

A decorative wall with a sun and rain motif. The sun is yellow with a black outline, and the rain is represented by white vertical lines. The background is a reddish-brown color.

**Strengthening DRM capacity under  
COVID-19 pandemic  
in cyclone/flood-prone area**

**- Guidelines for Shelter Management**



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**Guidelines for Shelter Management**

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## Executive summary

The Indian coastal state of Odisha is highly prone to disasters due to its specific geo-climatic condition that makes the state vulnerable to frequent floods, cyclones, epidemics, drought, and heatwaves. Its location on the east coast of India makes it one of the six most cyclone-prone areas in the world along with being the most vulnerable in terms of cyclone landfall. In the last century, out of 1019 cyclonic disturbances in the Indian subcontinent, 890 were along the eastern coast, and of these, 260 cyclonic disturbances had their landfall along the Odisha coast<sup>1</sup>. The ten major river systems in Odisha include many perennial rivers such as Mahanadi, Baitarani, Birupa, Rushikulya, Budhabalanga, Brahmani, and Subarnarekha, and their tributaries which make the region vulnerable to floods. It is the fifth most flood-prone state in the country. Its vulnerability to flash floods, landslides, earthquakes, and tsunami is also high.

The state is pioneer among the Indian states to have in place a dedicated and robust mechanism for the management of disasters and has won global accolades for its preparedness, response, and management of some of the recent cyclones such as 2013 Cyclone Phailin and 2019 Cyclone Fani. The state has dedicated Multi-Purpose Cyclone Shelters (MPCS) which are very effective in saving a large number of precious lives over the years. These shelters are duly managed and maintained by community-based committees, namely, Cyclone/Flood Shelter Management and Maintenance Committees (CSMMC/FSMMC). The committees have been imparted managerial training and informed by the laid down directives and guides.

However, local authorities and stakeholders including the communities faced complex risks and challenges when the Super cyclone Amphan hit the state amidst the COVID-19 pandemic. This has highlighted the lack of adequate considerations and integration of biological hazards in the existing plans, SOPs and guidelines on aspects of shelter management. The project “Strengthening DRM capacity under COVID-19 pandemic in cyclone/flood-prone area” strives to bridge this gap by laying down the guidelines for shelter management. The guidelines list down key considerations for the following:

1. General features and use of shelter
2. Safety features of shelter
3. Role of the stakeholders
4. Space and facilities management
5. Operations management

Further, the guidelines include necessary checklists for facilitating the local authorities and stakeholders.

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<sup>1</sup> [https://www.ilo.org/wcmsp5/groups/public/---ed\\_emp/documents/publication/wcms\\_732468.pdf](https://www.ilo.org/wcmsp5/groups/public/---ed_emp/documents/publication/wcms_732468.pdf)

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An emergency shelter is a critical infrastructure for use of the community members. It offers a safe refuge to the evacuated population till it is favourable for them to return to their dwellings. The management of the COVID-19 pandemic has necessitated the practice of physical distancing to contain the transmission of the virus. Due to this, the effective capacity of the existing shelters may be reduced capacity which will require identifying and preparing additional safe buildings which can be temporarily repurposed as emergency shelters. Additionally, improved provisions for handwashing, safe waste disposal and water, sanitation and hygiene (WASH) measures need to be incorporated in the planning and operationalization of shelter management mechanisms.

In this regard, in addition to the existing shelter management directives and guides, the state and local authorities may be informed by the following crucial aspects while strengthening the existing shelters and/or identifying alternate shelters for the management of complex risks posed by cyclones/floods amidst pandemic.

### **1. General features and use of shelter**

- i. The shelter building and its surroundings should be safe, secure, inclusive, and hygienic.
- ii. The shelter building should be resilient to various potential hazards in the region.
- iii. The shelter should be easily accessible by the community without requiring them to cross any natural barrier (such as rivers, creeks, etc.).
- iv. The shelter should be easily accessible by all-weather and motorable roads, even during times of disaster.
- v. The shelter should be accessible to all, irrespective of their caste, class, creed, gender, and language. Special attention is to be paid to ensure physical accessibility of differently-abled persons, elderly persons, pregnant women and other vulnerable groups.
- vi. A dedicated Shelter Management and Maintenance Committee should be constituted for each of the shelters for its regular management and maintenance of both during times of normalcy and disasters.
- vii. The Committee should identify the number of persons the shelter can provide refuge to during disasters, in terms of both space and facilities available. A similar estimate of the capacity should also be done when the shelter is to be used during the pandemics i.e. by considering the norm of physical distancing. The Committee should update the local authorities on the estimate of the capacity, so that if required alternate safe shelters can be identified and strengthened.
- viii. The Committee should make a logbook of the various assets, supplies and equipment available in the shelter to avoid any misplacement or theft. These include emergency items, infection and prevention control items, basic medical and public health items, WASH items, food storage and distribution-related items, IEC material, etc. A detailed suggestive list of items is placed in Annexure 1.
- ix. In the absence or lack of any of these critical resources, the Committee should inform the local authorities for assistance and guidance.
- x. The Committee should ensure that these are in working condition and are regularly maintained for prompt and effective use during a disaster.

