

## Accessibility: Guidance notes and good practices

### A. Introduction

Persons with disabilities comprise 15 percent (WHO global data) of the population and are one of society's most marginalized groups. Age and Disability Inclusion Needs Assessment (Camp level) found that disability prevalence differs by age group and location. Overall, 12% of individuals were identified as persons with disabilities which varied camp-wise, ranging from 6% to 19%. The cause of this marginalization has one common thread: barriers. Barriers to participation, opportunity and success exclude persons with disabilities across all sectors of society by limiting their ability to benefit from and participate in development on local, regional, national and global scales. Very few services within the camps are accessible to people with disabilities. The terrain of the camps makes movement between a person's shelter to communal facilities and camp services difficult. A 2017 Age and Disability Inclusion Rapid Assessment Report found that all people with disabilities and older people who had been interviewed are reliant on family members to collect food and non-food items. None of the people interviewed who required accessible toilets had access to them.

The Convention on the Rights of Persons with Disabilities (CRPD) is a human rights treaty that contains a specific article on accessibility (Article 9), mandating State Parties to take appropriate measures to ensure accessibility in the physical environment, transportation, information, communications (including technology), and services. Accessibility is also one of the core underlying principles of the CRPD (Article 3). Bangladesh Disability Rights and Protection **Act-2013 states to** Set up appropriate facilities at all buildings and establishments and transports belonging to the Government, Statutory Bodies and private organizations to facilitate easy movements and communications for the people with disabilities. Bangladesh **National Building Code 2020:** to build a risk-free, safe environment for all

The Aim of this technical Guidance document is to give an in-depth understanding of the minimum standards of the different accessibility measures for most used infrastructures in camps e.g. Ramps. Toilet, Stair etc. As well as this guidance document also listed a few examples from Handicap International- Humanity & Inclusion (HI) accessibility works from camp and host community. HI contextualized the different measurements as well as focused on the use of local resources considering the safety and protection of the beneficiary.

### **Accessibility:**

Accessibility is essential for persons with disabilities to live independently and participate fully and equally in society. Without access to the physical environment, to transportation, to information and communication, including information and communications technologies and systems, and to other facilities and services available or provided to the public, persons with disabilities do not have equal opportunities for participation in their respective societies

### **Universal Design**

Universal Design means the design of products, environments, programs and services to be usable by all people, to the greatest extent possible, without the need for adaptation or specialized design. Universal Design shall not exclude assistive devices for particular groups of persons with disabilities where this is needed.

### **Reasonable Accommodation**

“Reasonable Accommodation” means necessary and appropriate modification and adjustments not imposing a disproportionate or undue burden, where needed in a particular case, to ensure that persons with disabilities can enjoy or exercise on an equal basis with others in accordance with all human rights and fundamental freedoms. It involves tailor-made adjustments to the social or physical environment such as a workplace, classroom, housing, public transport or courtroom, in order to accommodate the specific needs of an individual with a disability.

### **THE R.E.C.U. (Reach, Enter, Circulate and Use) STEPS**

While designing a new environment/service/product or adapting an existing one to make it more accessible and ensure a flow of movement consideration must be given to how persons with disabilities will Reach the facility, how they will Enter the facility, how they will Circulate within the facility and how they will Use the spaces and equipment in the facility. Following the RECU steps throughout the process will result in the building/service/product being as accessible to everyone as possible.

- Reach – moving around the community to get to the service you wish to use from your home; affected by pathways, linking pathways, slopes, transport systems, signage
- Enter – being able to get inside the building you wish to use; affected by steps, ramps, handrails, door width, door handles, tactile floor surface
- Circulate – being able to move inside the building; affected by corridors, thresholds, door widths, resting places, tactile floor surfaces, signage and dimensions (eg a minimum internal space of 1500 mm x 1500 mm to enable a

person to use a wheelchair to turn and maneuver)

- Use – being able to use the services and facilities; affected by dimensions and design of internal furniture and communication eg height of tap, type of tap, signage

