



Inclusive nature tourism trails for the deaf, disabled and blind

A guide for municipalities in the MENA region





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1. Introduction

In recent years, the tourism industry has been expanding its offerings by providing more inclusive and sustainable options. However, leisure and travel still pose significant challenges for individuals who are deaf, blind or have other disabilities. Even people with temporary injuries or mild sensory impairments often find it difficult to relax and fully enjoy their vacation experiences.ⁱ This guide aims to address these challenges by updating currently available tourism guidelines and incorporating contemporary design standards for inclusivity.

Overview of Inclusive Tourism

Inclusive tourism is an approach that ensures that all individuals, regardless of their physical, sensory, or cognitive abilities, can participate in and enjoy tourism experiences. It goes beyond basic accessibility to create environments and experiences that are welcoming and inclusive. According to the World Health Organization, approximately 15% of the world's population has some form of disabilityⁱⁱ, and the global market for accessible tourism is estimated to be worth more than \$134 billion annually.ⁱⁱⁱ

The UAE has made significant strides in this area, catering to the needs of those it calls “people of determination.” For example, Amsan Accessible Tours claims to be the first company in the MENA region to specialize in developing unique tours for the deaf, using technology to provide information in sign language. Major attractions in the UAE, from the Burj Khalifa in Dubai to the Grand Mosque in Abu Dhabi, boast wheelchair accessibility, while other popular destinations have created specialized facilities to promote inclusivity. This guide is primarily aimed at local governments and municipalities that can provide opportunities for people with disabilities and their families to enjoy their vacations like everyone else, by implementing measures with relatively small investments. The recommendations outlined in this guidebook can contribute to promoting inclusivity, accessibility and security for visitors and tourists. Proposed efforts and models from regions around the world, such as successful initiatives in the UAE, can be transferred to similar urban contexts, providing a valuable resource for creating inclusive tourism experience.

The Importance of Easy Tourism Routes

Easy tourism trails play a critical role in promoting inclusive tourism, with multiple benefits for both visitors and local communities. This guide provides best practices for the creation, expansion, modernization, and safety of tactile pavements in tourist areas and cities, with a particular focus on the MENA region. However, this model can be successfully applied to urban areas around the world. The research focused on inclusive public areas where tactile paving needs to be applied in order to provide safe and efficient movement for blind or visually impaired pedestrians. This guide presents best practices covering common recognized disability types, ensuring a comprehensive approach to inclusive tourism.

Accessible tourism routes offer several benefits to destinations and visitors alike. They lead to economic growth by expanding the potential visitor base and extending the tourism season. Such routes foster social inclusion, promote equality and enable all members of society to fully participate in travel experiences. The universal design principles applied to these trails often enhance the experience of all visitors, not just those with



disabilities. Destinations that prioritize accessibility gain a competitive advantage and attract a wider range of tourists. By implementing recommendations for accessible pathways, municipalities can transform touristic sites into more inclusive and welcoming spaces for future visitors. Successful models and efforts from different regions around the world can be adapted to similar urban contexts, providing a valuable blueprint for creating inclusive tourism experience. This approach not only benefits individuals with disabilities, but also improves the overall quality and attractiveness of destinations for all travelers.

2. Understanding Different Disabilities

If you don't have a disability or belong to a minority group, for example, it can be difficult to understand how many are affected by inclusivity. According to the World Health Organization (2011), about 15% of the world's population needs accessible services, including the elderly and people with disabilities. This figure rises to 40%, when people who temporarily need accessible services are included. These include, for example, people recovering from an accident and families with young children. A person with a disability has a physical, mental or intellectual impairment that limits their ability to move, see, hear or comprehend. These limitations result from obstacles in the built environment, such as infrastructures and uncomfortable situations, which may make normal activities difficult for the person with a disability .

The first stage is selecting the right location for accessible outdoor recreation facilities, which is critical for success and impact. This section outlines the key considerations for site selection and planning to ensure inclusivity, safety and environmental responsibility. By carefully assessing usability, conducting comprehensive risk assessments, involving people with disabilities in the planning process, and minimizing environmental disruption, municipalities can create outdoor spaces that can truly welcome and enjoy all members of the community. Appropriate site selection and thoughtful planning lay the foundation for inclusive experiences in nature, to enrich lives and deepen connections between all people and the natural world.