- xi. When not in use as a shelter, with the approval of the Shelter Management and Maintenance Committee (SMMC), the shelter can be used for social, educational, cultural, and other activities. If such activities are being under during the times of pandemics, the Committee should ensure that the prevailing COVID-19 protocols are duly followed. However, nobody should be allowed to use the shelter premises permanently.
- xii. The Committee should ensure that no illegal, illicit, criminal, or divisive activities are carried out inside the shelter premises.

## **2. Safety features of shelter**

- i. Since Odisha has a warm and humid climate, the following climatically-sensitive design parameters should be considered to ensure desirable comfort level in the shelter – maximise ventilation and minimise entry of direct sunlight, the ceiling should facilitate good air circulation and ventilation which is preferred for a COVID-19 scenario, and roof should have adequate overhangs and slopes for rainwater drainage.
- ii. For the shelters, the foundation should be at least 300 mm deep, the plinth should be at least 150 mm higher than the highest expected flood level, and the masonry walls should be between 350 to 450 mm thick. Considering the risk of frequent cyclones and floods, the roofs should be anchored very well to save them from strong winds and the joints should be leakproof to protect the shelter from water.
- iii. The shelter should be structurally safe (as per Indian Standard codes) to survive the ensuing cyclones/floods. It should be situated above the high flood level (HFL) and be able to withstand high-speed wind.
- iv. The structural safety concerns of the shelter are to be addressed by adopting disaster-resilient design and construction materials. “Proof checks” should be carried out at all stages to ensure quality. This can also be done by performing Rapid Visual Screening of the buildings to check their structural and non-structural preparedness (Checklist placed in Annexure 2). This is an important initial step in managing shelters because a robust structure will be a safe shelter for the evacuees.
- v. The shelters should be disaster resilient so that the evacuees are not further inflicted with any loss of life or injuries due to other potential risks in the shelter. Such risks may give rise to other cascading and compound risks.
- vi. Fire risks should be assessed and mitigated for the shelters having provisions for heaters and cooking facilities. Such areas should be adequately ventilated and fire-resistant materials should be used.
- vii. Storage spaces for the different types of supplies should be adequately provided and their safety/ security should be taken care of.
- viii. It is preferable that the shelter is on a raised platform and has stilted floors so that the floodwater can pass through the stilted floor without affecting the first floor of the building.
- ix. The ground floor of the shelter can be used as a shelter for the rescued livestock and cattle. Additionally, the relief materials, medicines, supplies for COVID-19, etc. can be stacked there.
- x. The shelter should have a ramp facility for persons with disability. Steps should have a universal tread size of 300 mm and a riser of 150 mm. A contrast colour band is to be used

in the steps to make it visible during the dim light period. On both sides of the ramp and staircase, handrails should be fixed for safety purposes and for enhancing accessibility to the shelter.

- xi. The accessibility to the shelter should be free of any obstruction. The approach road will be used for evacuation and relief management and therefore should not be affected by the cyclone/ flood. As far as possible, the approach road should preferably be “an all-weather road” and above the HFL.
- xii. Temperature control at the shelter, wherever possible, is important for sanitation and the health of the shelter inhabitants.
- xiii. Provisioning of fans and other ventilating appliances should be used to promote ventilation, where practical. Alternatively, opening doors and windows can promote the natural flow of air throughout the shelter, only when safe considering the strong cyclonic winds.
- xiv. In case of power cuts, the generator set should be available as a backup. Additionally, solar energy equipped illuminations should be installed.
- xv. The shelter should be prominently placed such that it is visible against tree cover or any other natural barrier.

