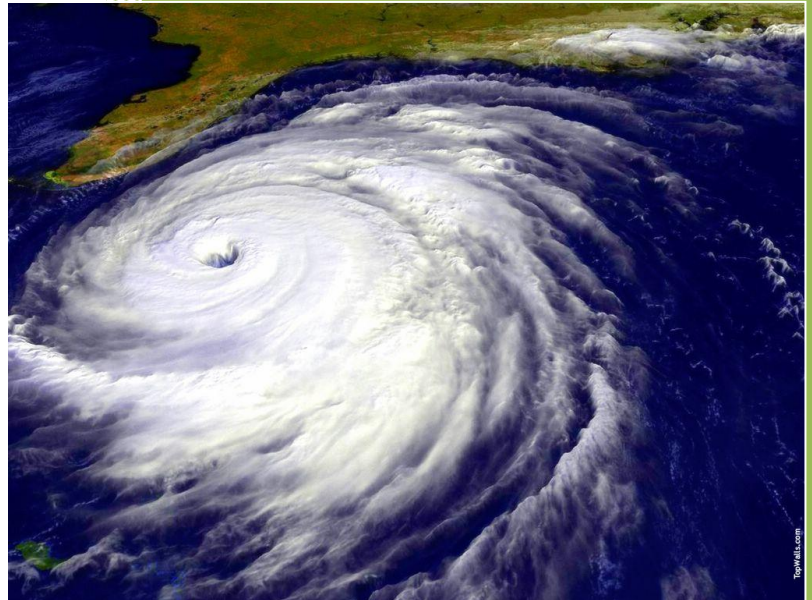


NATIONAL CYCLONE RISK MITIGATION PROJECT-PHASE II KERALA

SITE SCREENING REPORT



District: Kollam

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1. INTRODUCTION

1.1 Context

Preliminary assessment of suitable land (referred to as “sites” in this report) proposed from Kollam District administration, for construction of Multi-Purpose Cyclone Shelters (MPCS) under the National Cyclone Risk Mitigation Project-Phase II was performed on 11/12/15. The assessment was done in sites proposed as per proforma submitted via Email dated 11/11/15 and 31/05/14 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 9 sites were proposed for construction of Multi Purpose Cyclone shelters at various locations in Kollam District. The officers from State Project Implementation unit of NCRMP, Tahsildars of Kollam and Karunagappally Taluk and Village Officers of Neendakara, Alappadu, Sakthikulangara, Chavara, Vadakkevila, Thazhava, Karunagappally visited the sites. Details of sites which were not proposed in the prescribed proforma but potentially suitable for construction of MPCS were also documented upon suggestion from the Officials. The details of the sites visited are as follows:

Site number	Identification number	Taluk, Village, Place	Ownership of land
1	NCRMP/KER/KLM/KAR/NEENDAKARA-1	Karunagappally, Neendakara, Revenue land near Chavara Taluk hospital	Revenue Department
2	NCRMP/KER/KLM/KAR/ALAPPADU-1	Karunagappally, Alappadu, Old Community Health Centre, Alappadu	Health Department
3	NCRMP/KER/KLM/KOL/SAKTHIKULANGARA-1	Kollam, Sakthikulangara, Revenue land near Harbour	Harbour Engineering department
4	NCRMP/KER/KLM/KAR/ALAPPADU-2	Karunagappally, Alappadu, Pump house Fisheries Department, Alappadu	Fisheries department
5	NCRMP/KER/KLM/KAR/KARUNAGAPPALLY-1	Karunagappally, Karunagappally, Kallada Irrigation Project land	Irrigation Department
6	NCRMP/KER/KLM/KAR/THAZHAVA-1*	Karunagappally, Thazhava, Revenue land in Thazhava Village office compound	Revenue Department
7	NCRMP/KER/KLM/KOL/VADAKKEVILA-1	Kollam, Vadakkevila, Revenue land, S.N College junction	Revenue Department
8	NCRMP/KER/KLM/KAR/CHAVARA-1	Karunagappally, Chavara, Revenue land, Kottamkulangara	Revenue Department
9	NCRMP/KER/KLM/KAR/CHAVARA-2	Revenue land, Kottamkulangara	Revenue Department

3. DETAILS OF SUITABLE SITE

3.1 Identification number: NCRMP/KER/KLM/KAR/KARUNAGAPPALLY-1

Site: Kallada Irrigation Project land

Taluk: Karunagappally

Village: Karunagappally

Survey number: Block: 10, 582/11

Municipality: Karunagappally

Ownership: Irrigation Department

Lat: 9° 31' 46.9" Long: 76° 32' 21.4" (Ref GPS: 701,702)