## **B. Promote accessibility:**

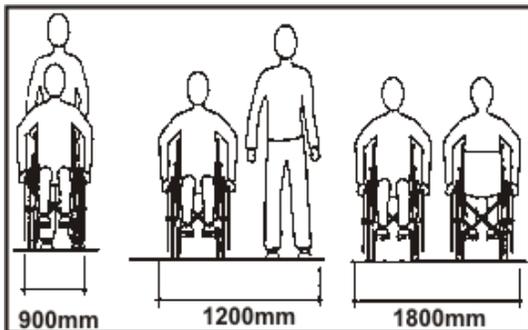
- **Active participation of people with disabilities:**
  - Consult with people with disabilities, including women and children with disabilities, and their family members to understand how the environment and infrastructure affect their ability to reach, enter, move around within and use services and facilities.
  - Ask for their advice when planning any new, or redeveloping any existing facilities and/or service centers so they are able to use their homes, community and environment
  - Engage people with disabilities to conduct access audits – ask them to move around the home, community and environment; use services and facilities and tell you what is accessible and what needs to be changed and how
  - Support people with disabilities and the community to generate awareness about the importance and impact of accessibility, mobilize decision-makers and strategic community members to embrace their responsibility to promote access for all.
- **Information and awareness-raising:** target diverse audiences
  - Civil society, local organisations, national and international NGOs
  - Professionals or future professionals: architects, engineers, technicians, project managers
  - Decision-makers: national and local authorities who define and implement accessibility policies
- **Planning:**
  - Include accessibility features from the planning stage; the additional cost is around **2% total cost**. It is a lot more expensive and time-consuming to modify homes, services and facilities after construction to ensure accessibility
  - Ensure the location and design are accessible and free from barriers
- **Training:**
  - Train architects, construction workers and community development workers on disability issues and accessible design features

- Encourage specific initiatives to develop ‘model’ public buildings that are accessible; use this example to advocate for accessibility, to illustrate it’s impact and to demonstrate that an accessible environment is possible, affordable, desirable and beneficial for all.
- **Monitoring:** Monitor the use of services by people with disabilities alongside other disaggregated data collection

### C. Standards of Accessibility:

#### Pathway:

- A pathway is an external road, pavement, place for pedestrians to walk beside the road, internal track linking buildings, homes etc
- Minimum width of a pathway is 1800mm. As for the camp context, the minimum width recommended is **900 mm**
- Minimum width for pathway in areas with high numbers of people passing through eg entrances to hospitals, train stations, flood shelters 2500mm. For camp Context **1800mm**



#### CIRCULATION AREA

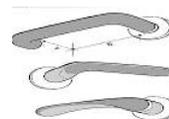
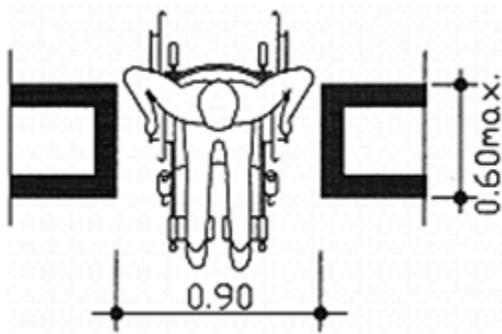
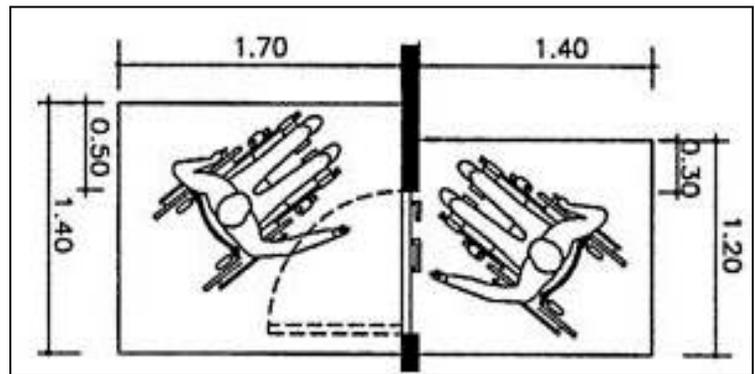
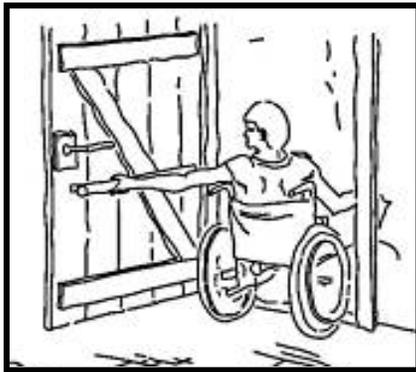
- **Corridors:** unobstructed width of 1800mm, well lighted. For camp context, the minimum width suggested 900 mm
- **Thresholds** (provided to prevent rainwater from entering the corridors/rooms) maximum 12mm high.
- **Level differences** and thresholds higher than 12mm should be beveled with small mergers on both sides to facilitate unhindered mobility.
- **Resting places** should be provided in waiting areas. A combination of lowered seats at 350mm height and others at 460-480mm height should be provided. Ensure armrest and back support on these resting