### **3. Role of the stakeholders**

- i. The dedicated SMMC, as mentioned earlier, should include local officials, local staff and representatives of the community. Inclusion of health and public health staff should be encouraged in the committee. The committee should also have adequate representation from different socio-economic and gender groups prevailing in the community.
- ii. In case of an alternate building being temporarily repurposed as a shelter, the person/group in-charge should perform the roles and responsibilities of an SMMC. In such cases, a sustainable shelter management and maintenance system should be institutionalization over the period in support of the local authorities and community.
- iii. The at-risk and vulnerable population is among the key stakeholders of the shelter facilities and their management. They should be entitled to non-discriminatory, equitable, inclusive, and respectful access to the shelter.
- iv. Their active engagement and participation should be encouraged in enhancing the shelter, its assets, mechanism and overall management. It is very crucial to build a sense of ownership among the local community as they are better placed to manage and maintain the shelter on a day-to-day basis. This also enhances their effective use of shelters by them during disasters.
- v. There should be active participation from the local community and local stakeholders to identify other potential hazards around the shelter, such as snake bites, water stagnation, vector-borne diseases, improper disposal of waste, etc. This will assist in timely mitigating and addressing the risks identified and strengthening the shelter in support of the local community and authorities.
- vi. Apart from the response forces, the community volunteers are also among crucial stakeholders who not just facilitate last-mile dissemination of warnings and safe evacuation but also help in shelter management and maintenance.

- vii. The volunteers can include male and female representatives from the community, NGOs, CBOs, private agencies, etc. from different organizations duly trained in basic first aid, evacuation techniques, search and rescue.
- viii. The committee should ensure that all stakeholders and volunteers are well aware of laid down mechanisms on shelter management and have the basic awareness and adequate training related to their roles and responsibilities.
- ix. The stakeholders and volunteers should be adequately trained to perform the required roles even with limited support from outside because owing to COVID-19 restrictions external stakeholders may not be able to assist the affected areas immediately.
- x. Emergency numbers including those of health centres, ambulance, police, fire services, ODRAF, local and district administration, frontline workers, transport facilities, etc. should be available with them. These should also be available and displayed in the shelter at strategic locations.
- xi. The committee should follow and promote the laid down directives and protocols, for risk management including those related to the COVID-19 pandemic. This can be done by adequately painting or displaying or discussing the do-s and don't-s on different hazards including biological and public health hazards.
- xii. Posters promoting correct methods of hand hygiene and respiratory etiquettes should be displayed at each hand hygiene station. Care should be taken to ensure information is provided in languages and mediums used by shelter inmates, those with hearing or sight impairment. Make the context easy for young children to understand and follow.
- xiii. The committee should ensure that all stakeholders and volunteers are duly sensitized on the prevailing COVID-19 related protocols and all abide by the same.
- xiv. Information on symptoms of COVID-19 and the required necessary actions on detection of confirmed cases should be widely conveyed to the stakeholders.
- xv. They should be adequately trained and well-equipped for ensuring their safety also during disasters including the COVID-19 pandemic.
- xvi. During times of normalcy, the committee in support of local authorities should regularly conduct capacity building activities such as training and awareness programs for the community, local volunteers and representatives. Such activities should include aspects of management of biological and public health risks during evacuation and shelter management.
- xvii. All stakeholders are expected to be sensitive to the needs of evacuees and facilitate them in availing the same. The needs can include access to relief material, basic services such as water, sanitation (toilets, waste disposal, sewage), medical supplies, safety and protection.
- xviii. Efforts should be made by all stakeholders in redressing the grievances put forth by the evacuees at the earliest. In case of any unmet needs or unaddressed grievances, seek assistance from the local authorities.
- xix. All stakeholders should remain transparent in performing the allotted roles and responsibilities.
- xx. Any dispute regarding shelter management and maintenance should be brought to the knowledge of the local administration.