Observations

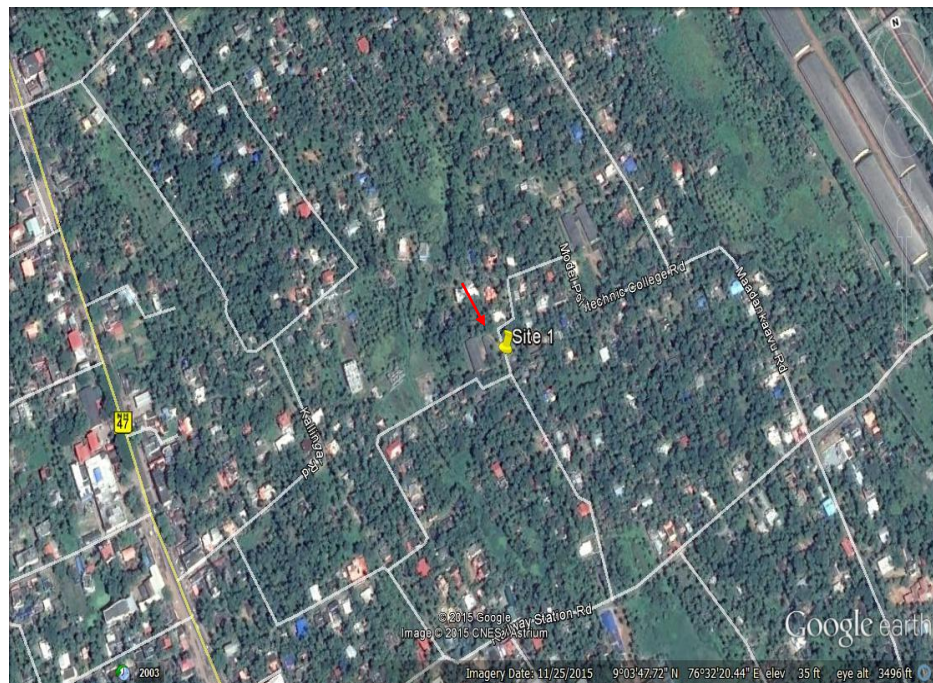
- The proposed site was earlier used as office of the Kallada Irrigation Project.
- Of the total area of 60 cents, around 25 cents of land is available for constructing MPCS, remaining land is proposed for court complex.
- A dilapidated office building exists in the proposed site which has to be demolished to facilitate construction.
- The site is at a distance of 470m from National Highway and is also accessible from Model Polytechnic College road.
- The MPCS could be used for training activities and as conference halls.
- The site is near to Mini Civil Station of Karunagappally and has access to all basic amenities.
- 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 9900 from the locality may have to move to safer location in the event of an emergency.
- As per the Basic Tax Register, the ownership of land and building is with Kallada Irrigation Project.
- Trees will have to be cut down to clear the land for construction. Trees such as teak, Coconut and others are growing in the site. Banana plantation was noticed on the portion of land adjacent to nearby road perhaps done by locals.

Assessment

- Consent from Irrigation department is required for demolition and for construction of MPCS
- **The site is recommended for construction of MPCS.**



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



3.2 Identification number: NCRMP/KER/KLM/KAR/THAZHAVA-1***Site: Revenue land in Thazhava Village office compound**

Taluk: Karunagappally

Village: Thazhava

Survey number: Block: 11, Survey number: 706/5

Panchayath: Thazhava Panchayath

Ownership: Revenue Department

Lat: 9° 5' 22.5" Long: 76° 33' 43.8" (Ref GPS: 703,704)

