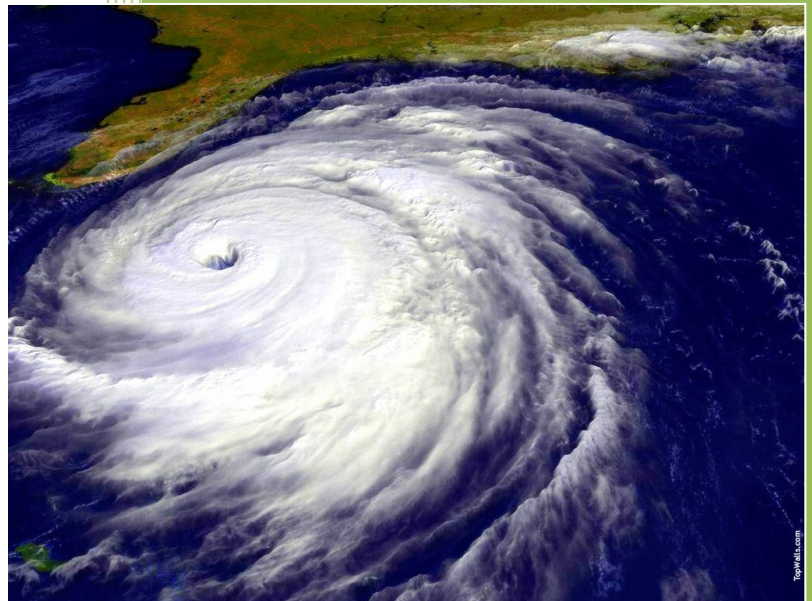


NATIONAL CYCLONE RISK MITIGATION PROJECT-PHASE II KERALA

SITE SCREENING REPORT



District: Ernakulam

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1. INTRODUCTION

1.1 Context

Preliminary assessment of suitable land (referred to as “sites” in this report) proposed from Ernakulam District administration, for construction of Multi-Purpose Cyclone Shelters (MPCS) under the National Cyclone Risk Mitigation Project-Phase II was performed. The assessment was done in sites proposed as per proforma submitted via letter dated 17.07.2014 from the District Administration. Sites which were not proposed in the prescribed proforma but potentially suitable for construction of MPCS were also assessed for suitability upon suggestion from the Officials.

1.2 Objectives

- Confirm site details such as titles description, site boundaries and area available for construction;
- Identify land use of the proposed site and the nearby areas;
- Assess the suitability of site for construction;
- Identify the environmental and social feature of the region;
- Document site history;
- Discuss with the officials and identify specific issues relevant to the site, if any;
- Mark the site using GPS for GIS based studies.

1.3 Scope of Works

- Review of documents with the District administration held on the land (Toposketch, Field Map Plan, Basic Tax Register);
- Document locally obtained information about the site;
- Document photographs of the site;
- Assessment of the data and preparation of a draft report;
- Review of site screening report by SPIU.

2. OVERVIEW

The District Administration suggested a total 6 sites, in the prescribed proforma, for construction of Multi Purpose Cyclone shelters at various locations in Ernakulam District. The officers from State Project Implementation unit of NCRMP, Deputy Collector, Tahsildars and Village Officers of concerned Village offices visited the sites. The details of the sites visited are as follows:

Site no	Identification number	Taluk, Village, Survey Number, Place	Ownership of land
1	NCRMP/KER/EKM/KOC/NJARAKKAL-1	Kochi, Njarakkal, Block: 8, Survey number:45/1, Revenue land near Njarakkal Village Office	Revenue Department
2	NCRMP/KER/EKM/PAR/PUTHENVELIKARA-1	Paravoor, Puthenvelikara, Survey number 330/1, Puthenvelikara	Panchayath
3	NCRMP/KER/EKM/KOC/PALLIPURAM-1	Kochi, Pallipuram, Block: 2, Survey number: 196/5, Revenue land near Village office of Pallipuram	Revenue Department
4	NCRMP/KER/EKM/PAR/MOOTHAKUNNAM-1	Paravoor, Moothakunnam, Survey number: 252/3A,B, 252/2-3, 252/1-2, Thuruthipuram	Panchayath/ Education Department
5	NCRMP/KER/EKM/KOC/KUMBALANGHI-1	Kochi, Kumbalanghi, Survey number:290, G.H.S.S, Puthenthode	Education Department
6	NCRMP/KER/EKM/KOC/EDAVANAKKAD-1	Kochi, Edavanakkad, Government School, Edavanakkad	Education Department

3. DETAILS OF SUITABLE SITES

3.1 Identification number: NCRMP/KER/EKM/KOC/ NJARAKKAL-1**Site: Ground near Njarakkal Village Office**

Taluk: Kochi

Village: Njarakkal

Block:8 Survey number:45/1

Panchayath: Njarakkal

Ownership: Revenue Department

Lat: 10° 02' 49.4" Long: 76° 12' 58.5"

Observations

- The proposed site is used as play ground by the Panchayath.
- The site is accessible from State Highway as well as Jaihind road.
- Approximately 20 cents of land is available for construction.
- The MPCS could be used for school activities as well as Community hall.
- The safe bearing capacity of the soil is reasonably good on visual observation.
- The site is at a distance of 1.5Km from the coastline.
- The District Administration has reported that a vulnerable population that figures to 800 from the locality may have to be accommodated in the shelter during an event of emergency.

