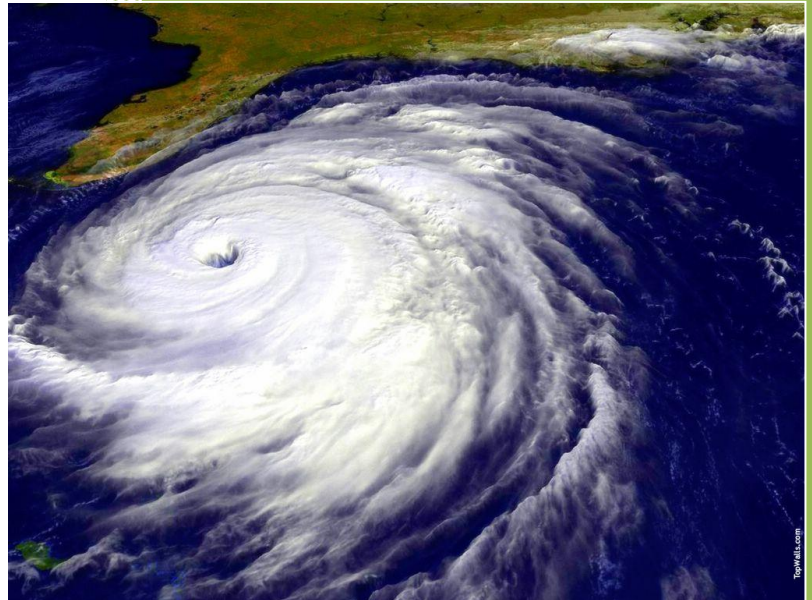


NATIONAL CYCLONE RISK MITIGATION PROJECT-PHASE II KERALA

SITE SCREENING REPORT



District: Alappuzha

TABLE OF CONTENTS

Content	Page number
1.Introduction	4
1.1 Context	4
1.2 Objectives	4
1.3 Scope of work	4
2. Overview	5
3.Details of suitable sites	6
3.1 Identification number: NCRMP/KER/ALP/KAR/CHERUTHANA-1	7
3.2 Identification number: NCRMP/KER/ALP/KAR/KUMARAPURAM-1	9
3.3 Identification number: NCRMP/KER/ALP/CHER/MARARIKULAM NORTH-1	11
3.4 Identification number: NCRMP/KER/ALP/KAR/PALLIPAD-1	13
3.5 Identification number: NCRMP/KER/ALP/AMB/PURAKKAD-1	15
3.6 Identification number: NCRMP/KER/ALP/KUT/KAINAKARI NORTH-1	17
5. Assessment	20
5.1 Assessment criteria	20
5.2 Ranking	21
5.3 Site Assessment	22

1. INTRODUCTION

1.1 Context

Preliminary assessment of suitable land (referred to as “sites” in this report) proposed from Alappuzha 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 from the District Administration.

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 9 sites were proposed for construction of Multi Purpose Cyclone shelters at various locations in Alappuzha District. The officers from State Project Implementation unit of NCRMP, Deputy Collector of Disaster Management, Tahsildars and Village Officers of concerned village, project Engineer of District Nirmithi Kendra visited the sites. The details of the sites visited are as follows:

Site number	Identification number	Taluk, Village, Place	Ownership of land
1	NCRMP/KER/ALP/ KAR/CHERUTHANA-1	Karthikappally, Cheruthana, Government School, Ayamparambu	Education Department
2	NCRMP/KER/ALP/ KAR/KUMARAPURAM-1	Karthikappally, Kumarapuram, Government Lower Primary school, Karuvatta	Education Department
3	NCRMP/KER/ALP/ CHER/MARARIKULAM NORTH-1	Cherthala, Mararikulam North, Revenue land at Janakshemem colony	Revenue Department
4	NCRMP/KER/ALP/ KAR/PALLIPAD-1	Karthikappally, Pallipad, Government School, Vazhuthanam	Education Department
5	NCRMP/KER/ALP/ AMB/PURAKKAD-1	Ambalappuzha, Purakkad, Government High School, Naluchira	Education Department
6	NCRMP/KER/ALP/KUT/K AINAKARI NORTH-1	Kuttanad, Kainakari North, Government high School, Kuppapuram	Education Department