2.1 Deafness and hearing loss^{iv}

People suffering from deafness have a specific level or type of hearing loss, ranging from mild hearing loss to complete deafness. Deaf individuals face significant communication barriers when navigating tourist trails. The scarcity of visual or tactile information on maps, brochures and signs hinders their ability to understand the details of the route. Furthermore, the absence of sign language interpreters or visual aids on guided tours prevents them from enjoying rich experiences. Most importantly, relying on auditory alerts in emergencies poses a serious risk, as deaf individuals cannot receive important information immediately. All these communication challenges limit their ability to enjoy and interact with the natural environment. People with hearing loss may use hearing aids or other tools, such as an induction loop system. They may also resort to lip-reading. Hearing aids help their users to communicate, enhance quality of life and feel safe. Deaf people (and some people with hearing loss) use sign language, which is usually their native language.

Characteristics of Deaf-friendly trails: *Understanding the needs of Deaf trail users*

Before designing a trail, it is important to understand the needs and preferences of deaf individuals. This can be achieved through surveys, focus groups, or consultations with them.



Key considerations

- Deaf individuals rely heavily on visual cues.
- Clear information about safety is essential.
- The route should be physically accessible for individuals who use hearing aids or hearing implants.
- Interactive elements can enhance the trail experience.

Best practices

1. Clear and consistent signage

- Use easy-to-read fonts and colors that stand out against the background.
- Complement text with clear and understandable images.
- Place signage at eye level in predictable locations.

2. Visual markings for pathways

- Use unique or brightly colored signs that are easy to notice.
- Create a recognizable pattern for different sections of the trail.
- Include basic information about the trail section, such as distance or level of difficulty.

3. Emergency communication

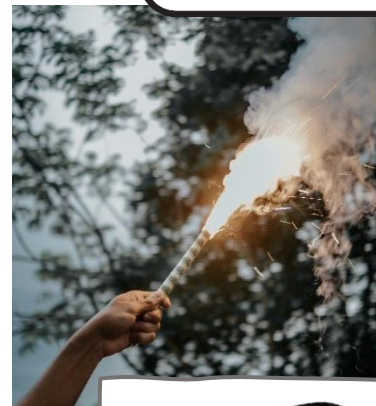
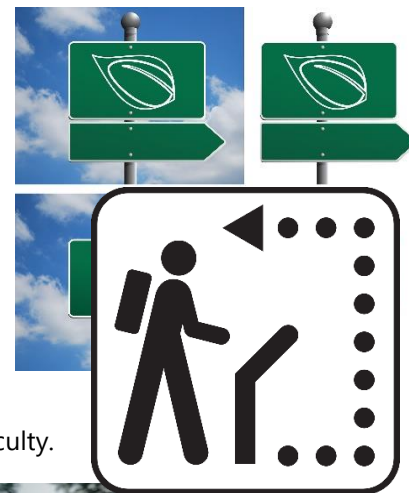
- Use visual cues, such as flags or lights, to indicate emergencies.
- Provide clear and visible emergency contact information.
- Install emergency-accessible telephones with visual instructions.

4. Interactive Elements

- Use QR codes to get information from videos or text.
- Incorporate augmented reality experiences to provide additional information.
- Create interactive displays with visual content.

5. Route design and maintenance

- Ensure the path is well-maintained and free of obstacles.
- Provide shaded and accessible rest areas with benches.
- Provide adequate lighting necessary for safety and enjoyment pleasure.



Restoration in progress



Case Study: Canyon Trail, Arizona

This case study highlights the importance of considering the needs of deaf visitors when designing and managing tourist trails. By incorporating visual information, emergency communication and staff training, it is possible to create inclusive environments that enhance the overall visitor experience.

The challenge

Arizona's Canyon Trail, a popular tourist destination known for its stunning natural beauty, faced the challenge of being inaccessible to deaf visitors. Its visual information was limited, and emergency communication relied primarily on hearing.

The solution: Create an inclusive experience on the trail

In order to address these challenges, an array of best practices were implemented on the Canyon Trail to enhance its accessibility for deaf visitors, as shown in the figure to the right.

Results and impact

The implementation of these measures significantly improved the experience of deaf people visiting the Canyon Trail. Accessibility has led to increased numbers of visitors from the deaf community and positive feedback about the trail's inclusivity. The Canyon Trail has become a model for other tourist destinations seeking to create inclusive experiences for all visitors.