Assessment

- **The site is suitable for construction of MPCS.**



1 and 2: View of the site



3.2 Identification number: NCRMP/KER/EKM/PAR/ PUTHENVELIKARA-1**Site: Panchayath land at Puthenvelikara**

Taluk: Paroor

Village: Puthenvelikara

Survey number 330/1

Panchayath: Puthenvelikara

Ownership: Panchayath

Lat: 10° 11' 45.8" Long: 76° 15' 08.0"

Observations

- The proposed site is a barren land near to Panchayath playground.
- Government Dispensary, Veterinary Hospital etc are located near to the proposed area.
- About 25 cents of land is available for construction
- The site doesn't fall in the CRZ area.
- The MPCS could be used for various purposes of the District Administration and Panchayath activities.
- The safe bearing capacity of soil is good on visual observation
- The District Administration has reported that a vulnerable population that figures to 2000 from the locality may have to be accommodated in the shelter during an even of emergency
- The site is directly accessible from Panchayath roads.

Assessment

- **The site is suitable for construction of MPCS**



1 and 2: View of the site



3.3 Identification number: NCRMP/KER/EKM/KOC/ PALLIPURAM-1

Site: Revenue land near Pallipuram village office

Taluk: Kochi

Village: Pallipuram

Survey number: 196/5

Panchayath: Pallipuram

Ownership: Revenue Department

Lat: 10° 09' 45.1" Long 76° 11' 13.5"

Observations

- The proposed site is located near to the Village office of Pallipuram.
- The site is currently used as play ground.
- A pond exists within close proximity to the site.
- About 15 cents of land is available for construction.
- The site doesn't fall in the CRZ area.
- The MPCS could be used for various purposes of the District Administration and Panchayath activities.
- The safe bearing capacity of soil is average on visual observation
- The District Administration has reported that a vulnerable population that figures to 2500 exists in the locality.
- Schools and Auditoriums are used as shelters in the village during floods or heavy rains.
- The site is connected to main road via Panchayath roads.

Assessment

- **The site is suitable for construction of MPCS**



1. View of the site at pallipuram 2. View of the pond near to the site



3.4 Identification number: NCRMP/KER/EKM/KOC/ KUMBALANGHI-1

Site: Government Higher Secondary School, Puthenthodu

Taluk: Kochi

Village: Kumbalanghi

Survey number:290,

Panchayath: Chellanam

Ownership: Education Department

Lat: 9° 51' 61.8" Long 76° 15' 918"

Observations

- The proposed site is located within the premises of G.H.S.S, Puthenthodu
- The site is a marshy area and gets water logged during Rainy season.
- The site is 300m from the coastline. The site fall in the CRZ area.
- The school has student strength of 1200. The school is one of the main centres for relief camp during monsoon. Around 100 people had to be accommodated in the school during the recent flood
- About 40 cents of land is available for construction.
- The MPCS could be used for various purposes of the school activities.
- The District Administration has reported that a vulnerable population that figures to 1000 exists in the locality.
- The site is accessible from Kandakadavu church road and Puthenthodu School road which is 250m from the National Highway..These roads get flooded during monsoon.

Assessment

- **The site can be considered for construction of MPCS**



1. View of the site at Kumbalangi 2. View of approach road to the site



3.5 Identification number: NCRMP/KER/EKM/PAR/ MOOTHAKUNNAM-1

Site: SNGLPS,, Thuruthipuram

Taluk: Paroor

Village: Moothakunnam

Survey number: 252/3A,B, 252/2-3, 252/1-2

Panchayath: Vadakkekara

Ownership: Panchayath/Education Department

Lat: 10° 10' 22.2" Long: 76° 12' 43.4"

Observations

- The proposed site is located within the premises of SNGLPS,, Thuruthipuram
- The site shares boundary with Thuruthipuram Church
- Several Trees will have to be cut down to clear the land for construction.
- The site is not in the CRZ area.
- A well is located at the farthest end of the site.
- About 20 cents of land is available for construction.
- The MPCS could be used for various purposes of the school and Panchayath activities.
- The District Administration has reported that a vulnerable population that figures to 4000 exists in the locality.
- Schools and community halls are used as shelters in the village during floods or heavy rains.
- The site is directly accessible from NH 17.