3. DETAILS OF SUITABLE SITE

3.1 Identification number: NCRMP/KER/ALP/ KAR/CHERUTHANA-1

Site: Government Higher Secondary School, Ayamparambu,

Taluk: Karthikappally

Village: Cheruthana

Block: 5, Survey number: 371/1

Panchayath: Cheruthana

Ownership: Education Department

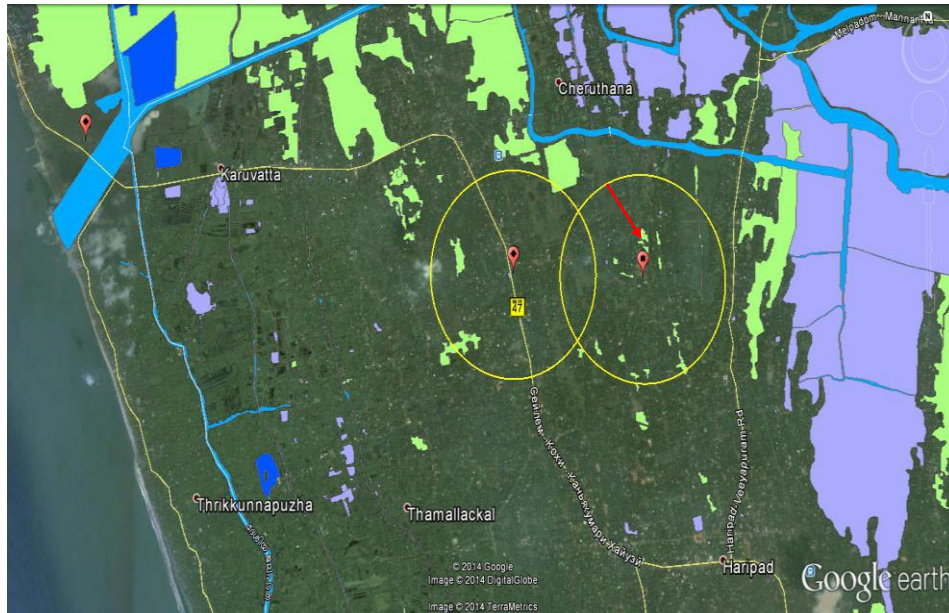
Lat: 9° 18' 19.358" Long: 76° 26' 47.606"

Observations

- The proposed Multipurpose Cyclone Shelter will be constructed within the campus of Government Higher secondary School, Ayamparambu and near to Village office of Cheruthana
- Approximately 15 cents of land is available for construction.
- The site is located at a distance of 6 km from coastline.
- A dilapidated Anti Disaster shelter that exists in the site needs to be demolished and trees needs to be cut down to prepare the site for construction.
- The site is on the LHS of Harippad-Ayaparambu main road.
- The school has been used as relief camps during floods and heavy rains
- The MPCS could be used for school related activities during peace time.
- The safe bearing capacity of the soil is good on visual observation

Assessment

- Construction of MPCS after demolition of existing building and without encroachment of the school play ground is recommended.
- **The site is suitable for construction of MPCS.**