Observations

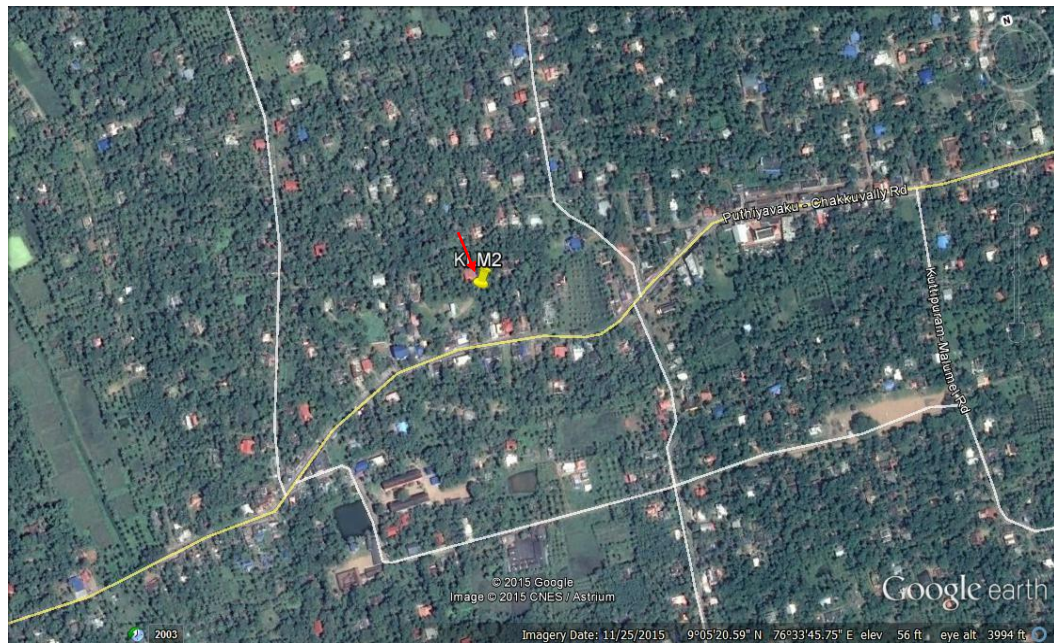
- The proposed site is a barren land within the compound of Village office of Thazhava.
- The site is accessible from main road (Puthiyakavu-Chakkuvally road) and Panchayath roads. The site is 3.5km east to the National Highway.
- Approximately 25 cents is available for construction of MPCS
- The site is around 7km from the High Tide Line.
- The MPCS could be used for various purposes of the District Administration as well as training centres, Conference rooms etc.
- Railway line is at a distance of 2.5km from the proposed site.
- Community Health Centre, Panchayath office etc are located close to the proposed site.
- A pond exists within 200m from the site. The water table level in the region is good and there is no scarcity for water.
- Private settlements are present near to the site.
- A Jackfruit tree has to be cut down to clear the land for construction.
- The soil is sandy in nature and safe bearing capacity of soil is average on visual observation

Assessment

- The District Administration has to forward the details of the site in prescribed Pro forma
- **The site may be considered for construction of MPCS**



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



3.3 Identification number: NCRMP/KER/KLM/KOL/VADAKKEVILA-1

Site: Revenue land, S.N College junction

Taluk: Kollam

Village: Vadakkevila

Block no: 85, Survey number: 4

Corporation: Kollam

Ownership: Revenue Department

Lat: 8° 52' 53" Long: 76° 35' 56.1" (Ref GPS: 709, 710)

Observations

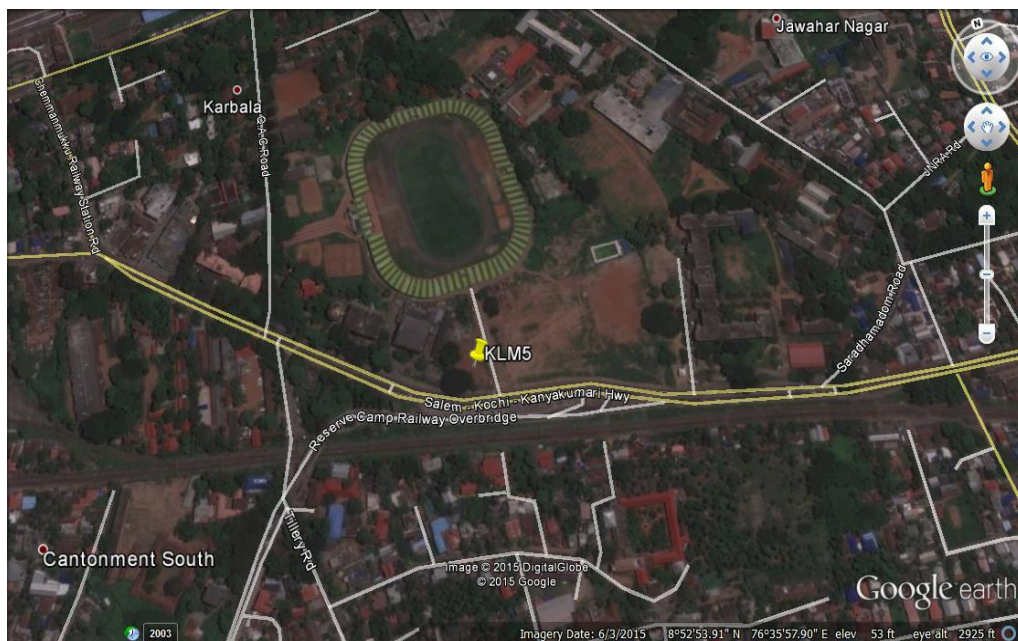
- The proposed land is barren land adjacent to Lal Bahadur stadium, Cantonment ground and Town hall. The site is currently being used as parking area.
- A total of 64 cents of land is available for construction of MPCs.
- Railway line is located at a distance of 50m from the site.
- The site is located 1km away from the High tide line.
- The site is directly accessible from National Highway.
- Cantonment ground where exhibition, conferences, gatherings etc are conducted, is located to the immediate east of the site.
- SN College premises is located at a distance within 250m from the site.
- A transformer is located at the farthest end of the site.
- The site is located in the commercially important area of Kollam District and has access to all basic amenities.
- The MPCs could be used for various purposes of District Administration/Local bodies such as halls, facilitation centres etc during normal times
- The District administration has reported that a vulnerable population of 13214 will be benefitted from the project

