Government of the People’s Republic of Bangladesh

Cyclone Shelter Construction, Maintenance and Management Policy 2011

Ministry of Disaster Management and Relief
Bangladesh Secretariat, Dhaka
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Published On

February, 2012
(Published in the extra edition of Bangladesh Gazette on 14th February 2012)

Published By

Ministry of Disaster Management and Relief
Government of the People’s Republic of Bangladesh
Bangladesh Secretariat, Dhaka
E-mail : info@modmr.gov.bd
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Printing Support

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1.0 Introduction

1.1 Due to geographic location and geophysical conditions, Bangladesh is one of the most disaster-prone countries in the world. The location of the off-shore islands and the triangular funnel shape of the Bay of Bengal have made the coastal areas susceptible to cyclone and tidal surges. In addition to the plenteous loss of assets and properties, more than 3 lakhs and 1.38 lakhs people were died in the devastating cyclones of 1970 and 1991 respectively. Although the loss of properties had been very severe in the cyclone SIDR of 2007 and AILA of 2009 but loss of human lives were only 3406 and 190 respectively due to effective disaster risk reduction and preparedness programs conducted by the Government. Out of 35 million people in 700 kilometer long stretched coastal areas of Bangladesh, 7 million lives in high disaster risk. With the objectives of protecting the lives and properties of the people from the devastating cyclones like Sidr and Aila Government and the non-government organizations, different development partner countries and organizations have constructed a number of cyclone shelters and constructions of more shelters are still going on.

1.2 The buildings owned by the Government and the non-government organizations in the coastal areas are using as cyclone shelters. The structural designs and the amenities of those shelters are different. Due to poor maintenance, a number of those shelters have already become unsuitable for use. At one side, the proper use and maintenance of these shelters cannot be ensured and on the other hand, the development partner countries and organizations have been expressing their concerns on the use, maintenance and management of those shelters. Apart from this, there is no specific allotment provision in our national budget for restoration and maintenance of cyclone shelters.

1.3 Although the Physical Infrastructure Division of the Planning Commission prepared a guideline in this respect in 1996, but that simply inadequate to meet the present requirement. As long time has passed in the meantime, there is an imperative for amendment, modifications and developing a policy for construction, maintenance and governance of cyclone shelters.
1.4 Addressing all the hazards revised ‘Standing Orders on Disaster’ was published in April, 2010 from the then Disaster Management Bureau under the Disaster Management & Relief Division as per the decision and approval of the meeting of the National Disaster Management Council, chaired by the Hon’ble Prime Minister. According to this Standing Orders on Disaster, Ministry of Disaster Management & Relief is coordinating all activities related to disaster risk reduction, preparedness, humanitarian assistance during disasters and post-disaster rehabilitation. Since the construction of cyclone shelters is included in disaster risk reduction and preparedness programme and the shelters ensure the security of the people during disaster, naturally the responsibilities for coordination of construction, maintenance and use of cyclone shelters fall on the Ministry of Disaster Management and Relief. Under the stated circumstances, and in consideration of all the issues, ‘Cyclone Shelter Construction, Maintenance and Management Policy 2011’ has been formulated by the Ministry of Disaster Management and Relief. The government hopes that from now onwards if this policy is followed, then it will be possible to ensure proper use of the multi-purpose cyclone shelters that have already been constructed, under construction and to be constructed in the coastal areas.

2.0 Cyclone Shelters

2.1 Cyclone shelter is a structured building, constructed on RCC pillar, the ground floor of which will be kept open for free flow of tidal surges. The structural design will be prepared in such a way so that it can withstand the heavy gusty and squally wind. When specific warnings for cyclone and tidal surges are announced by the appropriate authorities, the buildings would be opened for safe shelters of local communities and cattle. It will be vacated when the warnings are withdrawn. But there is a condition that the cyclone shelters will be used only for temporary shelter during disaster emergencies and cannot be treated as shelters for displaced persons.