1. Aerial view of the site 2. View of the existing shelter in Cheruthana Village



3.2 Identification number: NCRMP/KER/ALP/ KAR/KUMARAPURAM-1**Site: Government Lower primary School, Ayamparambu,**

Taluk: Karthikappally

Village: Kumarapuram

Block :2, Survey number: 529/13

Panchayath: Kumarapuram

Ownership: Education Department

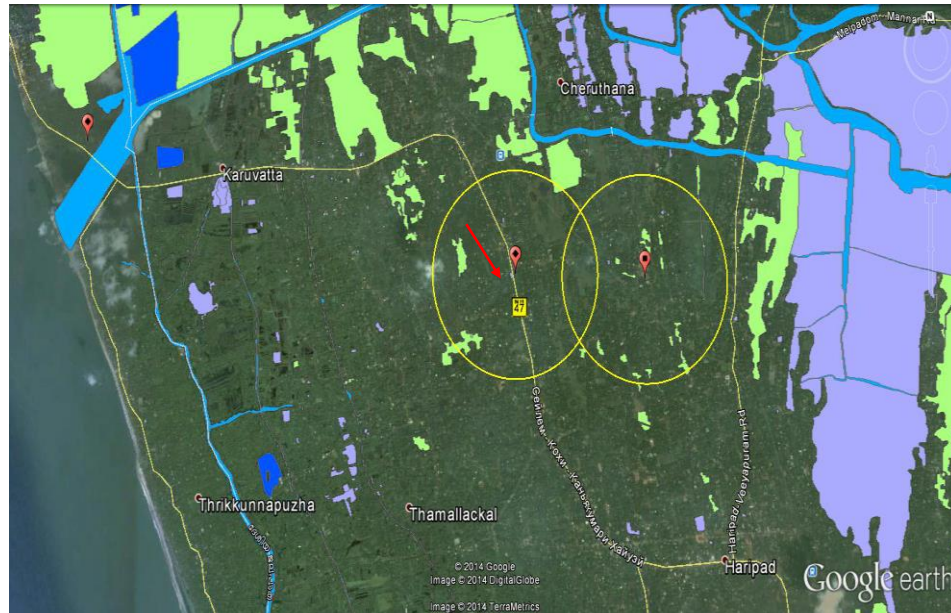
Lat: 9° 18' 19.358" Long: 76° 26' 47.606"

Observations

- The site is within the boundary of Government L.P School, Kumarapuram.
- The land is entitled to Education Department and requires consensus from Education Department prior to implementation of construction works.
- The site is located at a distance of 5km from coastline.
- A temple is situated at a distance of 30m to the north of the school compound.
- National Highway 47 is at a distance of 20m to the west of the site.
- The proposed site is presently fallow and is used for grazing.
- Trees will have to be felled during site preparation phase. The school gate requires to be widened to facilitate entry of vehicles from the National highway to the site.
- A portion of the wash area which is close to the school gate has to be demolished for this purpose.
- Entry of vehicles to the site is not possible without passing across two dilapidated buildings [Anti disaster shelters] at the back portion of the school building. These buildings were constructed by European Economic Community in 1984 and are owned by the Revenue Department. Hence, demolition of these buildings and widening of the school gate is requisite for providing direct entry to the MPCS from NH 47.

Assessment

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



1. Aerial view of the site 2. View of the existing shelter in Kumarapuram Village



3.3 Identification number: NCRMP/KER/ALP/ CHER/MARARIKULAM NORTH-1

Site: Revenue land at Janakshemam Colony

Taluk: Cherthala

Village: Mararikulam North

Block: 20, Survey number: 322/6

Panchayath: Mararikulam North

Ownership: Revenue Department

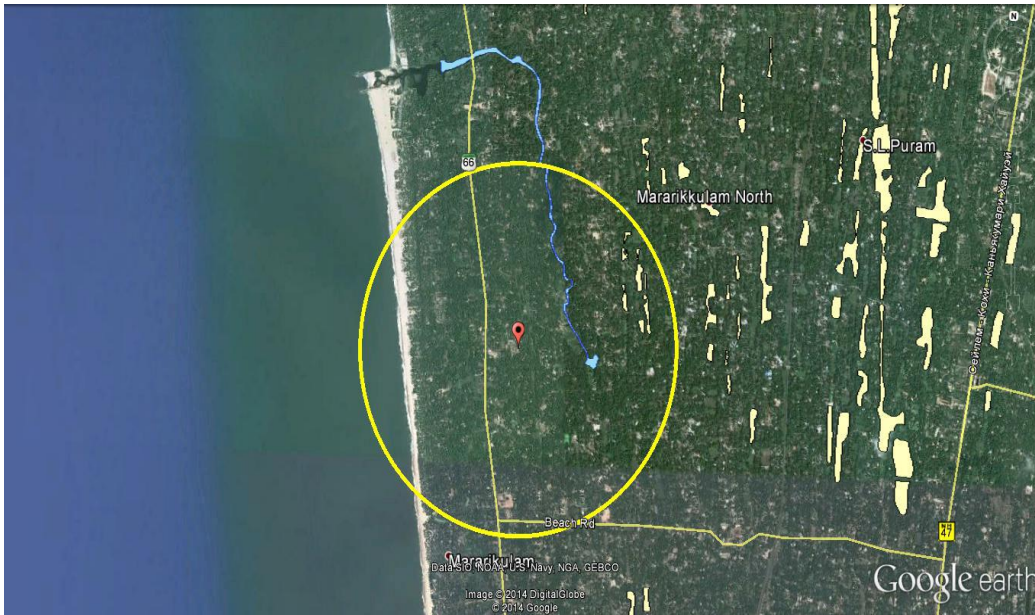
Lat: 9° 36' 36.419" Long: 76° 18' 13.091"