#### 4. Space and facilities management

- i. The committee should lay down a mechanism for functioning at the full capacity of the shelter and also at a pre-identified reduced capacity considering the norms of physical distancing amidst the COVID-19 pandemic.
- ii. The shelter should have a provision for separate spaces for men and women/children. There should be enough space so that each person is at a distance of 2 meters or 6 feet from each other. Wherever necessary, temporary and portable partitions can be used to create separate halls.
- iii. The committee should arrange for separate rooms or space for vulnerable populations such as the elderly, children, pregnant women, people with co-morbidity to reduce their chances of getting infected with COVID-19.
- iv. The shelter should have provision for unisex or separate toilets for different gender groups with adequate privacy and ensure safety/security measures. Additionally, there should be provision for a toilet ergonomically designed for persons with disabilities. It is preferable that the toilet and bathroom fixtures are of no-touch type to minimize the contact considering the biological and public health risks.
- v. There should be extra rooms to be used as a general sick room or as a labour room for pregnant women. Additionally, there should be provision for rooms for isolating COVID-19 positive patients till the time they can be transferred to the COVID-19 Care Centres or dedicated isolation facilities.
- vi. There should be provision for a storeroom to stack the emergency equipment, relief materials, medicines, supplies for management of COVID-19, etc.
- vii. The dedicated area for dining should have adequate space for queues after duly considering the norms of physical distancing. This should be marked with chalk/ tapes/ paint on the floor along with appropriate signages displayed in the local language.
- viii. There should be a designated space at the entrance of the shelter for sanitizing the evacuees and disinfecting their belongings before they enter the building.
- ix. Efforts should be made to prevent commingling among the inmates. Members belonging to the same family, especially those with small children can be grouped and made to stay together with at least 1 metre of physical distance from others to avoid transmission of infection.
- x. Strategies to promote physical distancing among individuals may include placing clear markings on the ground to demarcate areas; putting up physical barriers (such as plastic partitions) if feasible to separate household groups.
- xi. One-way movement of persons within the shelter should be encouraged.
- xii. The ceiling fans and lights should be installed at regular intervals (2 to 3 feet) in the shelter per the room sizes. The shelter should also have a proper temperature and ventilation control mechanism.
- xiii. Ensure that the shelter is well lit and is safe for all, particularly, single women, adolescent girls, children, differently-abled and elderly persons.
- xiv. The shelter premises should have a dedicated space allocated for establishing temporary medical posts or for the placement of mobile medical teams.

## 5. Operations management

- i. The committee should develop contingency plans for potential staffing disruptions due to disasters including the COVID-19 pandemic. Members and volunteers at higher risk of COVID-19 should be designated flexible duties to minimize direct contact with affected shelter users.
- ii. The committee should lay down an operation plan to divide activities inside the shelter (dining, bathing, etc.) into staggered timings/schedules (to the extent possible) to avoid crowding and to restrict the interaction of people inside the shelter.
- iii. On receipt of early warning for the imminent emergency, the shelter building should be vacated (if being used for some other purpose) and duly sanitized and made ready for its use as shelter.
- iv. For smooth functioning of the shelter, the at-risk population must be convinced to evacuate to the shelters amidst the fear of contracting COVID-19 and to ensure that they do not flee the shelters or refuse relief aid. Community volunteers can play a crucial role in this.
- v. Transportation of the evacuees, particularly elderly persons, pregnant and lactating women, differently-abled and sick persons to the shelter should be planned. The committee should explore and pre-identify different options including making a database of locally available three or four vehicles which can be quickly deployed for the same. Care must be taken to ensure that COVID-19 protocols are duly followed by making such arrangements.
- vi. Ensure that each evacuee gets sanitized and their belongings are disinfected at the entrance of the shelter.
- vii. Establish screening and registration post at the shelter for recording the names and details of evacuees along with symptoms, if any.
- viii. Temperature check/face masks/hand gloves should be kept ready for distribution, liquid soaps/disinfection gels/sanitiser placed at regular intervals.
- ix. Personal Protective Equipment (PPE) kits should also be available for suspected or confirmed COVID-19 evacuees and front-line volunteers (those taking functioning in isolation and quarantine areas or taking care of suspected or confirmed COVID-19 cases).
- x. For registering the evacuees, a digital database should be created at the shelter level. If feasible, such a platform can be integrated with applications/portals such as Aarogya Setu. This can help make special provisions and care for people who are at high-risk, are not fully vaccinated, etc.
- xi. Set up isolation facilities near the shelter, if possible, to accommodate suspected or probable COVID-19 cases as well as confirmed cases.
- xii. Make provisions for regular monitoring of the COVID-19 symptoms among the evacuees, staff and volunteers.
- xiii. If any inmate displays signs or symptoms of COVID-19, he or she should immediately be moved to an isolation facility near the shelter. The suspected cases should be tested for COVID-19. He/she should remain isolated until the result of the test is known. If tested positive, he/she must be sent to the isolation facilities meant for the COVID-19 cases and with medication.
- xiv. On detection of confirmed cases, initiate contact tracing. Contact tracing includes keeping a record of names, contact details, arrival times, departure times and location within the

shelter where they were accommodated. The confidentiality of personal details needs to be maintained.