2.2 All multistoried buildings in the coastal areas constructed and to be constructed in the future by the government and non-government organizations, and also the similar commercial buildings owned by private individuals, will be used as cyclone shelters during cyclones. In case of use of commercial buildings owned by non-government organizations or individuals, the concerned Upazila Nirbahi Officer (UNO) will execute a Memorandum of Understanding (MoU) with the owners of the buildings on behalf of the government.
2.3 Selection of Location for Construction of New Cyclone Shelters

2.3.1 For selection of location of cyclone shelters, all government and non-government organizations must obtain consent from the concerned Upazila Disaster Management Committee and District Disaster Management Committee.

2.3.2 The location of the shelters must be in close proximity to the vulnerable communities, especially within the distance of 1.5 km, so that in time of disaster the people can go to the shelters quickly.

2.3.3 The headquarters of District, Upazila and Municipalities should not be considered for construction of shelters.

2.3.4 Unless it is absolutely necessary, no shelter should be constructed as standalone shelters. Multi-purpose use of shelters should be ensured.

2.3.5 In order to ensure that cyclone shelters are to be constructed in the future by different ministries/ division/ statutory organizations, non-government organizations, development partner countries and organizations in suitable locations, population density, communication, distance from the nearest cyclone shelters, availability of land etc. have to be considered through application of Geographical Information System (GIS). But it is conditional that the location for construction of new shelters should be institution-based.

2.3.6 For construction of multi-purpose shelters, priority should be given to the open spaces of the government and non-government schools, colleges, madrasas which are not being used as a playground.

2.3.7 Multi-purpose cyclone shelters should be constructed by demolishing the derelict buildings of educational institutions.

2.3.8 The approach road to the shelters must be user friendly and, in addition to the main road, be linked with all the roads of the catchments areas. If necessary the provision for cost of construction of the link roads should be kept in the project of construction of shelters.

2.3.9 Road Communication to the shelters must be suitable for use by all the communities including women, children, aged and the disabled.
3.0 Designs for Construction of Cyclone Shelters

3.1 As standard design for construction of cyclone shelters, one of the three designs attached to this Policy must be followed. The explanations of the designs are as follows-

Design-1: **College/ Higher Secondary School/ Madrasa-cum-multi-purpose shelter**

- Plinth area : 275-300 square meter per floor
- Land area : Approximately 12 decimal of an acre
- Capacity : Approximately 1000 persons per floor from the second floor.

The shelter to be constructed with the foundation of at least three stories shall have six rooms and RAMP facilities up to first floor. A reasonably sized room should be kept reserved for the disabled & helpless people and the rest of the first floor should be kept open for domestic animals.

Design-2: **Primary School-cum-multipurpose shelter**

- Plinth area : 220-230 square meter per floor
- Land area : Approximately 10 decimal of an acre
- Capacity : Approximately 800 persons per floor from the second floor

The shelter to be constructed with the foundation for at least three stories shall have four rooms and RAMP facilities up to the first floor. A reasonably sized room should be kept reserved for the disabled & the helpless and the rest of the first floor should be kept open for domestic animals.

Design-3: **Multipurpose shelter**

- Plinth area : 200 square meter per floor
- Land amount : Approximately 10 decimal of an acre
- Capacity : Approximately 750 persons per floor from the Second floor
The shelter to be constructed with the foundation for at least three stories shall have four rooms and RAMP facilities up to the first floor. A reasonably sized room should be kept reserved for the disabled & the helpless and the rest of the first floor should be kept open for domestic animals.

3.2 If any one of the three designs mentioned at paragraph 3.1 cannot be followed due to non availability of land, then the plinth area of the cyclone shelters could be reduced or increased proportionate to the availability and angular position of the land.

3.3 In order to fix the height of the plinth of the cyclone shelter, the ‘Union based Inundation Risk Map’ produced by the Comprehensive Disaster Management Programme (CDMP) under the Ministry of Disaster Management and Relief has to be followed.