Observations

- The proposed site is located at Jnakshemaam Colony and the land is entitled to Revenue Department.
- The site is located at a distance of 700m from coastline
- Inland wetlands and paddy fields are within 1km radius of the site.
- The proposed site is presently barren with a seasonally water logged pit occupying 161sq.m area of the land.
- Trees need to be cut down during site clearance.
- The site is surrounded by residential area on three sides.
- A pond exists within 100m from the site
- The site directly accessible from Mararikulam-Arthungal coastal road.

Assessment

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



1. Aerial view of the site 2. View of the site at Mararikulam



3.4 Identification number: NCRMP/KER/ALP/ KAR/PALLIPAD-1

Site: Government Primary School, Vazhuthanam

Taluk: Karthikapally

Village: Pallipad

Block: 11, Survey number:131/5,131/6

Panchayath: Pallipad

Ownership: Education Department

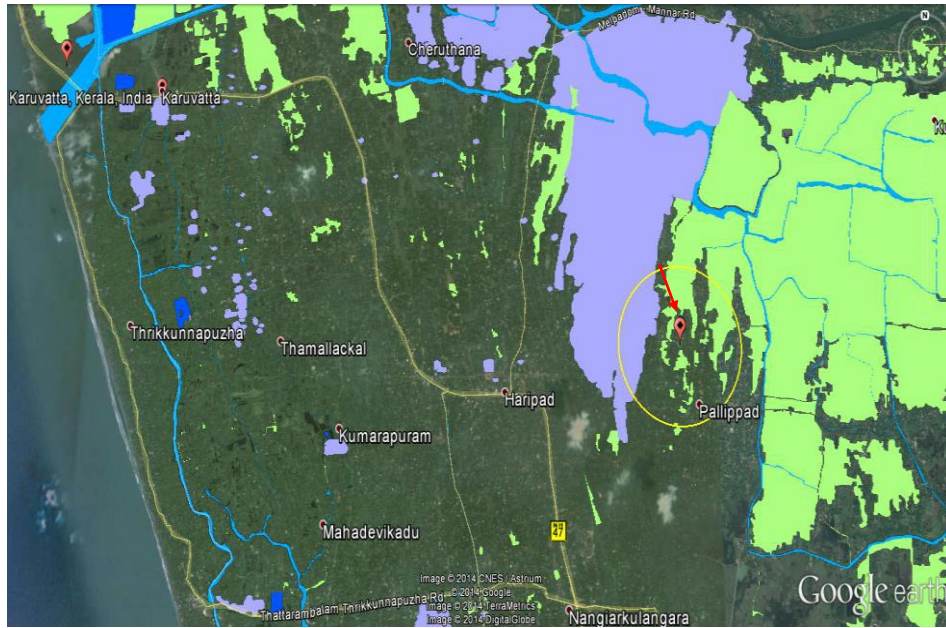
Lat: 9° 17' 13.820" Long: 76° 28' 45.646

Observations

- The site is within the boundary of Government Girls Primary School, Vazhuthanam and is entitled to Education Department and hence require consensus from the Education Department prior to implementation of the project.
- The site is located at a distance of 9 km from coastline
- Wetlands and paddy fields are found within 10km radius of the site.
- A temple is situated to the west of the school compound.
- The proposed site is presently fallow and is used as school playground.
- The branches of *Tamarindus indica* that is close to the construction area will have to be cleared during site preparation phase.
- It was observed that the site gets water logged during rains and thus the design should consider not obstructing the natural flow pattern of rain water in the site. The plinth height of the building may also be raised accordingly.
- A proper campus planning has to be done prior to designing the shelter at this location.
- Pullambuzha Moorthi Kshetram road of 500m length and 5m ROW connects the site to Poyyakara Junction in Harippad-Pallipadu main road.
- The MPCS could be used as classrooms during Normal times.

