Disability Inclusive Disaster Risk Reduction Initiatives of the CBM Nepal Country Office

A REPORT ON STRUCTURAL AND NON-STRUCTURAL RISK ASSESSMENT OF HRDC NEPAL

Submitted to:
CBM Nepal Country Office
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1. BACKGROUND

The Friends of Disabled (FOD) is a non-governmental organization which runs the **Hospital and Rehabilitation Center for Disabled Children** (HRDC), the largest pediatric orthopedic hospital and rehabilitation center in Nepal, which has benefitted more than 68,000 children in the country. Since 2013, the **CBM Country Office in Nepal** has been implementing several development projects particularly focused on disability prevention and treatment, and the empowerment of persons with disability. Following the devastating 2015 Gorkha Earthquake, CBM and HRDC have planned to mainstream some Disaster Risk Reduction initiatives to ensure their working environment and project beneficiaries stand prepared, safe and resilient to multiple hazards. In this context, having decided to implement a risk assessment for each of its partners, CBM has hired two consultants to implement a series of assessments.

2. OBJECTIVE, METHODOLOGY AND PROCESS

The overall objective of this assessment is to assess the basic structural and non-structural as well as organizational knowledge and practices on DRR preparedness amongst CBM's partners so as to suggest potential interventions.

The specific objectives of the assessment are to:

1) Assess the structural, non-structural and organizational status of HRDC on Disaster Risk Reduction (DRR) initiatives in Nepal;
2) Produce an assessment report for each partner and suggest and/or recommend mitigation measures; and
3) Review the DiDRR plan of HRDC in line with the assessment findings and support the appropriate revisions to the DiDRR plan.

A team of consultants including the DRR and DiDRR experts developed a draft assessment questionnaire for the risk assessment, which was later finalized in close consultation with CBM and its partners. The consultants visited and observed the offices and structural commodities as well as met with concerned representatives and authorities of the partner organizations during the assessment.

The partner-wise assessment report was prepared with the feedback and supports from the CBM PERIP team and its partner representatives.

3. KEY OBSERVATION AND FINDINGS

3.1. General Information

Name of partner	Friends of Disabled(FOD)/Hospital and Rehabilitation Centre for Disabled (HRDC)
Address	Banepa Municipality-3, Janagal, Banepa, Kavre
Location	Approx. 1,200 meters south from Araniko Highway, Janagal Chowk atop a small hill
Hospital area	Approx. 98,496 square feet (70% of total area)
Number & types of block	7/ One main block in Y shape with 8 sections, 4 residential, Backside OPD
Year of construction and contractor	1998; Rabina Construction Pvt. Ltd.
Type of service	Orthopedic Hospital and Rehabilitation Center
Number of peoples' flow/day	xxx staff including 33 staff with disabilities and average xxx service recipients per day = xxx persons
Assessment Date	27 December 2017
Assessment conducted by	1. Mr. Rupendra Basnet, DRR Consultant 2. Mr. Padam Bahadur Pariyar, DiDRR Consultant

3.2. Hazards, Risks and Vulnerability

The hospital is situated atop a small hill and therefore has a sloping landscape (more than 30 degrees).The land been found stable on all sides except for the western side. On an average, buildings occupy 70% of the total land area, thereby allowing for some (30%) open space which can be utilized as 'safe' place if properly identified.

The assessment revealed that the hospital has faced a number of hazards over the years. The 2015 Gorkha Earthquake and the occurrence of lightning particularly during the dry season were top-of-the-mind hazards the hospital had faced more recently. The effects of

the earthquake were visible – few small and hairline cracks in some of the walls – although no major damage was observed in the structural part of the hospital. The disaster had however provoked post-earthquake trauma amongst the staff, patients and their parents while using the buildings immediately following the earthquake.

Fire (potentially caused by electric short-circuits, or proximity of the incinerator to the diesel tank), earthquake (Nepal being the 11thmost at-risk country), landslides (due to deep sloping land in the Southern and North-eastern parts of the hill where the hospital is situated), lightning and windstorm are the key hazards as well as potential hazards identified by the hospital and assessment team during the assessment. The tall trees and hazardous materials situated around the hospital area pose further risks to patients, their families/visitors, hospital staff and hospital property.

3.3. Hospital Ground (Open Space):

Approximately 30% of the land are consists of open and unused areas, which is not adequate when compared to the daily flow of patients and visitors. The open space currently used for gardening is suitable to be used as 'safe' area for some of the blocks. The open area inside the OPD building is relatively safe when compared to the open areas on the sides and behind. However, the ratio of open space to the occupancy and daily flow is not adequate.

3.4. Entrance and Exit

The hospital has provisioned the same entrance and exit gate in the North-eastern side of the compound. This main gate is sufficiently wide to allow entry and exit of ambulance and fire engine in case of emergency. However, it is not wide enough to allow passage of multiple and large number of rescue vehicles at the same time. It even acts as a bottleneck to the easy movement of hospital patients when the flow is high. Hence, the single gate is not appropriate for emergency situations.