3.4 The plinth level of the cyclone shelters has to be fixed at least 3 feet above the highest level of tidal surges.

3.5 The open space of the ground floor of the shelters constructed on earthen platform or killas can be used as shelter for cattle.

3.6 Based on the situation in different areas, the structural designs have to be prepared taking into consideration of the tidal surges from 6 feet to 20 feet high and the wind speed of at least 260 km per hour.

3.7 Standard has to be maintained in the construction of cyclone shelters. Special attention has to be given so that the construction becomes cost effective.

3.8 The issue of salinity should be taken into consideration at the time of construction of cyclone shelters.

3.9 To facilitate GIS/GPS/GTV mapping, English letter ‘S’ in capital has to be written in black ink on white background on the roof of every cyclone shelters.

3.10 For planning of the construction of every cyclone shelter the Environmental Impact Assessment has to be analyzed.

3.11 ‘Bangladesh National Building Code’ should be followed in the construction of the cyclone shelter in the coastal areas.

3.12 Under no circumstances, no one should be evicted forcefully from his/her homestead or cultivable land for construction of cyclone shelters.
3.13 Structures to be constructed in the coastal areas by all government departments must be in line with the multipurpose of cyclone shelters.

4.0 Ensuring the essential facilities at the cyclone shelters

4.1 During the time of construction of cyclone shelter RAMP facilities have to be kept to ensure easy access of women, children, aged, severely ill and people with disabilities. In addition to separate toilet facilities for the pregnant, separate room has to be kept for women.

4.2 In addition to providing shelter to the vulnerable communities during disaster the issues of sufficient light, safe water, food, toilet and sanitation at the cyclone shelters have to be kept under consideration.

4.3 Facility for light has to be kept on the top of the roof of the buildings, so that the shelter becomes visible during disaster, especially in heavy rain and storm at night time. For that, arrangement for solar panel has to be made.

4.4 Normally the water in the coastal areas is saline in nature. So the rain water harvesting arrangement has to be kept to ensure provision of safe drinking water at the cyclone shelters.

4.5 The cyclone shelters should be of three stories in which arrangement should be made for keeping the cattle on the first floor with RAMP facilities.

5.0 Cyclone Shelter Management

5.1 The local beneficiary communities have to be involved at the time of construction of the shelters so that, later, they can take the responsibility of its management.

5.2 If the organization constructing the multi-purpose cyclone shelter is its user, then the responsibility of the management of the shelter will also fall on them.

5.3 The responsibility of management of the multi-purpose cyclone shelters in educational institutions will fall on the relevant management committee of the governing body of the institutions under the control of the Ministry of Education and the Ministry of Primary and Mass Education.

5.4 If the organization/institution constructing the cyclone shelter surrenders its ownership after the construction, in that case the ownership will be entrusted to the Ministry Disaster Management and Relief.
In such case, according to the instructions given by the Ministry of Disaster Management and Relief the concerned Upazila Disaster Management Committee shall take over the control of these shelters and ensure its regular management, maintenance and use through Union Disaster Management Committee.

6.0 Responsibilities of Local Disaster Management Committee

6.1 As per the Standing Orders on Disaster (SOD) 2010, the responsibility for ensuring proper management of all cyclone shelters located in a particular District is vested with the District Disaster Management Committee. On behalf of the District Disaster Management Committee, the Deputy Commissioner shall ensure proper sanitation, the safe drinking water and sufficient lighting facilities in all the cyclone shelters in the District with the help of the Upazila and Union Disaster Management Committees.

6.2 Irrespective of the ownership and the agency using the cyclone shelters, all matters related to cyclone shelters shall be coordinated by the concerned District Disaster Management Committee through the respective Upazila Disaster Management Committee.

6.3 As the Chairperson of the District Disaster Management Committee, the Deputy Commissioner shall act as the source for collection and storage of relevant information concerning all cyclone shelters of the District under his jurisdiction. The Deputy Commissioners shall prepare a database on the basis of such information and arrange for its dissemination through their respective district website.