Assessment

- The site is located near to vulnerable community and has access to all basic amenities.
- **The site may be considered for construction of MPCs**



1.View of site at S.N Junction. 2. Aerial view of the site



4. DETAILS OF UNSUITABLE SITES

4.1 Identification number: NCRMP/KER/KLM/KAR/CHAVARA-1

Site: Revenue land, Kottamkulangara

Taluk: Karunagappally

Village: Chavara

Block: 19, Survey number: 392/1

Panchayath: Chavara

Ownership: Revenue Department

Lat: 8° 59' 2.3" Long: 76° 32' 5.6" (Ref GPS: 705,706)

Observations

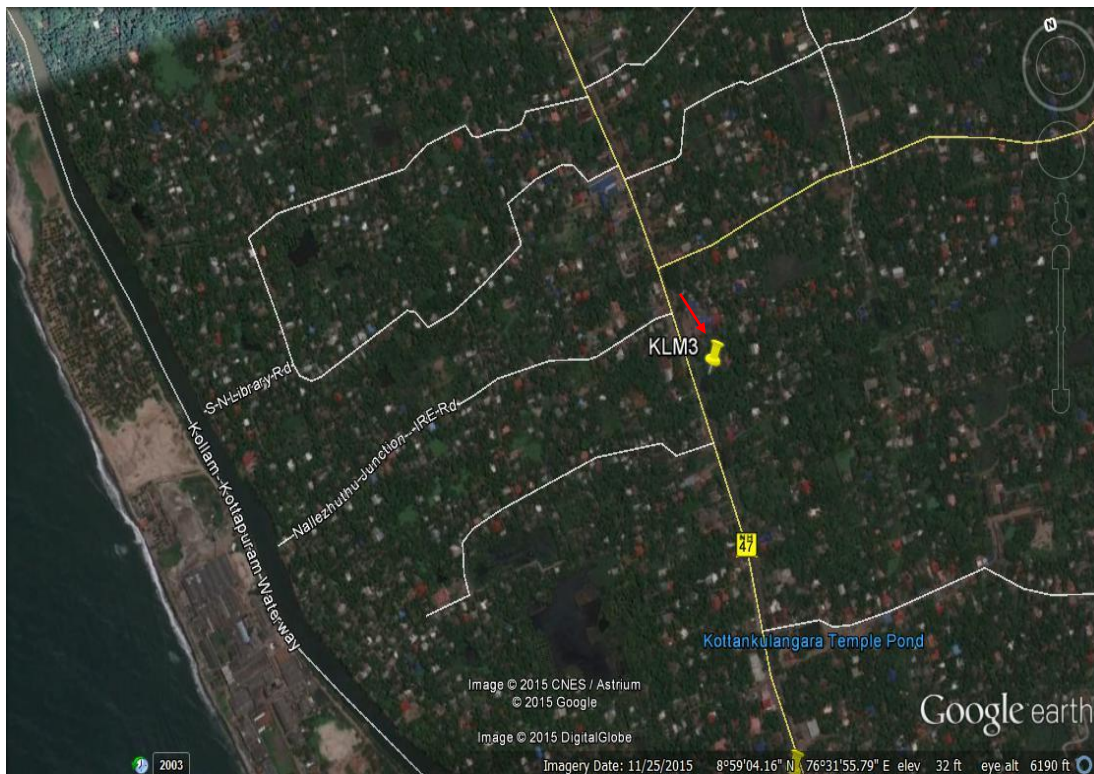
- The proposed site is located in the commercial center of Kollam.
- Approximately 10 cents is available for construction. The proposed site is water logged pit into which drainage water flows. This area will have to be filled and raised up to the level of nearby road for construction of MPCS.
- The site was previously excavated during construction of National Highway and gradually became water logged. The site is located 3m below the level of National Highway.
- The area is of commercial importance.