2.2 Mobility Disabilities

The MENA region is experiencing rapid growth in its population of people with mobility impairments, but is severely lacking in pedestrian facilities and pathways that are safe, accessible, and designed for all. This research focuses on developing clear guidelines for the design of accessible pathway features, synthesizing existing standards, barrier patterns, severity levels, and usage modeling. The guidelines target five vulnerable groups: The elderly, people with mobility impairments, pedestrian tourists, and young children. By providing design examples for different environments that include urban, rural, natural and wilderness trails, the guidebook aims to help MENA countries create accessible trails and modify trails to this end.



People with mobility impairments, who make up the largest group of people with disabilities, face challenges due to birth defects, injury, amputation, chronic disease or restricted growth, and often rely on mobility aids. This guidebook emphasizes the importance of providing accessible structures for this group, providing a comprehensive framework for improving accessibility in the MENA region and addressing the urgent need for better infrastructure for people with mobility impairments and other vulnerable groups.

Characteristics of accessible pathways for people with mobility impairments

Creating accessible trails is essential to ensure that everyone can enjoy the outdoors. The following points outline the key characteristics to consider when designing and implementing accessible trails for people with mobility impairments:

- Wide, solid, level paths
- Paths must be at least 36 inches wide to accommodate wheelchairs and other mobility aids. The surface should be firm and level to prevent falls and allow for smooth movement.
- Fixed Width and passing zones
- While the minimum requirement is 36 inches, wider sections at regular intervals allow for easier passage.

Characteristics of easy paths for people with mobility impairments

Suitable surface materials

The surface must be durable, slip-resistant, and well-maintained in order to prevent tripping hazards. Some examples of suitable materials include concrete, asphalt, and compacted gravel.



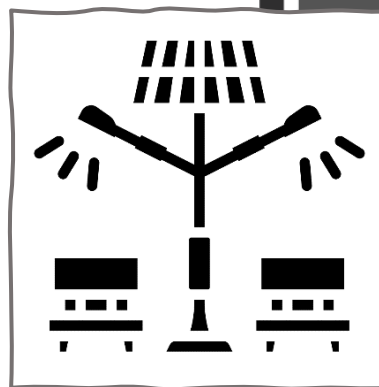
Gradual slope

Paths should have a maximum gradient of 1:20 (5%) for longer distances. Steeper sections should be short and equipped with handrails.



Rest areas with benches

Rest areas should be provided every 400-800 feet in order to allow users to rest. Seating should be soft and comfortable.



Detailed route information

- Provide detailed trail information, including length, difficulty and accessibility characteristics, to help users plan their visits.
- Clear, easy-to-read and easy-to-understand signage
- Signage should be easy to read and understand for people with visual impairments. Large print, high-contrast colors, and tactile elements should be used to enhance readability and comprehension.



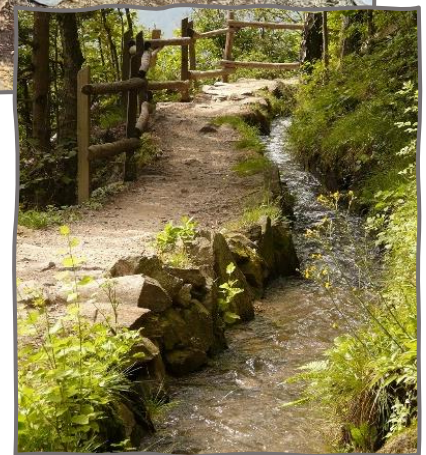
Convenient parking

Provide convenient parking spaces near the start of the trail, and make sure the path to the trail entrance is clear and unobstructed .



Multisensory experiences

Elements that stimulate different senses should be integrated to optimize the experience for users with different disabilities



Best practices in the MENA region

Some municipalities in the MENA region are showing a growing commitment to inclusivity, taking great strides to develop accessible tourism routes and attractions. Each location presents unique challenges and opportunities, and efforts to create inclusive environments provide valuable examples for other regions looking to promote accessible tourism. Here are some examples:

1. Dubai, United Arab Emirates

Globally recognized for its commitment to inclusivity and accessibility, Dubai takes great strides to ensure that its public spaces, including tourist trails and beaches, are accessible to all.

Inclusive beach access

“Kite Beach” ♣: This beach offers accessible walkways and pathways leading to key facilities such as restrooms and cafes. The beach area includes tactile sidewalks for the visually impaired and wheelchair ramps.

Dubai has incorporated smart technology to enhance the usability of its parks and trails. For example, some parks feature mobile apps that provide audio descriptions of the environment to assist visually impaired visitors and provide real-time information about accessibility features.

