

Annex 2: Format for preparing Brief Document

State / Union Territory: Goa

Name and address of person (s) compiling this information CSIR- NIO & GSBB

Section 1: Identification, Location and Jurisdiction

1.1 Name of the Wetland (Alternative names, including in local language should be given in parenthesis after official name)

Pilerne lake (Saulem tollem, सावळे तळे)

1.2 Name of the Village(s) Municipal area(s)

Village Pilerne, Bardez Taluka

1.3 Name of the District(s) in which wetland complex is located

North Goa

1.4 Geographical coordinates (Latitude and Longitude, to degree, minutes and second)

Latitude: From 15°32'11.64" N to 15°31'59.27" N

Longitude: From 73°48'44.59" E to 73°48'51.75" E

1.5 Name of the Department/Agency which has jurisdiction over the wetland

Pilarne Village Panchayat, Bardez, Water Resource Department (WRD).

Section 2: Site Characteristics

2.1 Area of wetland/wetlands category (ha): 4.7 ha

2.2 Wetland type (Please tick appropriate categories and sub-categories)

Category	Subcategory
<input checked="" type="checkbox"/> Natural(Inland)	<input checked="" type="checkbox"/> Permanent lakes <input type="checkbox"/> Seasonal/intermittent lakes <input type="checkbox"/> Permanent streams/creeks <input type="checkbox"/> Seasonal/ intermittent streams/creeks <input type="checkbox"/> Oxbow <input type="checkbox"/> River flood plain <input type="checkbox"/> Permanent freshwater marshes <input type="checkbox"/> Seasonal/ intermittent freshwater marshes <input type="checkbox"/> Shrub-dominated wetlands <input type="checkbox"/> Tree-dominated wetlands <input type="checkbox"/> Geothermal wetlands <input type="checkbox"/> Karst and other subterranean hydrological systems

<input type="checkbox"/> Natural(Coastal)	<input type="checkbox"/> Coastal lagoon <input type="checkbox"/> Estuary <input type="checkbox"/> Intertidal mud, sand or salt flats <input type="checkbox"/> Mangroves <input type="checkbox"/> Coral reefs
<input type="checkbox"/> Human-made	<input type="checkbox"/> Aquaculture pond <input type="checkbox"/> Tank <input type="checkbox"/> Saltpan <input type="checkbox"/> Dam /Reservoir

2.3 Depth (m) Maximum 6m

2.4 Elevation(m above mean sea level) 13.5 m

2.5 Water regimes

a) Main source of water (tick all applicable)

Rainfall Groundwater Catchment run off Direct / indirect inflow from river

Others please specify Natural springs

b) Water permanence

Mostly permanent Mostly intermittent

c) Destination of water from wetland

Feeds groundwater To downstream catchment To river To sea

d) Water pH

Acid(<5.5) Circum neutral (5.5–7.4) Alkaline (>7.4)

Not known

e) Water salinity

Fresh (<0.5g/l) Brackish (0.5 –30g/l)) Euhaline (30- 40g/l)

Hypersaline (>40g/l) Not known

f) Nutrient in water

Eutrophic Mesotrophic Oligotrophic

Not known

2.6 Climatic setting

- a) Annual Rainfall (mm) 2918mm
- b) Temperature(°C) Minimum 33°C Maximum 20°C
- c) Humidity (%) Minimum 67% Maximum 84%

2.7 Area of zone of influence (in ha) 97 ha [Ref. paras 32-34 of the guidelines on wetlands]

2.8 Major land use within zone of influence (provide as approximate % of catchment area)

Forests/vegetation	<u>7.63</u> %
Plantation	<u>0</u> %
Agriculture	<u>0</u> %
Settlements (Rural)	<u>0</u> %
Settlements (Urban)	<u>0</u> %
Industrial	<u>0</u> %

(Detailed LULC of influence zone and 50m buffer is given in Table-I below)

2.9 Map of wetland complex and zone of influence

(Enclosed as Annexure I –V and VI with site

photographs to this Document)

Section 3: Biodiversity

3.1 Notable plant species present in wetland

Nymphaea alba (Water lily)

3.2 Notable animal species present in wetland

Lutrogale perspicillata (Smooth coated otter), *Metopidius indicus* (Bronze winged jacana)

Microcabo niger (Little cormorant), *Corvus splendens* (House crow), *Ardeola grayii* (Pond heron)

Columba livia (Rock pigeon), *Dendrocygna javanica* (Lesser whistling Duck), *Hirundo smithii* (Wire

tailed swallow), *Eudynamys scolopaceus* (Asian Koel), *Vanellus indicus* (Red wattled lapwing),

Halistur indus (Brahminy kite), *Bubulcus ibis* (Cattle egret)