3.5. Hospital Surroundings/Neighborhood

The hospital surroundings comprise a public road, jungle, jungle and human settlement respectively in East, North, West and Southern part of the used areas. Bushes are found in the East and West sides of the hospital. The construction materials stored temporarily on the way to the hospital may create obstacles to free movement and emergency evacuation. It would be wise to prohibit patient movement in the Western side due to more than 30 degrees landslide-prone slopes – it may be suggested that bio-engineering and gabion boxes be used to improve the stability of this area. The close proximity observed between the generator (alternative power supply) rooms, the fuel storage room and waste management (burning) house, coupled with the location of electric transformer between these rooms could easily contribute to a major fire hazard in this area. The main hazards in the hospital vicinity are therefore landslide, fire, earthquake and windstorm.

3.6. Drainage Facilities and Waste Management

As the hospital is situated on the top of a hill, there isn't any major problem with drainage facilities. Rain water is properly channelized towards lower land. The waste management system also seems well managed, except in the western slopes where used medical materials have been randomly stored. The assessors did not find any hazardous materials stored or located in any area without having any warning signs. However, improvements to WASH facilities, and structural strengthening of the public latrine as well as making it accessible for all should be highly prioritized.

3.7. Electricity (power supply) Facilities

The hospital has regular electricity supply with proper wiring system, as well as uninterrupted power supply (UPS) and diesel generator as power back up to ensure round-the-clock power supply. However, as already identified earlier, the proximity of electricity transformer to the fuel storage may easily cause fire hazards.

3.8. Communication Systems

The hospital has access to and operates three means of communication, namely land line telephone service, GSM mobile service and internet service. Lightning arrestors have been installed to protect the communication systems and biomedical equipment from lightning. The availability of existing communication systems however depend on the availability of power. The permanent posting of security forces is just 2 to3 kilometers away from the hospital, which may complement communications via wireless walkie-talkies in case of emergency. The cables of communication systems are anchored and braced properly inside the wards, laboratories, administrative section, meeting hall, pharmacy and other critical areas of the hospital. However, the assessors did not find proper listing and posting of any list of important contact persons and agencies such as fire brigade in accessible places to be used in emergency situations.

3.9. WASH Facilities

The hospital has 100,000 liter capacity of water storage, sourced from a single source and using gravity flow system. Water distribution system was found to be free from leakage, with the same system also utilized to protect from fire hazard. Water purifier has been installed to source drinking water. There is possibility of rain water harvesting to meet the growing demands of water and to discharge water, which has however not been practiced.

As a public hospital, it was observed that HRDC has tried to make many WASH facilities accessible for persons with disabilities. However, some water points (for example, the point installed behind the Physiotherapy Department, and in the washrooms on the ground floor and first floor of the main block) were observed to be inaccessible for persons with disabilities.

3.10. Link Road to and from the Hospital

HRDC is approximately 1.5 to2 kilometers away from the Araniko highway, Janagal Chowk, Banepa. A black-topped and gravel road links the hospital to the highway. However, the road uphill to the hospital from the highway might be affected by landslide and falling of the trees during rainy and windy seasons, which might affect or compound emergency evacuation. Hence, it is highly suggested to identify an alternative road to connect the hospital to the main city area of Banepa.

3.11. DRR Equipment and Asset Management

As a hospital, HRDC has managed to maintain many safety and security measures such as fire extinguisher, water tank, ramp etc. in addition to Oxygen supply and pharmacy storage adequate for 30 extra days. However, there are some very basic DRR equipment and tools not available or not properly functioning during the assessment period, such as earthquake alarm, smoke detector, stockpile, Go-bag etc. Similarly, HRDC has properly located and installed some big machines (for example, the X-ray machine) whereas other assets such as book shelves, water dispenser, chairs, tables etc. aren't properly fixed and hooked. Most of the windows aren't laminated and most of the doors and windows open inwards, which may create further risks during disaster period. The sitting arrangement in some of the rooms (for example, in the meeting hall) isn't properly arranged and hence may create barriers in the exit route during emergency evacuation. The staffs were also not sufficiently aware of the easy and safe sitting arrangements.

The hospital has provided for signage to indicate the location of many critical units. However, similar practice has to be followed in all the units where people go for varying services. In some of the units such as the Administration department, the HRDC should also consider installing signage in Braille to make it accessible for the persons who are blind or has low vision. Once HRDC prepares its evacuation plan, it must also be supplemented with proper signage in the future. Importantly also despite the North-western part of the area having deep sloping land, there is no signage (such as 'Unsafe area/no entry') to prevent people entering into such dangerous areas.