- xv. The inhabitants who were contacted with the confirmed cases must also be tested for COVID-19. Ideally, they should be isolated individually in separate rooms or areas. Persons who become unwell and serious need to be referred to the appropriate healthcare facility or COVID-19 hospital for further treatment.
- xvi. Plan for the earliest separation of the suspected, probable or confirmed COVID-19 cases. Individuals who are suspected, probable or confirmed to have COVID-19 should remain separated until they depart the shelter (return home or are moved to a healthcare facility); or they are deemed to be no longer infectious as per national or state guidance.
- xvii. In sleeping areas, ensure physical distancing of at least 1 metre is maintained among inhabitants. Strategies to facilitate a reduction in commingling in sleeping areas include appropriate positioning of bedding. Markings on the ground or physical barriers can assist in demarcating the same.
- xviii. Toilet areas should be sanitized more frequently. Dedicated toilets should be allocated for persons with suspected, probable or confirmed COVID-19. When this is not possible, toilets should be cleaned and disinfected after use by the persons with suspected, probable or confirmed COVID-19.
- xix. Ensure provision for female menstrual needs, such as availability of and safe disposal of sanitary napkins.
- xx. Place accessible and functioning hand hygiene stations (either for handwashing with soap and water or for hand rubbing with an alcohol-based hand rub) throughout the shelter, focusing on areas of high traffic. This is particularly important within operational areas, such as entry and exit points, catering and food service areas, toilets, showers, and waste management areas.
- xxi. Perform environmental cleaning within the shelter consistently and correctly. Alongside regular environmental cleaning, frequently touched surfaces (such as handrails, doorknobs and handles, tables, and chairs) should be identified, then regularly cleaned and disinfected to reduce the risk of transmission. Special care should be taken regarding frequently touched surfaces in operational areas used for food preparation, sleeping, toilets and showers. Additional areas may include administrative or registration areas, as well as entry and exit areas.
- xxii. Hygienic pre-cooked meals or pre-packaged meals should be provided to the evacuees, to avoid transmission of infection. Meals should be served in disposable dishware to avoid infection.
- xxiii. In case of in-shelter cooking, ensure all precautions in food preparation and service areas as they involve people working in proximity.
- xxiv. Appropriate strategies should be implemented in food service areas to reduce the risk of COVID-19 transmission. Strategies may include raising awareness of COVID-19 symptoms, frequent handwashing, using disposable gloves, physical distancing and using PPE when physical distancing is not possible in food preparation areas.
- xxv. Organize food handling staff into working groups or teams to reduce interaction between evacuee groups. Maintain physical distancing and use contactless strategies to serve food

to evacuees. Strategies should be in place to minimize the number of inmates in food service areas.

- xxvi. Ensure safe food practices to avoid foodborne sickness and issues in the shelter.
- xxvii. Ensure safe waste management practices in the shelter. Waste produced by persons with COVID-19 should be managed separately from the general waste, by placing it in appropriate bags and closing them completely before disposal. People handling waste should wear appropriate PPE and perform hand hygiene frequently.
- xxviii. Ensure segregation of waste at the source using labelled and foot-operated dustbins. Dustbins of 50 to 100 litres should therefore be provided at the strategic locations in the shelter.
- xxix. Prepare for ensuring the safety and security of the evacuees and their belongings. If required Police personnel, Home Guards can be deployed for the same.
- xxx. Overall, mechanisms and facilities such as storage area for materials, local capacity building, monitoring systems for health and security, information dissemination, grievance addressal systems, etc. facilitate their stay in the shelter.

## **Annexure 1: Critical items for effective shelter management under the COVID-19 pandemic**

### **A. Infection prevention and control items**

- Face mask
- N95 or higher-level respirator (for staff/volunteers providing care including delivering meals to suspected COVID-19 inhabitants in isolation areas)
- Goggles or face shield (for staff/volunteers providing care including delivering meals to suspected COVID-19 inhabitants in isolation areas)
- Disposable gown and disposable gloves (for staff/volunteers providing care including delivering meals to suspected COVID-19 inhabitants in isolation areas)
- PPE kit (for staff/volunteers for dealing with COVID-19 confirmed cases)
- Hand sanitisers - Alcohol-Based Hand Rubs (ABHR) and dispensing system
- Water & soap at the handwashing stations
- Paper towels and towels

### **B. Basic medical and public health items**

- First aid kit
- Wound management supplies
- Dressing materials (gauze, absorbent pads, tape, etc)
- Thermometer
- Pulse oximeter
- Sphygmomanometer (digital)
- ORS sachets
- Paracetamol (tablet and syrup for children)
- Mosquito repellents
- Bed nets
- Fogging machine for mosquito