benches/chairs. Ensure places for wheelchairs besides resting benches and chairs

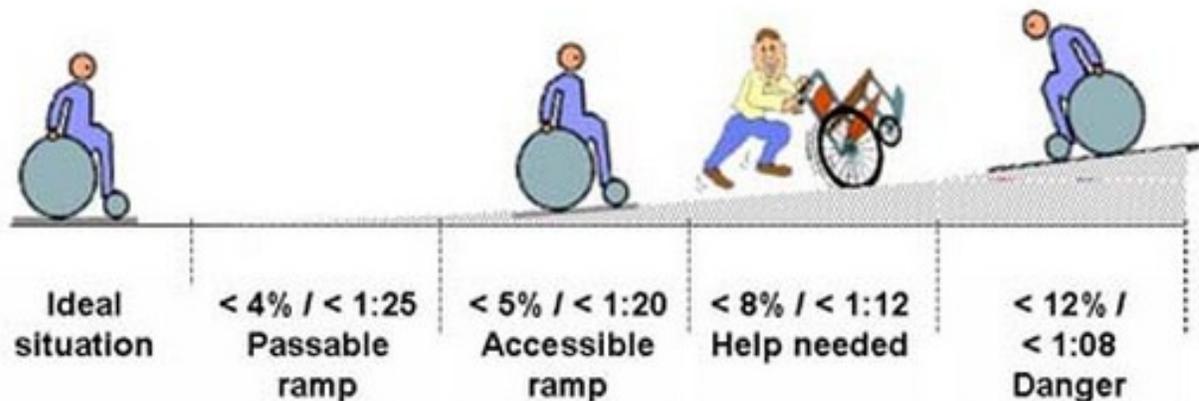
## ENTRANCE & EXIT

- Doors: clear opening of 900 mm width minimum. For camp context 750 mm (manageable with exiting one) new construction should follow at least 900 mm
- Fitted with lever-action locks and D-handles of circular section, between 850 mm and 1100 mm from floor level. **AVOID** doorknobs as they are difficult to use for people who have difficulty using arms and hands
- The handle should not require sustained effort or repeated action to operate. About the door lock, bib cock, stop cock and pillar cock without handle difficult to use for people who have difficulty using arms and hands
- Paint the door a contrast color from the wall for ease of identification by a person with a visual impairment
- A clear space of 450mm-600mm beyond the opening edge of the door to enable a wheelchair user to maneuver and to reach the handle