Recommendation

- Major portion of the proposed site is water logged and will have to be filled and raised to the level of Highway, which is not recommended.
- **The site may not be considered for construction of MPCS**



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



4.2 Identification number: NCRMP/KER/KLM/KAR/CHAVARA-2**Site: Revenue land, Kottamkulangara**

Taluk: Karunagappally

Village: Chavara

Block: 19, Survey number: 103/15

Panchayath: Chavara

Ownership: Revenue Departement

Lat: 8° 58' 39.8" Long: 76° 32' 4.2" (Ref GPS: 707,708)

Observations

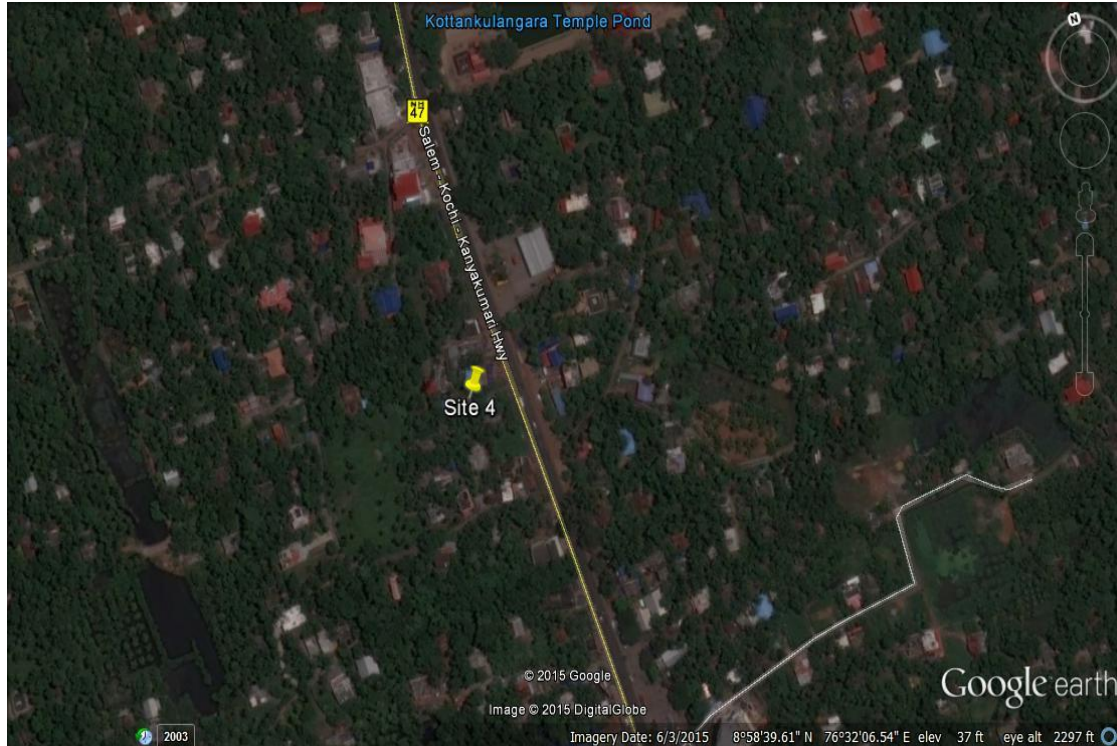
- The proposed site is to the immediate west of National Highway.
- Privately owned shops make shift shops exists in the site .
- The site has also been proposed for construction of Police Quarters.
- Coconut Plantation exists in the site.
- A manned railway crossing and railway line is 80m to the east of the site.
- The site is 1km from the coastline.
- Disparity in ownership and boundaries of the site was noticed.