3.12. DRR policy and program

HRDC has been working on DRR issues for few years particularly after the Gorkha Earthquake 2015 and thus has few experience and four trained staff on DRR leadership. However, the Constitution or strategic plan or any other policies of HRDC doesn't have mandate to work on DRR which has to be strategically handle in the future. There are

around 33 staff with physical disability and approximately 300 residential persons (clients) with disabilities in HRDC. The department chief is responsible for providing proper support and care during emergency and disaster period but they aren't well trained on it.
HRDC has limited information and knowledge about the existing DRR structures and plan available at community level though some of them had attended DDRC meetings few times before. HRDC intend to disseminate the information about hazards (different types per location), preparedness and safety messages for community people using posters and flip charts but they haven't prepared any types of IEC materials on DRR yet. HRDC is organizationally very familiar about the DPOs of working locations. However, they haven't yet collaborated to implement the DRR activities in the community level. Furthermore, it hasn't yet used sign language interpreter in its program particularly in DRR related ones.

3.13. Knowledge and Practice on DRR

HRDC has huge scope and significance of mainstreaming DRR preparedness initiatives into its regular program. The institution having more than 300 persons flow every day should have robust safety and security measures to make its working environment resilient. HRDC has Fire Extinguishers placed in most of the blocks. However, there are only 4/33 staff who are able to use the Fire Extinguisher properly. HRDC organized the Fire Drill in 2015 but hasn't organized DRR Drills yet to prepare its staff and beneficiaries for emergency situation.

There is a provision of DRR focal person but doesn't have a specific plan on DRR within HRDC. Furthermore, it is observed that there isn't formal system of "Stockpile" of materials as well as a "Go Bag" for emergency purposes. Furthermore, the assistive devices such as Crutch, Wheelchair, White Cane etc. aren't available for emergency situation. Most of the part of the HRDC premises is observed accessible. However, the WASH facilities in the ground floor, the training/seminar room, DiDRR project room etc aren't accessible yet.

4. RECOMMENDATIONS AND POSSIBLE MITIGATION MEASURES

4.1. Structural aspects

- It is observed that there are few minor cracks seen in some of the buildings caused due to the Gorkha Earthquake 2015. Hence it is suggested for refueling wall (grouting) and to conduct a detailed structural survey to get the detailed information about the safety of the building as well as identify the safe areas inside and outside the building.
- Some of the fire hazards creating equipments such as Generator, Fuel Storage, and Transformer are located very close by which may create some fire related hazards. It is suggested that these risk creating equipments should be properly relocated.
- HRDC should prepare its DRR Safety and Security Plan and train and practice the DRR preparedness initiatives such as DRR drills on the regular basis.
- The hospital doesn't have sufficient Fire Extinguisher and other fire suppression equipments. It is suggested to install fire suppression equipments and train the relevant office staff of its proper use.
- It is recommended that the backside area of the hospital having possible risks of landslide and lightning should be mitigated by restricting the access of people in those areas, using the bio-engineering and gabion box techniques and trimming the tall trees on a regular basis.

4.2. Non-structural aspects

- As observed, some of the critical office locations such as WASH facilities, training/ seminar room, DiDRR project room etc. are inaccessible and hence recommended that HRDC should take immediate action to make these places accessible for all types of persons with disabilities.
- It is recommended to ensure the availability of the fire suppression equipments and materials are in place and the concerned staffs are trained of its proper use during and after DRR Drills.
- All the prominent and risk creating office equipments and materials are suggested to fix properly to reduce the risks.
- Considering the availability of only one good road to reach to the hospital building, it is suggested that HRDC should identify or construct the alternative road to reach to the main market place of Banepa city.
- It is also recommended that HRDC should have Go Bag and Stockpile of food and non food items including assistive devices for persons with disabilities for emergency purpose.

4.3. Policy and programmatic aspects

- It is noted that HRDC doesn't have any organizational mandate to work on DRR in its principle documents. Hence, HRDC is recommended to amend one of its key document and ensure that it has mandate to work on DRR issues in Nepal.
- It is observed that the DRR unit/Focal Point and HRDC in overall have limited knowledge and skills on DRR and national and international frameworks. It is recommended that the DRR team should have specific capacity building on DRR and other to be well oriented on DRR issues.
- It is identified that HRDC has minimum level of awareness on DRR local initiatives (Structures, Plans and events) as well as government procedures. It is recommended that the DRR unit/focal person should coordinate and collaborate with DDRC and other DRR structures and actively participate on those processes promoting disability inclusion on it.
- It is found that HRDC hasn't organized DRR Drills (appropriate multi hazards) regularly and doesn't have the required minimum materials for it. It is recommended that HRDC organizes the DRR Drill on regular basis and arrange the minimum materials and equipments required for this process. However, it needs some external technical support on the process.
- It is noted that the DiDRR plan of HRDC need to be prioritized and be in line with this assessment findings. Hence, it is suggested to review the plan and identify the interventions with priority per findings.

5. ANNEXES (Please collect from the package)

Annex-1: Partner Assessment Checklist

Annex- 2: Photographs compilation

Annex-3: Organizational Safety Plan