Assessment

- Construction of MPCS is recommended after taking into consideration campus planning. Construction should not lead to loss of playground.
- **The site is suitable for construction of MPCS**



1. Aerial view of the site 2. View of the site at Vazhuthanam



3.5 Identification number: NCRMP/KER/ALP/ AMB/PURAKKAD-1

Site: Government High school, Naluchira

Taluk: Ambalappuzha

Village: Purakkad

Block: 21, Survey number: 50/5

Panchayath: Purakkad

Ownership: Education Department

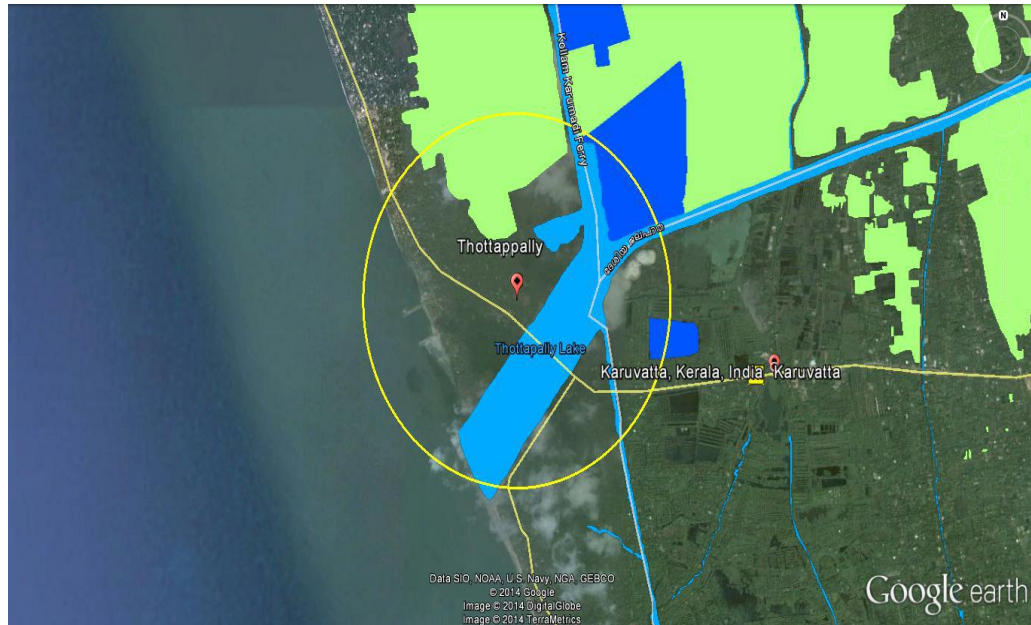
Lat: 9° 19' 11.439" Long: 76° 23' 5.141"

Observations

- The site is within the boundary of Government High School, Naluchira and is entitled to Education Department and hence require consensus from the Education Department prior to implementation of the project.
- The site is located at a distance of 650m from coastline.
- Thottappally Spill way is 160m to the east of the site.
- The site is surrounded by water logged paddy fields, aqua ponds and inland wetland.
- The proposed site is presently is used as school ground and has two dilapidated buildings. The buildings will have to be demolished for construction of MPCs.
- The school has been used as relief camps during floods and heavy rains
- The MPCs could be used as classrooms during normal time.
- An existing road of 500m length and 5m ROW connects the site to National Highway

Assessment

- Construction of MPCs is recommended after taking into consideration campus planning. Construction should not lead to loss of playground
- **The site is suitable for construction of MPCs**