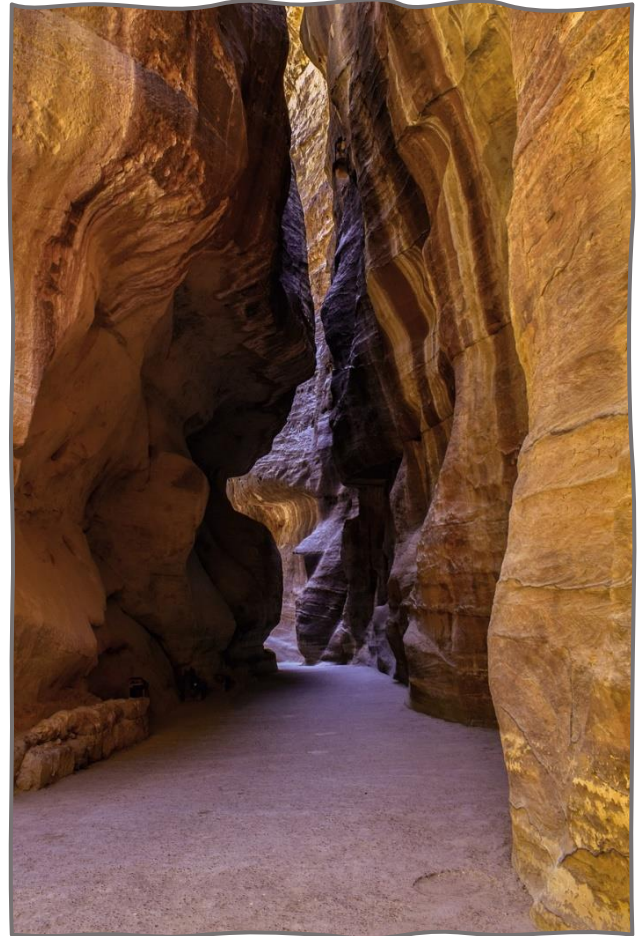


2. Petra, Jordan

Petra is one of the most famous archaeological sites in the world, and some efforts have been made in the area of accessibility, allowing more people to explore its ancient wonders.

- Easy trails:
 - A main easy trail has been developed from the Petra Visitor Center to the famous Treasury Building. Designed for wheelchair users, it has a smooth and compacted surface to make the journey easier. However, after passing the Treasury, the terrain becomes more difficult and the level of accessibility decreases.
 - For visitors who cannot navigate the rough terrain, alternative transportation options are offered such as specially designed carts and golf carts that can take them on a journey along some of the roads within Petra.
- Guided tours:

Petra offers specialized guided tours for people with disabilities. These tours are designed to provide an enriching experience when navigating the accessible areas of the site. Guides are trained to assist visitors with various needs, ensuring a safe and informative visit.



- Signage and facilities:

The Petra Visitor Center is accessible to all, equipped with ramps, accessible bathrooms, and clear signage in several languages, including Braille. The center also provides information on road accessibility and visiting different areas within Petra, helping visitors plan their trip.

2.3 Visual impairments^{vi}

The World Health Organization (WHO, 2021) estimated that 2.2 billion people have a visual impairment, which includes 36 million people with total blindness and 217 million with moderate or severe visual impairment (Bourne et al., 2017).

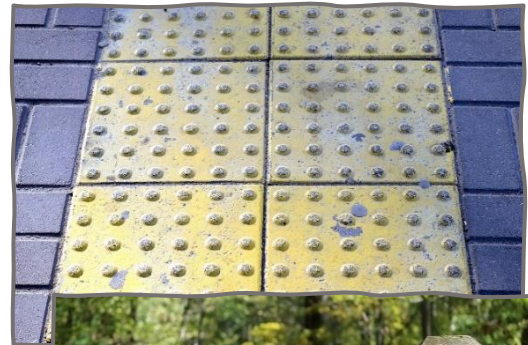
People with visual impairments, or blind and visually impaired people, face challenges in their daily lives due to their limited ability to see. Blind and visually impaired people are considered visually impaired. The most common limitations that result from visual impairment are related to orientation, i.e. navigation, assessing distances, detecting heights and not being able to see in low light, for example. If visual impairments are not taken into account in the design and construction of spaces, the risk of falls, collisions or injury increases. Many people with visual impairments are able to manage daily life and activities, and even get around on their own with the help of a companion dog. Visitors with visual impairments can benefit greatly from thoughtful trail design and assistive features.



Features of accessible trails for the visually impaired

Tactile guidance

- Install tactile sidewalks along the trail to guide visually impaired visitors.
- Provide holographic and tactile maps and Braille signage at the beginning of trails and key points of interest.
- Use rough surfaces to indicate the boundaries of paths or closely spaced intersections.