Assessment

- **The site can be considered for construction of MPCS**



1. View of site at Moothakunnam 2. View of school premises



4. DETAILS OF UNSUITABLE SITES

4.1 Identification number: NCRMP/KER/EKM/KOC/ EDAVANAKKAD-1

Site: Government School, Edavanakkad

Taluk: Kochi

Village: Edavanakkad

Survey number: 237/1 (B4)

Panchayath: Edavanakkad

Ownership: Education Department

Lat: 10° 05' 03.6" Long: 76° 12' 35.3"

Observations

- The proposed land is within the premises of Governemnt School, Edavanakkad
- A shelter already exists in the site.
- No more space is available for new construction. Any construction is this land will lead to loss of the school playground.

Assessment

- A shelter already exists in the site. Need for another shelter is not seen.
- **The site may not be considered for construction of MPCS**

5. ASSESSMENT

5.1 Assessment criteria

The following criteria were considered in assessing the suitability of proposed site for construction of MPCS:

1. **Necessity for MPCS:** Aspects such as vulnerable population near to the proposed site, Availability of shelters within 1km radius of the site, Capacity and condition of such shelters, Population that will have access to the MPCS during an event of emergency, History of relief camps in the area etc were considered.
2. **Area available for construction:** Sites which have at least 15 cents of land available for construction were only considered. The effective area available for construction after provision for setbacks applicable as per Building rules was only taken into consideration.
3. **Proximity to sea:** Sites within 10km distance from coastline were only considered. Those sites which fall beyond 500m from High Tide Line were preferred. The sites within 200m from the coastline were not preferred and sites that do not require CRZ clearance were given priority.
4. **Accessibility to basic amenities:** The accessibility of site from nearby main roads, proximity of site to water supply, power, sewer etc were considered in selecting the site.
5. **Ownership of land:** Land in possession with Revenue Department was preferred to that in possession with Education Department, Fisheries Department, Local Self Government Department and others.
6. **Foundation cost:** Terrain of land, bearing capacity of soil on visual observation, drainage pattern in the region, maximum flood line etc was considered.
7. **Requirement for demolition:** Sites that did not require any demolition to facilitate construction of MPCS were given priority. However, in sites that required demolition, the state of existing building, ownership of the building etc were taken into account.

- 8. Clearances required for social/archaeological/environmental issues:** Sites adjacent to archaeologically, religiously important structures were avoided. Sites with issues of Illegal tenants and any social concerns particular to the region were also avoided. Sites close to water bodies/Environmentally sensitive regions were not preferred.
- 9. Legal issues:** Sites with legal issues regarding ownership, extent and boundaries of land and sites committed and finalized for other project etc were given less priority in the assessment.

5.2: Ranking

Each criterion was given a score depending on the importance of the criteria in screening the sites. Depending on the scores, the sites were categorized into three categories:

1. Rank 1: Score: 71-100: Highly recommended for construction of MPCs
2. Rank 2: Score: 41-70: Recommended for construction of MPCs
3. Rank 3: Score: below 40: May not be considered for construction of MPCs

5.3 Assessment sheet

SI no	SITE IDENTIFICATION NUMBER	Assessment criteria										
		Necessity for MPCs	Area available for construction	Proximity to sea	Accessibility to transportation and basic amenities	Ownership of land	Foundation cost	Clearances required for social/archaeological/environmental issues	Requirement for demolition	Legal issues	TOTAL SCORE	RANK
	Score	15	15	15	10	10	10	10	5	5	100	
1	NCRMP/KER/EKM/KOC / NJARAKKAL-1	10	10	10	7	8	9	6	4	4	68	2
2	NCRMP/KER/EKM/PAR/ PUTHENVELIKARA-1	8	10	10	7	8	5	5	4	2	59	2
3	NCRMP/KER/EKM/KOC / PALLIPURAM-1	8	4	10	7	5	9	2	3	2	50	2
4	NCRMP/KER/EKM/PAR/ MOOTHAKUNNAM-1	9	8	7	6	5	5	3	3	3	49	2
5	NCRMP/KER/EKM/KOC / KUMBALANGHI-1	12	8	4	1	5	5	5	4	2	46	2
6	NCRMP/KER/EKM/KOC / EDAVANAKKAD-1	2	2	5	5	2	5	2	5	4	32	3

Total score	Rank	Status of recommendation
Between 71-100	1	Highly Recommended
Between 41-70	2	Recommended
Below 40	3	May not be recommended