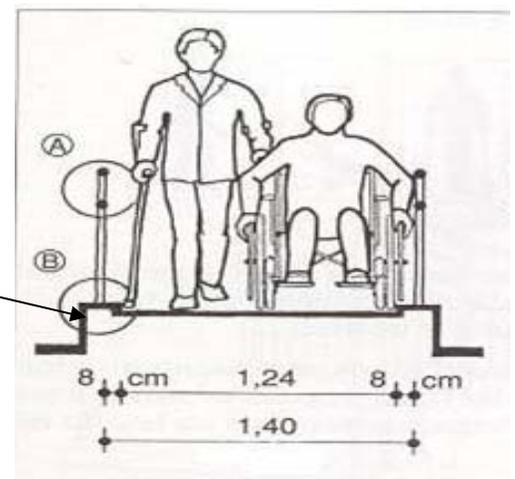


Picture: Standard Measurements

## Ramps



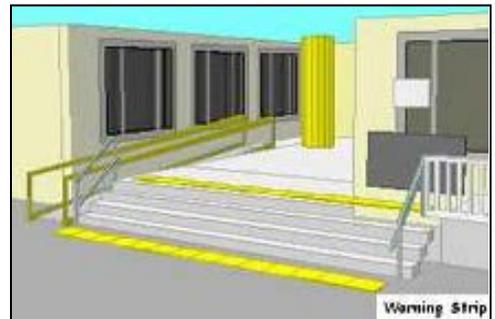
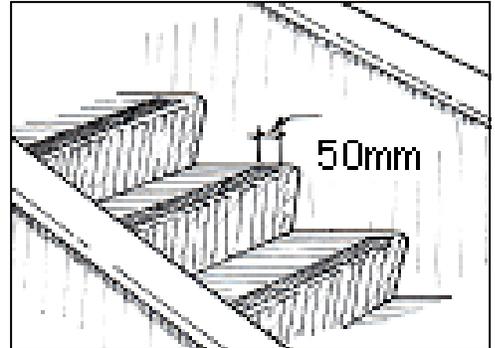
- Gentle slope: minimum gradient 1:12 (ie for every 1 unit rise, 12 unit slope length). Preferred 1:20 (ie for every 1 unit rise, 20 unit slope length) for longer ramps. For **camp** context, it is suggested **1:12** minimum gradient
- Landings 1500 mm long after every 750mm of vertical rise or every 9000 mm (whichever comes first).
- Landings 1500 mm long at every change of direction
- Landings 1500 mm long at the top and bottom of every ramp
- Width: minimum 1200 mm. For camp context 900 mm (community toilet, meeting places, distribution point and community building)
- Width: minimum 2500mm at busy places eg hospital or train station entrance, food distribution centre entrance, flood shelter entrance and community building entrance etc. For camp context 1800mm
- Handrails for all ramps longer than 400mm. For camp context 600 mm
- Handrails on both sides at two heights- upper at 850mm-900mm and lower at 700mm.
- Both ends of handrails rounded and grouted and extending 300mm beyond the top and bottom of the ramp.
- Surfaces (ramp + landing) should be slip-resistant.
- Wheel guard/kerb rising 50mm at both sides of ramp
- Ramp edges to be flushed with the ground surface to prevent trip hazards. Brick paving at ramp edges helps prevent erosion and keep edges flush.
- Tactile indication: 300mm wide warning strip to be placed at 300mm at the beginning and end of all ramps



- A ramp should be accompanied by a flight of steps with rails.

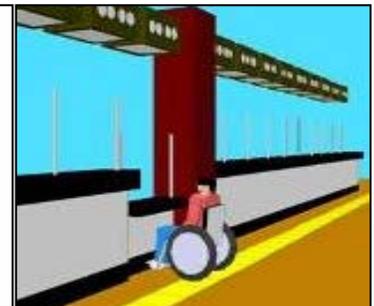
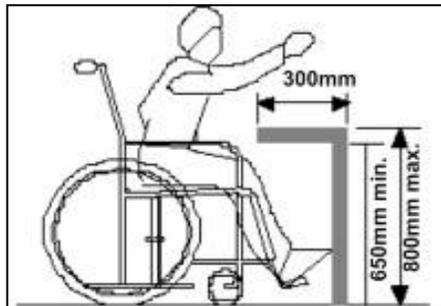
### Steps and stairs

- Step with equal/uniform risers (step height): 150 mm and tread (step depth): 300 mm.
- No open gaps between steps
- Stair edges 50 mm wide strip, bright contrasting colours
- Minimum unobstructed width 1200 mm.
- Continuous handrails on both sides including the wall (if against wall) at 850mm - 900mm and 700mm.
- Landing 1200 mm long at the top and bottom of steps
- Landing 1200 mm long at every change of direction
- 300mm wide tactile warning strips to be placed before and after all stairs in public places.