7.0 Maintenance of the List of Cyclone Shelters

7.1 The concerned Upazila Nirbahi Officer shall identify, earmark and declare all Government, Non-Government, privately owned commercial buildings as “cyclone shelter” which are considered suitable for use as shelters. He shall maintain a list of all such buildings and send a copy of the list to the concerned Deputy Commissioner.

7.2 The Deputy Commissioner shall send the list of the cyclone shelters and all other information related to overall management to the relevant Ministries and the Ministry of Disaster Management and Relief on a regular basis.

7.3 The Ministry of Disaster Management and Relief shall act as the depository of all relevant information in respect of cyclone shelters and keep the Cabinet Division informed about it.
7.4 All information related to cyclone shelters throughout the country shall be posted in the website of the Ministry of Disaster Management and Relief (www.modmr.gov.bd) and the website of Department of Disaster Management (www.ddm.gov.bd) for information of all concerned.

8.0 Management of Earthen Killas

8.1 The responsibility for overall management of the 156 earthen killas built by the Bangladesh Red Crescent Society in the decade of Seventy and 40 killas constructed by the Local Government Engineering Department after the cyclone in 1991 to protect domestic animals, particularly the cows and buffalos, shall be vested with the concerned Upazila Disaster Management Committee.

8.2 The Ministry of Disaster Management and Relief shall allocate necessary fund in favour of the Upazila Disaster Management Committee for maintenance and repair of the killas.

8.3 The Upazila Nirbahi Officer shall prepare and maintain a database in respect of the killas built in the Upazila under his jurisdiction and provide copy of the list to the concerned Deputy Commissioner and the Ministry of Disaster Management and Relief.

8.4 The Upazila Disaster Management Committee, through the Union Disaster Management Committee, shall prepare a list of those killas of which the land deeds are yet to be executed and also arrange for speedy transfer of the ownership. All such deeds for transferring ownership of lands shall have to be made in favour of the Secretary of the Ministry of Disaster Management and Relief.

8.5 About 5 to 6 acres of land is required to construct a killa. Considering the scarcity of land in the country, it is better not to build killas in future.

8.6 The Shelter and Earthen Killa Management Committee shall perform its duties in accordance with the provisions of clause 11.1 of this policy.

9.0 Repair, Maintenance, Abandoning and Sale of Cyclone Shelters

9.1 The responsibility for maintenance and repair of the cyclone shelters, which are built and used by individuals and non-government organizations, shall lie with the respective individuals and organizations.

9.2 The cyclone shelters whose ownership shall be transferred by the constructing organizations to the Government immediately after construction, the responsibility for
their maintenance, repair and rehabilitation shall vest with the Upazila Disaster Management Committee under approval of the Ministry of Disaster Management and Relief.

9.3 The Ministry of Disaster Management and Relief shall allocate required fund in favour of the Upazila Disaster Management Committee after the ownership of the cyclone shelters are transferred to the Government by the concerned constructing organization.

9.4 Upazila Disaster Management Committee shall prepare the Union-wise priority list and complete the repair works.

9.5 After the ownership is transferred in favour of the Ministry of Disaster Management and Relief, the Upazila Disaster Management Committee shall take necessary steps for repair, maintenance and use of those cyclone shelters which were constructed earlier but are currently abandoned.

9.6 (1) If there is any threat for any cyclone shelter to be affected by river bank erosion, coastal erosion or any natural cause or becomes unsuitable for repair or use due to passage of long time, then the Upazila Disaster Management Committee, on the recommendation of the Union Disaster Management Committee shall fix the Government price with the help of a committee comprising of Upazila Engineer, Upazila Project Implementation Officer and one other member nominated by the District Disaster Management Committee for its disposal by auction.

(2) The District Disaster Management Committee shall thoroughly examine such proposals and forward the same to the Ministry of Disaster Management and Relief with recommendation for approval. The Ministry of Disaster Management and Relief, after careful consideration of the proposals, shall accord necessary approval for disposal on auction.