Assessment

- **The site may not be considered for construction of MPCS**



1. View of site. (Shops in the site can be seen) 2. Aerial view of the site



4.3 Identification number: NCRMP/KER/KLM/ KOL/SAKTHIKULANGARA-1

Site: Harbour Premise

Taluk: Kollam

Village: Sakthikulangara

Block 1, Survey number: 1/1, 2

Ownership: Harbour Engineering department

Lat: 8° 55' 53.69"N Long: 76° 32' 24.94"E

Observations

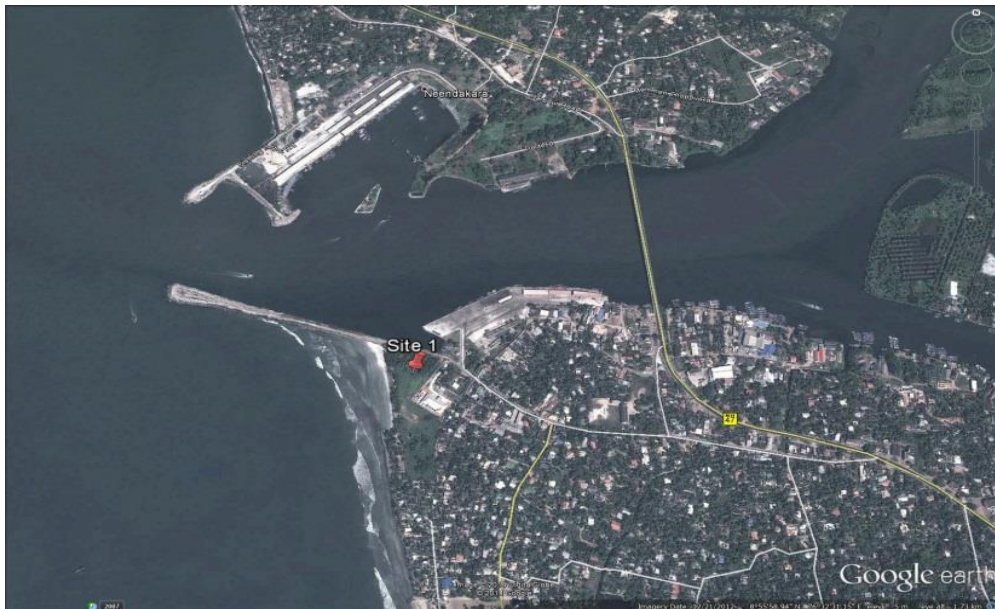
- The site is fallow land located on the artificial coast of Kollam district is wholly within 100m from the HTL and is bound by sea wall on the west side and has the breakwater to its north.
- Only 405 sq.m of land is available for construction;
- The site is within 100 m from the seawall and is clearly in the Tsunami inundation area
- Consent and transfer of land from the Harbour Engineering department is to be obtained prior to initiating any activities.

Assessment

- The artificial coast near the Neendakara harbour is a densely populated region of Kollam taluk and is highly vulnerable to storm surge particularly during monsoon. Although the proposed site is near to this vulnerable population and will be beneficial for the community during an event of cyclone/Storm surge, due to extreme proximity of site to the sea, any structure in this site will be at high risk during storm surge, high tides (Tsunami) and high speed winds
- **The site may not be recommended for construction of MPCS**



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



4.4 Identification number: NCRMP/KER/KLM/KAR/NEENDAKARA-1

Site: Near Chavara Taluk hospital, Neendakara

Taluk: Karunagappally

Village: Neendakara

Block 22, Survey number: 105/6

Ownership: Revenue Department

Lat: 8° 57' 30.460"N, Long: 76° 31' 56.846"E

Observations

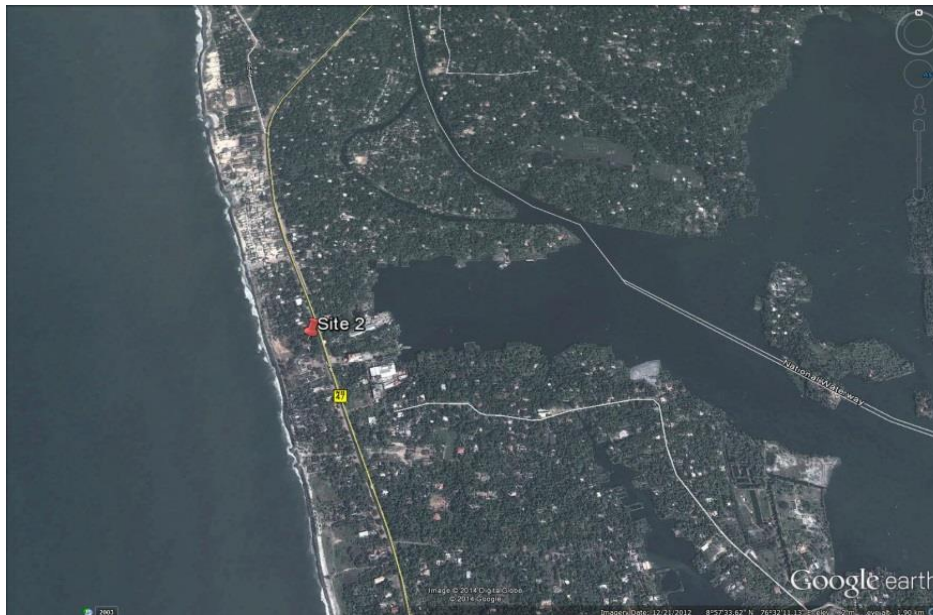
- The site is located 17.4m from the National highway 66 and shares border with the Chavara taluk hospital and residential areas.
- The land is occupied by three dilapidated buildings, constructed under the Norwegian Government funded project.
- A cancer centre wing of the Taluk hospital functions near to the site.
- The site is under NDZ of CRZ III (Nearly 90 m from HTL)
- Waste land with shrubs and trees. Also there exist three dilapidated buildings.
- The site is directly accessible from National Highway
- The site falls in the Tsunami inundation area of Karunagapally Taluk (The site is too near to the hospital premises and also shares its borders with the employ quarters of the hospital.
- Only 405 sqm of land is available for construction
- Details on ownership of land are unclear. Although BTR confirms the ownership of land is with Revenue department, detailed examination is required to affirm the extent of land available with the department.
- Local level objection in proposing the site for the purpose of MPCS has come to notice.