Auditory signaling

- Implement auditory cues at important locations, in order to provide audio description on playback.
- Develop mobile apps with audio guides GPS-synchronized audio guides for real-time information.
- Consider installing talking signs that provide orientation and information.



Track barriers and edging:

- Install physical barriers or guide rails along the edges of trails for safety and mobility.
- Use warning surfaces that can be detected before hazardous areas are reached or changes in path conditions occur.
- Ensure consistent path widths and surface structure to facilitate mobility.



Contrast and lighting:

Use high-contrast colors for signage and trail markings to assist those with partial vision and ensure adequate lighting along the trail, especially in shaded areas or for evening use.



Multisensory experiences “seeing nature with your ears”

Create a sensory garden with fragrant plants and interesting structures, incorporating sound elements such as wind chimes or water features

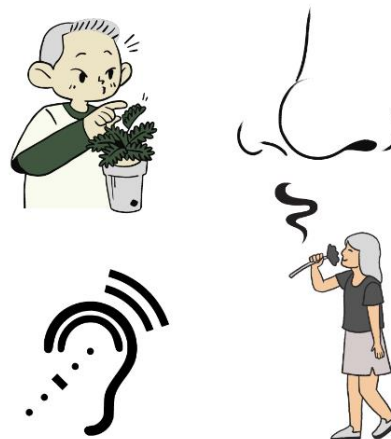




Best practices in the MENA region:

1 .Al Noor Island, Sharjah, United Arab Emirates^{vii}

Al Noor Island was designed with accessibility in mind, providing a rich and immersive experience for all visitors, including those with visual impairments. The island boasts tactile pathways with guiding features, ensuring easy navigation. Its butterfly house is a multi-sensory garden, where fragrant plants and diverse structures stimulate different senses. In addition, the island features interactive art installations that address the senses of sight and touch, promoting inclusivity and enjoyment for all.



2 .King Hussein Park of the Hashemite Royal Court, Amman, Jordan^{viii}

King Hussein Park is a model of inclusivity, where the environment welcomes all visitors. The park features inclusive accessibility features, such as Braille signage and tactile maps that make it easy to navigate. Audio guides provide detailed descriptions of the park's attractions, bringing the experience of those with visual impairments to life. These people were carefully consulted for the park's design, prioritizing their needs throughout the planning process.

3 .The Corniche, Doha, Qatar

The Doha Corniche was designed with accessibility in mind, providing a safe and enjoyable experience for all visitors, including those with visual impairments. The walkway features tactile sidewalks and guide rails to aid navigation, while high-contrast signage and ample lighting improve visibility. The Corniche development process has demonstrated a strong commitment to inclusivity, collaborating with disability organizations to ensure that the needs of those with visual impairments are effectively addressed.

Seeing nature with "ears"^{ix}

Sometimes, the activities that all tourists do are the same, only the senses involved are different. For example, people with visual impairments enjoy listening to the sound of birds, while others go to see them. The same goes for listening to the sound of forests and wildlife.

The Cali River Association has launched a pilot initiative on birding routes in the Cali countryside in Colombia, with a special focus on the blind. Visitors can take part in a unique sensory experience that allows them to reconnect with nature, while learning how to recognize the different species of birds that live in the tour areas. This is the first birdwatching route that takes into account the needs of the visually impaired in South America. Colombia is home to the most diverse collection of birds in the world, with about 1,900 species. Bird routes promote the conservation of biodiversity and local communities, the sustainable use of local resources, and equitable participation for all.¹

¹ Innovation opportunities in accessible tourism - Stiftung Entrepreneurship Accessible travel for people with disabilities - Planet Abled



3. The role of municipalities

Public trails are essential community resources that provide recreational opportunities and promote the health and well-being of residents. But in many parts of the MENA region, accessibility remains a major challenge, especially for people with disabilities. This disparity limits the ability of all members of society to fully enjoy these valuable public spaces. Recognizing this issue, municipal governments in the MENA region are playing a critical role in creating inclusive and accessible trail systems. By implementing targeted policies, allocating funds, and adapting to each region's unique context, municipalities can lead the development of accessible trails. This proactive approach not only enhances the quality of life of local residents, but also supports the growth of inclusive tourism, benefiting both local communities and visitors.

The following focuses on the practical roles that municipalities in the MENA region can adopt to facilitate the implementation of inclusive tourism trails.