(3) The Upazila Disasters Management Committee, after following of the prescribed procedures, shall give wide publicity of the date and time in advance and arrange disposal of the shelters by public auction and deposit the sale proceeds to the Government specific account’s code through Treasury Chalan.

10.0 Use of Cyclone Shelter during Normal Time

10.1 The cyclone shelters which are located within the boundary of school, college, madrasa, mosque, temple or any other organization, matters relating to overall
management of such cyclone shelters will be determined by the relevant authorities of those establishments or organizations.

10.2 The cyclone shelters which are not being used on regular and fulltime basis, depending on local needs and circumstances, may be used by the Upazila Parishad for purposes of rendering various social services (such as school, madrasa, mass education center, evening education center etc) or the NGOs for their peoples welfare programme (e.g. distribution of relief materials, temporary medical centers etc).

10.3 The cyclone shelters which are not regularly used may be utilized by the Union Parishad for generating income by way of renting out as venue for weddings, meetings, cultural activities and office space.

10.4 Upazila Parishad and Union Parishad may raise funds locally for undertaking minor repair works of cyclone shelters. The fund thus collected shall have to be deposited in a savings bank account titled “Cyclone Shelter Repair and Maintenance”, opened in favour of the concerned Upazila or Union Parishad. The money deposited in the bank account shall be withdrawn under the joint signatures of the Chairman Upazila or Union Parishad and the Upazila Nirbahi Officer subject to prior authorization by the Upazila Disaster Management Committee or the Union Disaster Management Committee respectfully.

10.5 Rental for the cyclone shelter shall be collected against a proper ‘money receipt’ under the joint signature of the Chairman and one other designated member of the Cyclone Shelter Management Committee (referred to at clause 11.1). All sums collected as rent shall be accounted for in the books of accounts. The Upazila Parishad shall provide the books of accounts as well as the ‘money receipt’ books.

10.6 Fund collected shall not be used for any other purpose except for repair and maintenance of the cyclone shelters.

10.7 The ‘books of accounts’ and the counterfoil of the ‘money receipt’ shall be preserved under the supervision of the Secretary of Union Parishad shall be maintained for purposes of audit.

10.8 Irrespective of the purpose of use of shelters in the normal time by individuals or institutions, the Upazila Disaster Management Committee shall decide how these shelters shall be used during emergency period and the decision of the Upazila Disaster
Management Committee shall be treated as final. In such a situation, the Upazila Disaster Management Committee shall coordinate matters in accordance with the provision of the Standing Orders on Disaster (SOD).

11.0 Cyclone Shelter Management Committee

11.1 For ensuring proper management and use of the cyclone shelters which do not fall under the control of school, college, madrasa, mosque, temple or any other organization, the following 07 (seven) member “Cyclone Shelter Management Committee” shall be responsible for managing affairs of each of the cyclone shelter and earthen killas in line with the National Plan for Disaster Management 2010-2015:

- Union Praishad Member of the concerned Ward - Chairperson
- Headmaster of the local Primary School - Member
- Chairperson/Imam/Religious Leader of local religious institution - Member
- Female member of the concerned Ward - Member
- A representative of the Cyclone Preparedness Programme - Member
- A representative of the Private organization/NGO - Member
- A member of the Union Disaster Management Committee - Member Secretary

11.2 The concerned Upazila Nirbahi Officer shall select the members of the Cyclone Shelter Management Committee and also determine the tenure (duration of office) of the Committee.

11.3 Scope of Work for the Cyclone Shelter Management Committee

a) To open the cyclone shelter, with necessary provision for safe drinking water and sanitation, immediately after the announcement of warning signal 04 by the Bangladesh Meteorological Department.

b) To bring the vulnerable communities to the cyclone shelter immediately after the issuance of evacuation order by the competent authority.

c) To ensure vacating the shelter through facilitating the return of all the concerned to their respective houses following instructions issued by the competent authority to vacate the shelter.

d) To complete the overall cleanliness and repair (if required) of the cyclone shelter after it is vacated by the people.
e) To carry out the responsibilities properly for “use of the cyclone shelters in normal time” as and when such responsibilities are entrusted upon it by the Upazila or the Union Disaster Management Committee in accordance with the provisions of clause 10 of this policy.