### **C. WASH items**

- Water containers
- Water for drinking & washing
- Water & soap at the handwashing stations
- Portable handwashing stations
- Toilets
- Bucket & Mug
- Soap for bathing
- Soap for laundry
- Detergent powder
- Oral hygiene product (toothbrush and toothpaste)
- Diapers and nappies for children
- Adult diapers
- Bed pan
- Urinal bottles /pots for aged
- Towels

- Paper towels
- Towelettes
- Facial tissues
- Impermeable sheets or pads for cots/sleeping area

#### **D. Menstrual hygiene items**

- Dedicated container for soaking cloths and storing pads/cloths
- Menstrual pads
- Sanitary napkins
- Underwear
- Extra soap
- Additional water container
- Easy to carry bucket for the above item

#### **E. Cleaning and Disinfection items**

- Bleaching powder or similar disinfectant
- Phenyl
- 70% ethyl alcohol to disinfect small surface areas and reusable equipment between uses, (for example, thermometers);
- Sodium hypochlorite at 0.1% (1000 ppm) for disinfecting surfaces

#### **F. Waste Disposal items**

- Waste receptacles with non-removable, no-touch lids
- Closed bins of different colours (or labelled) for disposal of the used items
- Biohazard disposable waste bag
- Colour bags or containers for bio-medical waste
- Dustbin
- Rubber gloves (for cleaning staff)
- Impermeable apron (for cleaning staff)
- Closed shoes (for cleaning staff)
- Eye protection and medical or fabric masks for procedures like washing surfaces generate splashes (for cleaning staff)

#### **G. Food storage and distribution-related items**

- Dry food and non-perishable food items
- Packed food
- Cooked food (if feasible possible)
- Food items to young children (should follow global recommendations for infant and young child)
- Cooking utensils
- Knives, forks, and spoons
- Paper plates, cups, glass
- Towels

## **H. Informational/Educational materials/Products**

- Hand hygiene techniques
- Respiratory etiquette
- COVID-19 prevention measures
- Infection control precautions
- Cot or sleeping area configuration
- Disposal of waste in shelters
- Syndromic surveillance poster
- Putting on and taking off Personal Protective Equipment (PPE)
- Syndromic surveillance assessment/ Triage Form
- Psychosocial support
- Menstrual hygiene management

## **I. District health authority can provide the following items and services at the shelter**

- **For under-five:**
  - IFA syrup for anaemia prevention and treatment as per Anaemia Mukht Bharat guidelines
  - ORS packet and zinc as pre-positioning for treatment of diarrhoea
  - Counselling on age-appropriate feeding including exclusive breastfeeding (up to 6months) and complementary feeding (6-23months)
- **For pregnant women:**
  - Antenatal check
  - IFA and calcium supplements
- **For lactating mothers:**
  - IFA and calcium supplements
  - Breastfeeding counselling and support
- **For elderly persons suffering from any chronic ailments like hypertension, diabetes, previous lung disease, kidney disease:**
  - Antihypertensives and antidiabetics
  - Special attention needs to be provided to the elderly.
- **Vaccination of pregnant women, lactating mothers, infants and young children in the shelter as required.**

## Annexure 2: Checklist for Rapid Visual Screening (RVS) of shelter

Year of construction:		
Accessibility	<input type="checkbox"/> Full	<input type="checkbox"/> Partial <input type="checkbox"/> No Access
Type of shelter/use	<input type="checkbox"/> School	<input type="checkbox"/> College
	<input type="checkbox"/> Community hall	<input type="checkbox"/> Panchayat/Municipal building
	<input type="checkbox"/> Multi-purpose flood/cyclone shelter	<input type="checkbox"/> Higher ground
	<input type="checkbox"/> Others (mention)	
Building plan shape	<input type="checkbox"/> Square	<input type="checkbox"/> Rectangle
	<input type="checkbox"/> Long rectangle	<input type="checkbox"/> L-shape
Shelter capacity (persons):		
Shelter capacity (persons) while following physical distancing:		
Total area of shelter (in sq. meter):		Area per person (in person per sq. meter):