### Public dealing (service & distribution) counters

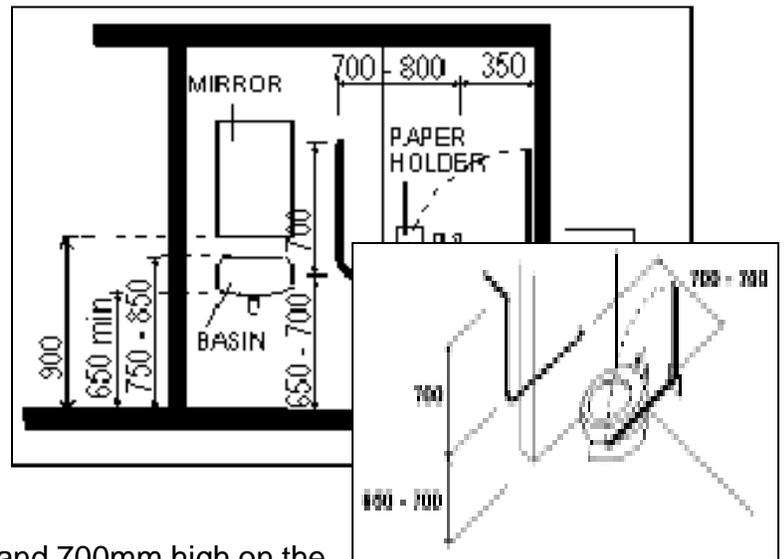
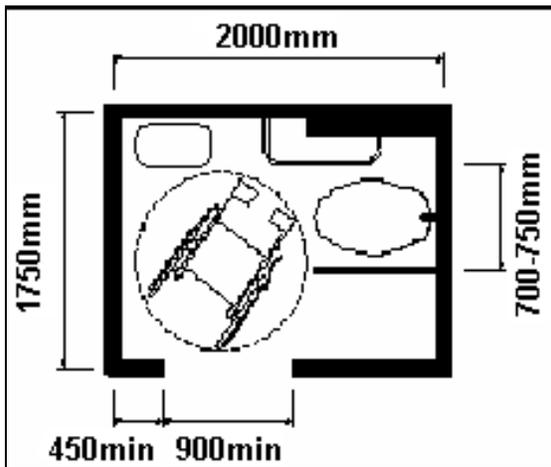
- Writing surfaces and public dealing counters: 800mm from the floor, minimum clear knee space of 650 mm-680 mm high and 280 mm-300 mm deep underneath the counter.
- Staff managing the counters should know sign language.
- A separate window/counter may be earmarked for persons with disabilities to avoid conflict and promote convenience.
- Queue for women may be reserved for persons with disabilities (male & female) to meet this requirement, wherever there is shortage of space.



## Toilets

- 300 mm wide tactile floor strip 300mm in front of the entrance
- Clear signage for men and women in words and pictures
- Ensure toilets are in a clear area with no trees and bushes and are well lit so that people are free from fear and harassment.
- Ensure toilets ensure privacy, especially for women
- Toilets in blocks should all have:
  - **No steps to enter the toilet when possible**
  - If steps ensure the approach to step paved to prevent erosion
  - Steps: rise 150 mm, tread 300 mm with a contrast stripe at the edge
  - Rails 850 mm-900 mm and 700mm (for children) from ground level extending 300 mm beyond the edge of a step
  - 900 mm wide door that opens outwards
  - Easy to grip door handles, easy to operate the lock
- One accessible toilet per 10 general toilets.
- In all public buildings one accessible toilet should be provided adjoining every general toilet.
- Room dimensions: 2000 mm x 1750 mm.
- Clear floor space 1500 mm x 1500 mm to enable a person using a wheelchair to maneuver
- Door: 900 mm wide with the door swing outwards or sliding type.

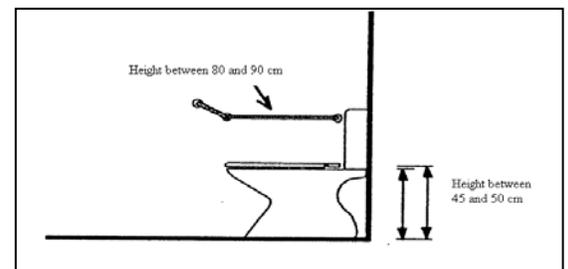




- Horizontal pull bar at least 600mm long and 700mm high on the inside of the door.
- Tactile warning strip at the entrance
- Slip-resistant flooring.
- It is advisable to place WC in a corner (to facilitate parallel, front and diagonal wheelchair transfers) and diagonally opposite the door (to maintain the privacy of the user).
- Water inlet pipe should be provided in the accessible toilet for the convenience of the user.
- Switch near the WC (one at 300mm and the other at 900mm from the floor level), which activates an emergency audio alarm.

## WATER CLOSET (WC)

- WC should have a clear space of 1200 mm minimum in front of it.
- Centre line of the WC: between 460 mm to 480 mm from the adjacent wall.
- A clear dimension of 900mm to one side of the WC facilitates side transfer by people who use wheelchairs.
- The top of the WC to be 460-480mm from the ground level.
- Grab bars at the rear and the adjacent wall installed to provide support in transfers/ standing/ putting on clothes.