Recommendations

- **The site may not be considered for construction of MPCS**



1. View of site at Alappadu. Dilapidated building can be seen 2. Aerial view of the site



4.5 Identification number: NCRMP/KER/KLM/KAR/ALAPPADU-1

Site: Old Dilapidated building, Alappadu

Taluk: Karunagappally

Village: Alappadu

Block 7, Survey number: 61/8

Ownership: Health Department

Lat: 9° 04' 05.260"N Long: 76° 29' 44.929" E

Observations

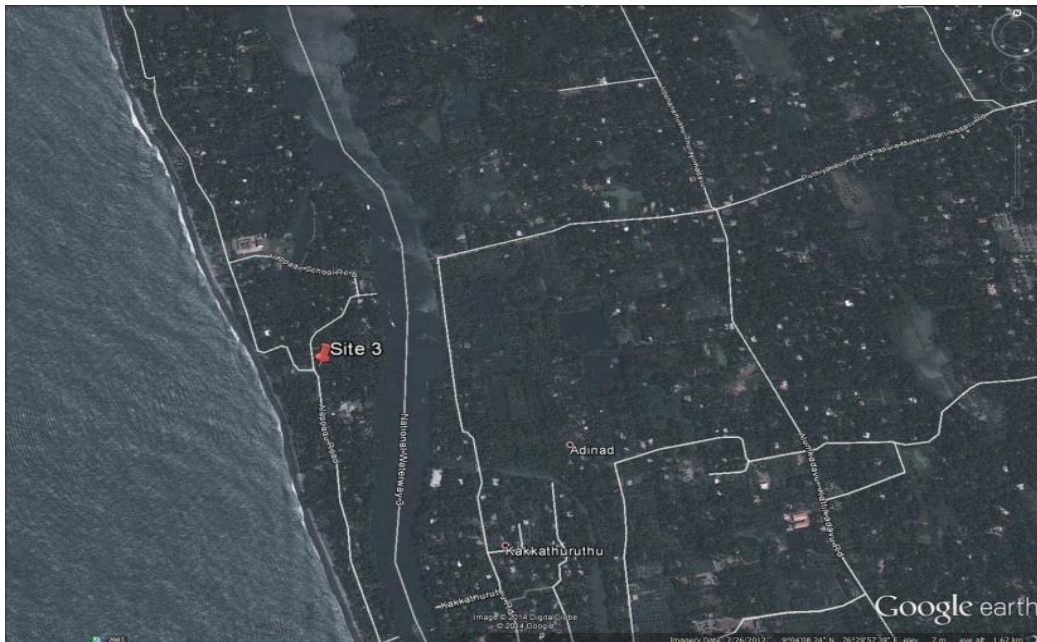
- The site has a dilapidated building (approx. 30 years old) that was previously used by Health department as Public Health Centre. (On the other hand The BTR shows that the Health department acquired the land for maternity ward construction).
- The proposed site is in the residential area but is separated from the nearby areas by compound walls.
- National water way 3 is to the east of the site.
- The site is Under NDZ of CRZ III. (Nearly 90 m from HTL and 110 m from Canal, near to Alappadu centre bus Station)
- Approximately 700 sq.m of land is available for construction
- The site is in the tsunami inundation area of Alappadu Village.
- The site falls in the floodplain of Kayamkulam kayal and is noticeably in the storm surge region.
- Consent and transfer of land from Health department is required.
- Provision for road access is limited. Direct entry to the site is not possible without crossing private property.
- The proposed site is near to region where people have been rehabilitated post tsunami event.