Checklist of observables and associated scores		
Section A. Building elements		
Location of the shelter	<input type="checkbox"/> Shielding by hillock	<input type="checkbox"/> 1
	<input type="checkbox"/> Shelter on stilts/artificially raised earth mounds	<input type="checkbox"/> 2
	<input type="checkbox"/> Shielding by strong trees	<input type="checkbox"/> 3
	<input type="checkbox"/> Shelter at ground level (risk of inundation)	<input type="checkbox"/> 4
	<input type="checkbox"/> No shielding	<input type="checkbox"/> 5
Proximity to a major watercourse (river, sea, etc.)	<input type="checkbox"/> No	<input type="checkbox"/> 1
	<input type="checkbox"/> Yes	<input type="checkbox"/> 2
Building type	<input type="checkbox"/> RCC	<input type="checkbox"/> 1
	<input type="checkbox"/> Masonry	<input type="checkbox"/> 2
	<input type="checkbox"/> Timber (Kaccha)	<input type="checkbox"/> 3
No. of storeys	<input type="checkbox"/> Single ground floor	<input type="checkbox"/> 1
	<input type="checkbox"/> Double storied	<input type="checkbox"/> 2
	<input type="checkbox"/> More than 02 storeys (mention G+_____)	<input type="checkbox"/> 3
Vertical irregularity	<input type="checkbox"/> Absent	<input type="checkbox"/> 1
	<input type="checkbox"/> Present	<input type="checkbox"/> 2
Plan irregularity (un-symmetric plan configuration with respect to the staircase)	<input type="checkbox"/> Absent	<input type="checkbox"/> 1
	<input type="checkbox"/> Present	<input type="checkbox"/> 2

Heavy overhangs (moderate/substantial horizontal projections)	<input type="checkbox"/> Absent	<input type="checkbox"/> 1
	<input type="checkbox"/> Present	<input type="checkbox"/> 2
Openings on walls (door, window, etc.)	<input type="checkbox"/> At 0.5 meters from wall corners	<input type="checkbox"/> 1
	<input type="checkbox"/> Just near the corner of the walls	<input type="checkbox"/> 2
Are the openings close to the roof level?	<input type="checkbox"/> No	<input type="checkbox"/> 1
	<input type="checkbox"/> Yes	<input type="checkbox"/> 2
Are the holdfasts, closing/locking arrangements in the door/window adequate/strong?	<input type="checkbox"/> Yes	<input type="checkbox"/> 1
	<input type="checkbox"/> No	<input type="checkbox"/> 2
Wall material	<input type="checkbox"/> Concrete	<input type="checkbox"/> 1
	<input type="checkbox"/> Brick	<input type="checkbox"/> 2
	<input type="checkbox"/> Kaccha mud wall	<input type="checkbox"/> 3
Building age	<input type="checkbox"/> Less than 10 years	<input type="checkbox"/> 1
	<input type="checkbox"/> 11 to 25 years	<input type="checkbox"/> 2
	<input type="checkbox"/> 26 to 50 years	<input type="checkbox"/> 3
	<input type="checkbox"/> More than 50 years	<input type="checkbox"/> 4
Basement	<input type="checkbox"/> Absent	<input type="checkbox"/> 1
	<input type="checkbox"/> Present	<input type="checkbox"/> 2
Open storey (Stilts)	<input type="checkbox"/> Present	<input type="checkbox"/> 1
	<input type="checkbox"/> Absent	<input type="checkbox"/> 2
Plinth height	<input type="checkbox"/> Stilted building	<input type="checkbox"/> 1
	<input type="checkbox"/> Above road level	<input type="checkbox"/> 2
	<input type="checkbox"/> Same as road level	<input type="checkbox"/> 3
	<input type="checkbox"/> Below road level	<input type="checkbox"/> 4
Soil type	<input type="checkbox"/> Hard	<input type="checkbox"/> 1
	<input type="checkbox"/> Soft	<input type="checkbox"/> 2
Floor material	<input type="checkbox"/> Concrete	<input type="checkbox"/> 1
	<input type="checkbox"/> Masonry	<input type="checkbox"/> 2
	<input type="checkbox"/> Kachha mud floor	<input type="checkbox"/> 3
Roof type	<input type="checkbox"/> Pitched roof (hipped/gable)	<input type="checkbox"/> 1
	<input type="checkbox"/> Light-weight flat roof	<input type="checkbox"/> 2
Roof material	<input type="checkbox"/> Sheeted roof (made of corrugated galvanised iron, etc.)	<input type="checkbox"/> 1
	<input type="checkbox"/> Clay tile roofs	<input type="checkbox"/> 2
	<input type="checkbox"/> Thatch roof	<input type="checkbox"/> 3
Exposure to secondary hazards (landslide, mechanical-electrical- plumbing system failure, loose sewage joints, loose water supply joints, loose power cables, etc.)	<input type="checkbox"/> No	<input type="checkbox"/> 1
	<input type="checkbox"/> Yes (mention)	<input type="checkbox"/> 2
Building condition (materials/construction)	<input type="checkbox"/> Standard quality	<input type="checkbox"/> 1
	<input type="checkbox"/> Low maintenance	<input type="checkbox"/> 2