12 Special Instructions

(1) All concerned Ministries/Divisions/Departments shall to follow this policy for construction, repair, maintenance and overall management of cyclone shelter.

(2) In consideration of the ground reality, if needed any change, addition or alteration of this policy, the Ministry of Disaster Management and Relief may change, add, alter relevant portion of this policy in consultation with relevant Ministry or Organization.

(3) If any cyclone shelter project is taken by any other Ministries/Divisions/Organizations except MoDMR, it should inform MoDMR well ahead.

(4) The Ministry of Disaster Management and Relief shall be responsible for coordinating all activities related to construction, re-construction and maintenance cyclone shelters. All information/data related to cyclone shelters shall be maintained by this Ministry.

(5) In case of any ambiguity, Bengali version should be followed.

Sd/-

Mohammad Abdul Wazed
Joint Secretary
(Disaster Management)
Copy for information and necessary action (not by seniority):-

1) Cabinet Secretary, Cabinet Division, Bangladesh Secretariat, Dhaka.
2) Principle Secretary, Prime Minister’s Office, Old Parliament House, Tejgoan, Dhaka.
3) Honorable Members of Parliament (all coastal area).
4) Senior Secretary, all Ministries/Division
5) Secretary all Ministries /Divisions.
6) Member Planning Commission, Dhaka (all)
7) Inspector General of Police, Bangladesh Police, Dhaka.
8) Principal Staff Officer, Armed Forces Division, Dhaka.
13) Chief Conservator of Forest, Bangladesh, Dhaka.
14) Chairman / Secretary General, Jatio Protibondhi Foundation / Jatio Protibondhi Forum / Jatio Mohila Songstha, Dhaka.
15) Director, Bangladesh Meteorological Department, Dhaka.
16) UN Resident Coordinator, United Nations; Country Director/ Representative, WB/ADB/UN
17) DP/ WFP/ WHO/ UNICEF/ UNFPA/ FAO/ IDB;
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18) Director Administration / Operation, Cyclone Preparedness Program, Dhaka.
19) Private Secretary , Honorable Minister / Adviser / Deputy Minister (all) , Honorable
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20) Deputy Commissioners (All)
21) Executive Director (all relevant NGO)
22) Chief Administrative Officer, City Corporation/ Zila Parishad.(coastal area)
23) Deputy Controller, Bangladesh Government Press, Tejgoan Dhaka. It is requested to
   print and publish this guideline in their next special issue of “Bangladesh Gazette”.
24) District Police Superintendent (all).
25) Civil Surgeon, (all coastal districts).
26) Executive Engineer, Public Works / Roads and Highways/ LGED/ DPHE/ Water
   Development Board/ Power Development Board (all coastal districts).
27) District Food Controller (all coastal districts).
28) District Relief and Rehabilitation Officer (all coastal districts).
29) District Education Officer (all coastal districts).
30) District Commandant, Fire Service and Civil Defense (all coastal districts).
31) District Ansar and VDP Officer (all coastal districts).
32) Upazila Parishad Chairman (all coastal districts).
33) Upazila Nirbahi Officer (all coastal districts).
34) Upazila Health and Family Planning Officer/ Upazila Engineer/ Upazila Education
   Officer/ Upazila Fire Service and Civil Defense Officer/ Upazila Ansar and VDP
   Officer/ Upazila Project Implementation Officer/ Officer In-Charge ( Police Station) (all
   coastal districts).
35) Union Parishad Chairman (all costal districts).

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Construction of Cyclone Shelter Design-1
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Construction of Cyclone Shelter Design-3