Assessment

- The extreme proximity of the site to sea makes the site unsuitable for construction of MPSC
- **The site may not be considered.**



View of site



4.6 Identification number: NCRMP/KER/KLM/KAR/ALAPPADU-2**Site: Fisheries pump house, Alappadu**

Taluk: Karunagappally

Village: Alappadu

Block 1, Survey number: 10/10

Ownership: Fisheries Department

Lat: 9° 04' 05.260"N Long: 76° 29' 44.929" E

Observations

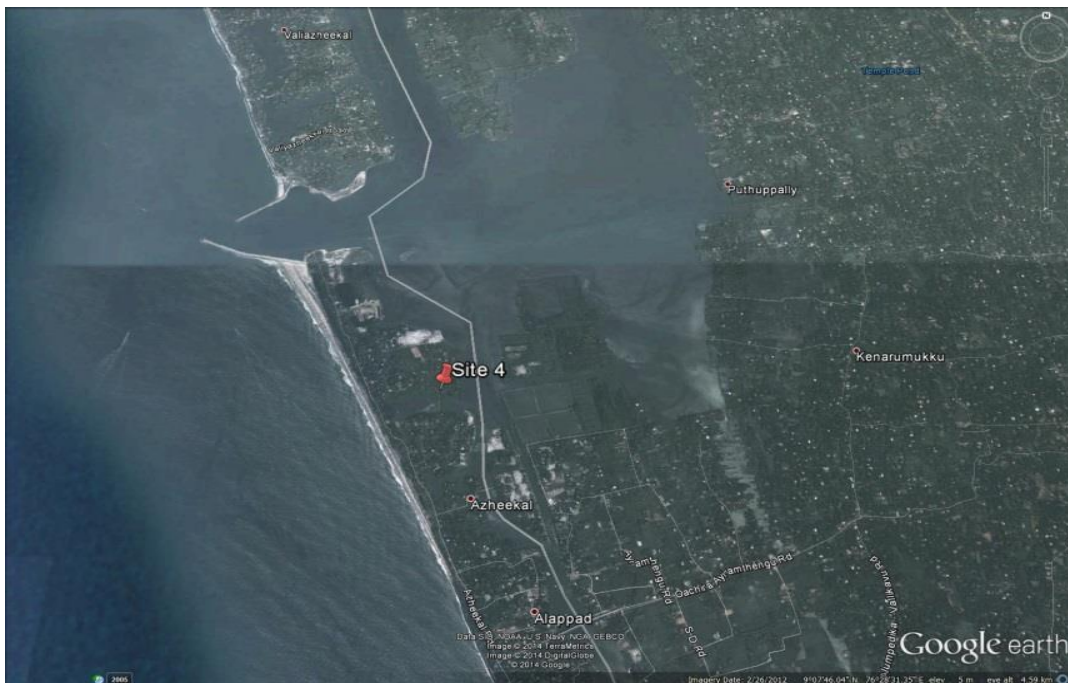
- A dilapidated building (approx. 35 years old) that was earlier a Fisheries school exists on the site. One portion of the building is being used as pump house by the department since 2000.
- The site is bound by the backwaters on two sides and is separated from the nearby private land using barbed wires.
- The site falls in the Tsunami inundation area of Alappadu village.
- The site is in the floodplain of Kayamkulam kayal and in the storm surge region of Alappadu Village.
- Less vulnerable population exists in the surrounding. Majority of the houses in the surrounding are Pucca houses.
- Consent required from Fisheries department for demolition of the existing dilapidated building and for construction of MPCS.

Recommendations

- **The site may not be considered for construction of MPCS**



1.View of site at Alappadu. Dilapidated building can be seen 2. Aerial view of the site



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 were 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/KLM/KOL/VADAKKEVILA-1	Revenue land, S.N College junction	12	10	10	8	9	8	8	4	4	73	1
2	NCRMP/KER/KLM/KAR/THAZHAVA-1*	Revenue land in Thazhava Village office compound	10	10	12	5	8	9	9	4	5	72	1
3	NCRMP/KER/KLM/KAR/KARUNAGAPPALLY-1	Kallada Irrigation Project land	13	11	10	8	9	5	8	3	4	71	1
4	NCRMP/KER/KLM/KAR/CHAVARA-2	Revenue land, Kottamkulangara	4	2	5	2	5	5	3	2	1	29	3
5	NCRMP/KER/KLM/KAR/CHAVARA-1	Revenue land, Kottamkulangara	4	2	5	2	5	5	2	2	1	28	3
6	NCRMP/KER/KLM/KAR/NEENDAKARA-1	Revenue land near Chavara Taluk hospital	5	3	1	3	4	2	2	2	2	24	3

7	NCRMP/KER/KLM/KAR/ ALAPPADU-1	Old Community Health Centre,Alappadu	5	3	1	2	4	2	1	1	2	21	3
8	NCRMP/KER/KLM/KOL/ SAKTHIKULANGARA-1	Revenue land near Harbour	2	2	0	2	4	2	2	4	2	20	3
9	NCRMP/KER/KLM/KAR/ ALAPPADU-2	Pump house Fisheries Department ,Alappadu	5	2	1	1	3	2	2	2	2	20	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

* Details not available in proforma