Is there provision for a helipad, so that helicopters can be used to access the affected area?	<input type="checkbox"/> Yes	<input type="checkbox"/> 1
	<input type="checkbox"/> No	<input type="checkbox"/> 2
<b>Overall score (Addition of above factor scores)</b>		

<b>Section B. Facility services</b>		
Communications equipment	<input type="checkbox"/> Present	<input type="checkbox"/> 1
	<input type="checkbox"/> Absent	<input type="checkbox"/> 2
Vehicles for transportation	<input type="checkbox"/> Present	<input type="checkbox"/> 1
	<input type="checkbox"/> Absent	<input type="checkbox"/> 2
Power supply/lighting (not reliant on a grid)	<input type="checkbox"/> Present	<input type="checkbox"/> 1
	<input type="checkbox"/> Absent	<input type="checkbox"/> 2
Water supply – Potable/ non-potable (not reliant on regular water supply)	<input type="checkbox"/> Present	<input type="checkbox"/> 1
	<input type="checkbox"/> Absent	<input type="checkbox"/> 2
Sewage/ sanitation/ waste management	<input type="checkbox"/> Present	<input type="checkbox"/> 1
	<input type="checkbox"/> Absent	<input type="checkbox"/> 2
<b>Overall score (Addition of above factor scores)</b>		

<b>Section C. Response to COVID-19</b>		
Area per person in accordance to physical distancing norms (min. area required = 3.5 sq. meter under normal circumstances and 6 sq. meter under COVID-19 condition)?	<input type="checkbox"/> Yes	<input type="checkbox"/> 1
	<input type="checkbox"/> No	<input type="checkbox"/> 2
COVID-19 advisory materials available for multiple audiences	<input type="checkbox"/> Yes	<input type="checkbox"/> 1
	<input type="checkbox"/> No	<input type="checkbox"/> 2
Do the inmates (evacuees and staff/volunteers) undergo COVID-19 screening procedures during entry to the shelter?	<input type="checkbox"/> Yes	<input type="checkbox"/> 1
	<input type="checkbox"/> No	<input type="checkbox"/> 2
Are masks available for those who do not have them upon entry?	<input type="checkbox"/> Yes	<input type="checkbox"/> 1
	<input type="checkbox"/> No	<input type="checkbox"/> 2
On-site COVID-19 medical facilities	<input type="checkbox"/> Medical care professionals, nurses, medicines, testing facilities	<input type="checkbox"/> 1
	<input type="checkbox"/> Trained volunteers, medicines, testing facilities	<input type="checkbox"/> 2
	<input type="checkbox"/> Trained volunteers and medicines	<input type="checkbox"/> 3

	<input type="checkbox"/> Only medicines	<input type="checkbox"/> 4
Availability of PPE kits for medical volunteers	<input type="checkbox"/> Yes	<input type="checkbox"/> 1
	<input type="checkbox"/> No	<input type="checkbox"/> 2
Areas designated as restricted access for isolation	<input type="checkbox"/> Yes	<input type="checkbox"/> 1
	<input type="checkbox"/> No	<input type="checkbox"/> 2
Presence of hard barriers or partitions in isolation areas	<input type="checkbox"/> Yes	<input type="checkbox"/> 1
	<input type="checkbox"/> No	<input type="checkbox"/> 2
Designated bathrooms/shower facilities in the isolation areas	<input type="checkbox"/> Yes	<input type="checkbox"/> 1
	<input type="checkbox"/> No	<input type="checkbox"/> 2
Hand hygiene supplies are available in the isolation areas	<input type="checkbox"/> Yes	<input type="checkbox"/> 1
	<input type="checkbox"/> No	<input type="checkbox"/> 2
<b>Overall score (Addition of above factor scores)</b>		

Extent of review	<input type="checkbox"/> Exterior	<input type="checkbox"/> Partial	<input type="checkbox"/> All sides	<input type="checkbox"/> Aerial
	<input type="checkbox"/> Interior	<input type="checkbox"/> None	<input type="checkbox"/> Visible	<input type="checkbox"/> Entered
Building drawing	<input type="checkbox"/> Reviewed	<input type="checkbox"/> No		

**Suggestions and observations**