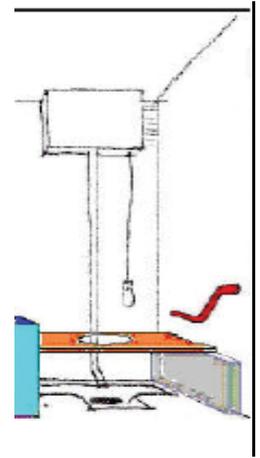
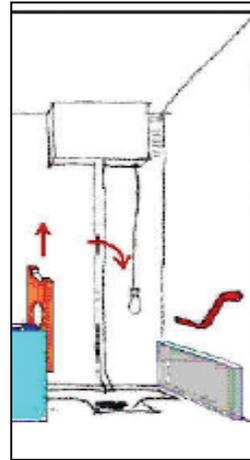
- On the transfer side- swing away/up type grab bar 650mm - 700mm from floor height extending 200mm in front of WC
- On the wall side L-shape grab bars:
  - horizontal bar 700mm from floor height, 600mm long, 38mm outer diameter;
  - vertical bar 700mm from floor level, 700mm long, 38mm outer diameter.
- Bamboo/GI pipe/ locally available material with 38 mm outer diameter may be used for grab bars.
- Flushing arrangements, dispensers and toilet paper mounted between 500mm and 1200mm



## ASIAN TOILET

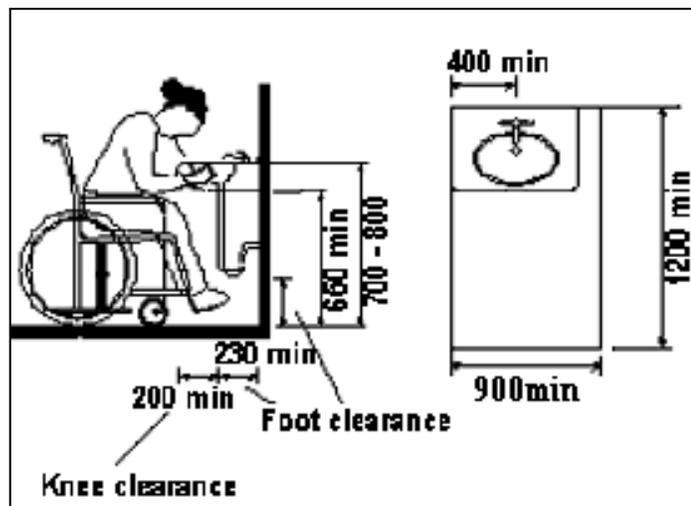
- Door: 900mm wide with the door swing outwards or sliding type.
- Horizontal pull bar at least 600mm long and 700mm high on inside of door
- Tactile floor surface and Braille sign at entrance

- Clear signage for men and women in words and pictures
- Slip resistant flooring.
- Vertical metal/bamboo/GI pipe with 38mm outer diameter from floor to ceiling for people who are able to squat but need support to balance **or** horizontal bars 400 mm – 500 mm from the ground in front of and besides toilet
- Consider a rope hanging from the ceiling beside the toilet that a person can use for balance, to move from stand to squat
- Toilet **not** raised on a step/plinth but level to the ground



## WASHBASIN

- Washbasin dimensions 520 mm and 410 mm
- Mounted with top edge 700 mm-800 mm from floor level
- Knee space of at least 760 mm wide by 200 mm deep by 650 mm-680 mm high underneath washbasin.
- Avoid corner sink: difficult to access and small dimension makes it hard to use
- Lever-type handles for taps recommended.
- Mirror's bottom edge 900-1000 mm from the floor, mirror inclined at a slight downwards angle.



Toilet, water closet and washbasin for children (school etc)

- Ensure the toilet is in a clear area with no trees and bushes and is well lit so that children are free from fear and harassment.
- Ensure that the toilet is located within hearing distance and with visual contact from school so that a child is able to call for assistance
- Ensure the toilet provides privacy, especially for girls
- **Toilet:** internal dimensions, access, door etc same as adult toilet above except horizontal pull bar at least 600 mm long and 500 mm – 550 mm high on inside of door.
- **Water Closet:** same as adult WC above except:
  - Top of WC 300mm – 350mm from ground level
  - Pan size: 420 mm long, 125 mm wide at the front extending to 200 mm wide at the back. A pan that is too large can make a child frightened they will fall inside; this makes it hard to relax and go to the toilet
  - On the transfer side- swing away/up type grab bar 500 mm – 550 mm from floor height extending 200 mm in front of WC
  - On the wall side L-shape grab bars:
    - horizontal bar 500 mm from floor height, 600 mm long, 38 mm outer diameter;
    - vertical bar 500 mm from floor level, 700 mm long, 38 mm outer diameter.
- **Asian toilet:** same as adult except:
  - Rails 500 mm-550 mm from ground level in front for balance when using the toilet, and both sides to help to squat and stand up
  - Consider a vertical bamboo pipe from floor to ceiling in front of toilet for balance and to help with squatting and standing