1. Aerial view of the site 2. View of the site at Purakkad



3.6 Identification number: NCRMP/KER/ALP/KUT/KAINAKARI NORTH-1

Site: Government High School, Kuppapuram

Taluk: Kuttanad,

Village: Kainakari North,

Block 7, Survey number 65/5

Panchayath: Kainakari

Ownership: Education Department

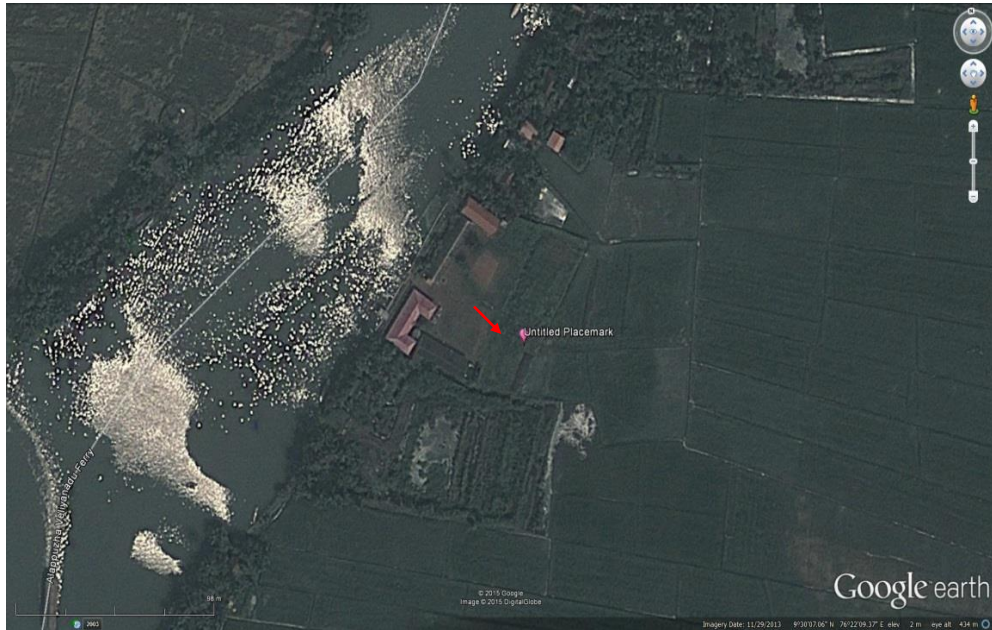
Observations

- The proposed site for MPFS is within the premises of Government school, Kuppapuram and is entitled to Education Department.
- The site is located at a distance of 5km from coastline and is located on the deltaic region of Lower Kuttanad surrounded by rivulets of Pamba river and backwaters.
- The site is approximately 50m away from the embankment of the Pamba river that is to the west of the site.
- The proposed site is presently barren.
- The proposed site falls in the floodplain region of Kuttanad Wetland system and gets water logged to a height of 75cm during rainy season.
- Inland wetlands and paddy fields are within 1km radius of the site.
- The site is located in the Vembanad wetland system which is recognised as Ramsar site and is declared as Critically Vulnerable Coastal Area in CRZ notification of 2011.
- Side roads from Changanassery and Alappuzha main road connect Kainakari Panchayath to the nearby towns.
- The site is 200m away from the Nedumudi-Kuppapuram road that is under construction. A bridge followed by a 2m wide untarred Panchayath public road connects Kuppapuram and the site.

- The site is accessible from major locations of Alappuzha via waterways. National Water way III and inland waterways connect the site to nearby towns. Two ferry ports are located near to the site. No approach roads have been proposed for the MPFS.

Assessment

- There is a strong requirement for MPCS in this locality as the site is in close proximity to population that is frequently affected by flooding. The population remains isolated during floods and heavy rains
- **The site may be recommended for construction of MPCS.**



1. Aerial view of the site 2. View of the site at Kainakari



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 atleast 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 Site assessment

Site Details			Assessment criteria										
			Necessity for MPCs	Area available for construction	Proximity to sea/Water bodies	Foundation cost	Accessibility to transportation and basic amenities	Ownership of land	Clearances required for social/archaeological/environmental issues	Requirement for demolition	Legal issues	TOTAL SCORE	RANK
Site Identification number	Place	Score	15	15	15	15	10	10	10	5	5	100	
1	NCRMP/KER/ALP/ KAR/CHERUTHANA-1	Government Higher Secondary School, Ayamparambu	13	12	10	8	9	5	7	3	4	71	1
2	NCRMP/KER/ALP/ KAR/KUMARAPURAM-1	G.L.P.S, Karuvatta	8	10	9	7	10	5	7	2	4	62	2
3	NCRMP/KER/ALP/ CHER/MARARIKULAM NORTH-1	Revenue land, Janakshemam Colony	10	7	6	5	7	9	7	4	4	59	2
4	NCRMP/KER/ALP/ KAR/PALLIPAD-1	Government Primary School, Vazhuthanam	9	7	9	4	7	5	7	3	4	55	2

5	NCRMP/KER/ALP/ AMB/PURAKKAD-1	Government High school, Purakkad	9	6	4	4	8	5	7	2	4	49	2
6	NCRMP/KER/ALP/KUT/ KAINAKARI NORTH-1	Government Schhol, Kainakari North	14	9	2	1	1	5	2	3	4	41	2

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

