA, OPDs, NGOs, parents of children with hearing impairment and other stakeholders to develop the National Policy and Strategic Plan for Ear and Hearing Care 2021–2025.

A comprehensive list of low- and high-tech of AT for children was developed in 2021 and validated with 91 participants and 19 parents of children with disabilities. The list was shared with pedagogic-psychological support centres throughout the country, and it will be used by line ministries to inform discussions on financial mechanisms for AT provision to meet children's needs. Currently, MoLSA is revising AT specifications, with support from UNDP and UNICEF Country Offices, to ensure the quality of products provided through the state budget.

Additional results associated with promoting inclusion include:

- A guideline for producing AT workstations – with matching ICF codes for specific assistive technologies – was developed by a group of experts from Oxford Policy Management, in 2021. Four AT workstations – motor; sensory; speech and language; and communication – are being piloted at the Republican Pedagogical-Psychological Centre. Based on the pilot results, similar workstations will be established in Armenia’s regions.
- A centre of excellence and hubs for independent living to provide services and support (including AT) across the life cycle are being established. As a first step, the special school for children with hearing impairments will be transformed into a resource centre to support children with hearing impairments in education throughout the country.
- MoESCS and MoLSA are collaborating to provide better community-based services. Under the auspices of the MoESCS, the Republican Pedagogical-Psychological Support Centre’s building was renovated and equipped, including with assistive technologies, to ensure provision of integrated education and social services to children. In addition, MoLSA committed to allocating human resources to expand the scope of services.

UNICEF support for facilities: To promote inclusion of children with disabilities in the education system, UNICEF helped equip service-provision centres and education facilities with assistive technologies and capacity-building for specialists.

Two kindergartens (one in Yerevan and one in the region) were renovated with environmental adaptations and equipped with AT and accessible furniture to provide specialized services to children with multiple moderate and severe disabilities. The refurnished kindergartens offer community-based services for children aged 2–6 and will act as a hub for other kindergartens in the community. In parallel, educators of all kindergartens in the surrounding community have received specialized training on working with children with special education needs and children with disabilities.
May 15, 2019 Spitak, Armenia: The Spitak Regional Pedagogical-Psychological Support Centre has been completely renovated and refurbished by UNICEF and partners. UNICEF Armenia, the Ministry of Education and Science, and the Ministry of Labor and Social Affairs have joined forces to give new life to the centre and provide a variety of educational and rehabilitation services to children and their families with and without disabilities in the city of Spitak and nearby communities. © UNICEF Armenia/2019/Gevorgyan

Long-term sustainability and ownership

All the AT initiatives are consistent with national, regional and local development strategies, policies and plans related to enhancing the rights-based approach to disability and improving access to services and participation of persons with disabilities, as well as the global agenda for sustainable development.

The advances in transitioning from a medical to a human rights-based model and the initial steps on improving access to assistive technologies in Armenia have led to another UNDP-UNICEF partnership: Stronger Services for Equal Participation and Inclusive Development (2020–2023), a joint programme that is supported by the Russian Federation. Within this programme, activities to promote AT ecosystem-building will be continued.

In regard to the enabling environment for this work, there are many positive developments in national policies and practices, for example:

- The right to access AT is emphasized in the Law on the Rights of Persons with Disabilities adopted in May 2021.
- An assessment of need-based AT as part of the ICF-based functional assessment was also approved in May 2021 and will come into force in 2023.
- Simultaneously, MoLSA is increasing government funding to ensure the provision of assistive technologies, gradually extending the AT list and revising technical specifications to improve the quality.

The Law on General Education amendments articulate the transformation of special schools into resource centres to support children in the education process. A pilot project to transform a special school for children with hearing impairment into a resource centre is planned for 2022, with support from UNICEF. Pilot activities will include capacity-building for educators at preschools and schools which children with disabilities are attending, promoting AT usage and supporting the
The strong partnership with the relevant ministries and their engagement from the start of the AT project development and on to implementation, monitoring and evaluation will lead to effective implementation, avoiding duplication and resource waste. Similarly, engagement with existing United Nations structures, the United Nations Sustainable Development Cooperation Framework and donor coordination forums will allow for leveraging additional support and harmonious implementation of activities.

Partnerships and consultations with young people, children, their families and organizations of people with disabilities are one of the most important features of UNICEF’s work. Throughout, we aim to offer meaningful opportunities for underrepresented groups to participate, including children and adults with intellectual disabilities and multiple disabilities.

To make sure that the support is comprehensive, UNICEF also collaborates closely with:

- National, regional and local government;
- NGOs and intergovernmental organizations such as the European Union;
- The United Nations Partnership on the Rights of Persons with Disabilities, and many United Nations agencies, including the WHO and the United Nations Population Fund as well as UNDP.

In Armenia, the primary objective is to strengthen the national system for providing services to children and adults with disabilities, across their life cycles, with equitable, individualized and continuous care and support. Providing access to AT is a crucial way to support this goal, addressing the AT ecosystem’s complex and interrelated layers, from public awareness to government policy.

Based on the extensive experience that was briefly outlined in this case study, key elements for creating a strong and effective ecosystem include:

- **Raising awareness** among children and adults with disabilities, their families, decision makers, and education and service providers on the diverse types of assistive technologies, using them for teaching and learning, and their importance for social inclusion and independent living.
- **Cooperation** between the various ministries that provide AT services – particularly support for children with disabilities, special educational needs and developmental delays – and organizations of people with disabilities.
- **Capacity-building** for service providers, AT professionals and education providers to develop new skills, and positive and supportive attitudes in promoting AT use in the education system.

Implementing these activities involves engaging many types of stakeholders and the ability to make strong connections between them. Durable relationships with government partners and a joint approach among United Nations agencies have proved to be two keys to generating success and sustainability. It is our hope that this case study on Armenia indicates a way forward for other countries that seek to promote inclusion and support the human right of children and adults with disabilities to participate fully in all aspects of life.

Moreover, the ongoing work to strengthen Armenia’s AT ecosystem will be empowered by:

- Advancement of the disability-policy framework, and a multidisciplinary approach to disability assessment, e-system and data exchange;
- Support to the reform on integration of health, education and social services; and
- Individualized service delivery for people with disabilities, including children.

**UNICEF’s approach and potential for replication**

UNICEF has a distinctive focus on providing continuous multisectoral and multilevel support for disability reform, including strengthening of the country’s AT system. To ensure this approach is carried out effectively, we also seek complementary synergies. In the joint work with UNDP, for example, UNICEF promotes the rights of children with disabilities and developmental delays while UNDP promotes the rights of adults, aged 18 and above.

On May 5, Armenia’s parliament adopted the law on the Rights of Persons with Disabilities. This is a long-awaited reform with the potential to change the lives of the roughly 200,000 people with disabilities in Armenia. The law includes guarantees of accessibility, independent living, access to justice, and reasonable accommodation, all of which allow a person to fully enjoy their rights on an equal basis with others. It bans disability-based discrimination and treats refusal to provide reasonable accommodation as discrimination.

Endnotes


4 The CRPD is providing the basis for AT provision in the following articles: 4, 7, 9, 20, 26, 32. Countries that have ratified the convention can be checked at: <https://tbinternet.ohchr.org/_layouts/15/TreatyBodyExternal/Treaty.aspx?Treaty=CRPD&Lang=en>.