MAIN AREA	SPECIFIC ACTIONS
ASSESSMENT AND PLANNING	Examine the usability of existing pathways and locations in the facility, including: Parking, entrance, reception area, pathways, restrooms, restrooms, rest/seating areas, mobility vehicles and equipment, interpretation technologies, etc.
WORKFORCE DEVELOPMENT	Train local youth in facilitation services (as guides for visually impaired visitors, etc.) and cultural norms surrounding disability in the MENA region. Collaborate with universities or vocational schools to include courses in inclusive design and accessible tourism in their curricula, and then apply these concepts within municipalities. Consult with experts in the field of resource conservation to strike a balance between accessibility and resource protection.
INTEGRATING TECHNOLOGY	Municipalities should collaborate with universities and engage technology students to develop mobile apps that contain GPS-based audio guides in Arabic and other local languages, as well as incorporate QR codes on route signage to provide additional accessible information.
CREATING PUBLIC-PRIVATE PARTNERSHIPS	Create partnerships with travel agencies to create accessible tourism packages and promote them through their websites. Municipalities should foster the growth of startups by encouraging the development of innovative facilitation solutions and engaging youth in these initiatives.



ENGAGING THE COMMUNITY	Establish a local disability advisory committee to help identify challenges, allowing for enhanced planning, guidance, and effectiveness in implementation efforts to address actual needs. Launch awareness campaigns to highlight the benefits of inclusive tourism, and host community events to showcase accessible facilities.
PHASED IMPLEMENTATION	Develop a clear, step-by-step plan to promote facilitation, using the key ideas presented in the guide. Initiate pilot projects in high-traffic areas to demonstrate the effectiveness of these strategies.
FUNDING AND RESOURCE ALLOCATION	Dedicate a portion of tourism revenues to fund facilitation initiatives. Monitor grants from potential funding agencies ^x to secure additional resources for facilitation projects.
INCLUSIVE STAFFING	Provide incentives to tour operators who actively employ individuals with disabilities.
REGIONAL COOPERATION	Collaborate with neighboring municipalities and Connective Cities Network to pool resources, share best practices, and develop uniform accessibility guidelines across the region.

4. Conclusion

Creating inclusive tourism trails in the MENA region is an important step towards promoting accessibility and equity in society. By prioritizing inclusivity in tourism, municipalities can ensure that all individuals, regardless of ability, are able to enjoy and participate in the natural and cultural experiences the region has to offer. These efforts not only improve the quality of life of residents, but also the attractiveness of destinations, promoting social inclusion and supporting sustainable economic growth. A commitment to inclusivity is a strong foundation for future developments, making the MENA region a pioneer in accessible tourism and transforming it into a destination that welcomes everyone.



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- v. Ramp on Dubai beach is a boon for wheelchair users and parents | The National (thenationalnews.com)
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- viii. Jordan's King Abdullah II inaugurates King Abdullah II Gardens in Amman's Mqabalain area - Construction Week Online
- ix. Innovation opportunities in accessible tourism - Stiftung Entrepreneurship
- x. The World Bank, UNDP, USAID, European Union grants, GIZ, the Arab Fund for Economic and Social Development, and the Open Society Foundation provide funding for disability-related projects in the MENA region through various programs.



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info@connective-cities.net
www.connective-cities.net

Connective Cities is a joint project of

Association of German Cities
Gereonstraße 18-32, 50670 Cologne | Germany
Project Contact: Sabine Drees | sabine.drees@staedtetag.de

Engagement Global gGmbH / Service Agency Communities in One World
Friedrich-Ebert-Allee 40 | 53113 Bonn | Germany
Project Contact: Alexander Wagner | alexander.wagner@engagement-global.de

Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH
Friedrich-Ebert-Allee 32+36, 53113 Bonn | Germany
Project Contact: Ricarda Meissner | ricarda.meissner@giz.de

Author

Local Governance Network for Development
Chief Executive Officer: Hanane Habre

Editorial Review

Dr. Muna Shalan

Design and Layout

Dr. Muna Shalan

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Addresses of the BMZ offices

BMZ Bonn Office
Dahlmannstraße 4
53113 Bonn | Germany
Phone: +49 (0) 228 99 535-0
Fax: +49 (0) 228 99 535-350
BMZ Berlin Office
Stresemannstraße 94
10963 Berlin | Germany
Phone: +49 (0) 30 18 535-0
Fax: +49 (0) 30 18 535-2501

poststelle@bmz.bund.de
www.bmz.de