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- Consider a rope hanging from the ceiling beside the toilet that the child can use for balance, to move from stand to squat
- Use a low seat with a hole in it to place over the toilet if the child cannot squat. Do not make the hole too large as a child may be frightened, they will fall inside, this makes it hard to relax and go to the toilet
- **Washbasin:** same as adult wash basin above except:
  - Accessible washbasin mounted at a height between 500-600 mm
  - Knee space of at least 760 mm wide by 200 mm deep by 450 mm-480 mm high underneath washbasin.
  - Mirror's bottom edge 800 mm from the floor, mirror inclined at a slight downwards angle.

## WATER POINTS

- Taps at two levels- 500 mm and 900 mm-1000 mm from floor level.
- Lever type tap handles
- Clear space of 1200 mm in front of the tap. For camp 900mm
- Clear space of 380mm-450mm on either side of the tap
- Level platform in front of tap with a smooth, non-slip surface

Seats/concrete platforms at 360 mm and 450 mm-480mm high adjacent to area for people to rest whilst waiting for tap



## Good Practice

Enabling people with disabilities to go out of their homes and have better use of mobility devices

### Situation before accessibility work:

The beneficiary could not move outside of his home and participate in daily activities due to physical barriers. His meaningful participation was hindered. Roads & Pathways were rough, have path holes, and uneven surfaces. The beneficiary was provided a wheelchair but it was not possible to use it facing structural barriers consequently mobility was severely restricted. The beneficiary reported how the road was so difficult to navigate and traverse.

### Accessibility measures were undertaken:

The Beneficiary and caregiver were consulted to identify barriers and needs and develop the design. The beneficiary was also engaged during the accessibility work to monitor and give user feedback.

- 16.62m road constructed connecting their home to the toilet and community space
- The entrance door was modified to allow wheelchair movement
- Ramp ingredient: 1:12 ratio, width of the road is 762 mm with wheel guard.
- Materials used included brick, cement and sand

### Changes in the life of the beneficiary after accessibility work:

Beneficiary able to use wheelchair accessing toilet facility, mobility inside the home and outside of the home improved. Now, beneficiary has more access to the community places consequently improved socialization.



#### What Was Done & Contextualized:

The pathway measurement considered the local context due to lack of space. The following measurements for Pathway followed:

Pathway Width: 900mm

Width of connecting Pathway:  
1200MM

Surface: Non-Slippery

## Good Practice

Gain independence for performing daily activities through reasonable accommodation

### Situation before accessibility work:

Beneficiary with visual and physical impairment face physical and attitudinal barriers (no support to guide pathway, floor-based cooking appliances, and toilets) and numerous challenges moving around in the community, performing daily lifestyle and hygiene activities such as toileting, washing, bathing, and cleaning. She was mostly confined inside the home and dependent on the other family members. Additionally, the attitude and behavior of family members were not conducive (blaming her inability due to impairment) to encouraging her to gain independence.

### Accessibility measures were undertaken

Accessibility needs were identified in consultation with the beneficiary during the rehabilitation service provision. Access audit was conducted to evaluate the existing barriers. As per the identified barriers and needs, a technical specification was developed in consultation with the beneficiary

Targeting the beneficiary's needs, a rope (locally available) from her living areas to different locations was installed to guide the pathway. A bell at the beginning and end of each destination was also installed so that she could hear the sound when reaching each point. A kitchen wooden rack was installed to keep cooking items improving her reach. Modified Gas stove tool size L36" X W30" X H 12" and Modified Sitting Tool with comfort cushion size L14" X W14" X H 9". She has received training on the use of adapted tools and pathways.



### Changes after the modification:

Being able to move inside the building with the support of a rope, she feels independent and safe. She is able to cook independently by using the modified gas stove tool and modified sitting tool with a cushion. Adaptation in the kitchen increased reach and allowed her to maintain correct body posture for example while using the stool to sit. The beneficiary is now more empowered and the family acceptance level has increased as she is able to contribute to daily household activities.