3.3 Species of conservation significance (rare, endangered, threatened, endemic species)

3.4 Major plant invasive alien species

3.5 Major animal invasive alien species

Section 4: Ecosystem services

Importance	Relevant for the site (please tick yes or no)	If Yes, Details (upto 50 words for each category)
Source of drinking water for people living and around	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Source of water for agriculture	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Water is used downstream for paddy cultivation
Fisheries	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Various fish species are present
Cultivation of aquatic food plants	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
For buffalo wallowing and use of domesticated animals	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Local people use the water for buffalo wallowing
Medicinal plants	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Is a recreational site	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Site of migratory birds- watching point and has a lake garden
Buffering communities from extreme events as floods and storms	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	During monsoon, flooding occurs due to heavy rainfall and the water is regulated through the use of sluice gate into the paddy field
Groundwater recharge	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	At certain level, water remains throughout the year helping in ground water recharge
Water purification	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Natural purification of the water takes place as the water body continuously receives percolated water
Acts as a sink for sediments	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Sediment and any excess nutrients from surface runoff and landward side settles in the water body
Has significant cultural and religious values	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Ganapati visarjan in the water body
Is a site for recreation and tourism	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Supports noteworthy plants species	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<i>Nymphaea alba</i> (Water lily)
Supports noteworthy animal species	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<i>Lutrogale perspicillata</i> (Smooth coated otter)
Site of high congregation of migratory water birds	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	The lake is also a well-known birding spot
Supports life cycle of fish or amphibians	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Guppies
Mining	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Any other, please list		

Section 5: Pre-Existing Rights and Privileges

Nature of right and privilege	Relevant for the site (please tick yes or no)	Does this negatively impact the wetland's ecological health?	Brief description (upto 50 words for each category)
Community Fishing (without any lease or permission from government department)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Not assessed	
Fishing under lease from government department	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Not assessed	
Harvest of plants(without any lease or permission from government department)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Not assessed	
Harvest of plants under lease from government department	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Not assessed	
Agriculture or horticulture within wetland	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Not assessed	
Grazing	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Not assessed	Water body area is used for grazing
Religious practices	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Not assessed	Ganapati visarjan is done by the village people in the water body
Withdrawal of water for domestic use	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Not assessed	
Withdrawal of water for agriculture or fisheries	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Not assessed	Water is used downstream for paddy field
Bathing or wallowing of domestic animals	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Not assessed	Water body used for wallowing of buffalo.
Plying of boats	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Not assessed	Small canoes for cleaning and management of water body
Any other, please list here	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not assessed	

Section 6: Present and Potential Threats

Threat	Degree	Present or Potential	Additional information, if any
Changes in water inflow and outflow	<input type="checkbox"/> High <input type="checkbox"/> Medium <input checked="" type="checkbox"/> Low	<input type="checkbox"/> Present <input checked="" type="checkbox"/> Potential	Lake water is controlled by manmade sluice gate.
Pollution	<input type="checkbox"/> High <input checked="" type="checkbox"/> Medium <input type="checkbox"/> Low	<input checked="" type="checkbox"/> Present <input type="checkbox"/> Potential	Dumping of garbage and waste water discharge directly in the water body is observed.
Unsustainable harvest of biological resources	<input type="checkbox"/> High <input type="checkbox"/> Medium <input checked="" type="checkbox"/> Low	<input type="checkbox"/> Present <input checked="" type="checkbox"/> Potential	
Mining	<input type="checkbox"/> High <input type="checkbox"/> Medium <input checked="" type="checkbox"/> Low	<input type="checkbox"/> Present <input checked="" type="checkbox"/> Potential	
Siltation	<input checked="" type="checkbox"/> High <input type="checkbox"/> Medium <input type="checkbox"/> Low	<input checked="" type="checkbox"/> Present <input type="checkbox"/> Potential	Accumulation of solid waste and waste water- siltation rate is high.
Encroachment	<input type="checkbox"/> High <input type="checkbox"/> Medium <input checked="" type="checkbox"/> Low	<input type="checkbox"/> Present <input checked="" type="checkbox"/> Potential	Existing settlements are very close to the water body
Spread of invasive species	<input type="checkbox"/> High <input type="checkbox"/> Medium <input checked="" type="checkbox"/> Low	<input type="checkbox"/> Present <input checked="" type="checkbox"/> Potential	
Any other, please list	<input type="checkbox"/> High <input type="checkbox"/> Medium <input type="checkbox"/> Low	<input type="checkbox"/> Present <input type="checkbox"/> Potential	

Section 7: Activities Proposed to be Prohibited (other than those listed in Rule 4 (2) of Wetland Rules and Regulated

Activity	Whether prohibited or regulated	Regulation within wetlands or zone of influence	If regulated, indicate the level of regulation (in terms of people, restricted area or any other)	Name of department / agency responsible for regulation / prohibition	Additional information, if any
Withdrawal of water / impoundment/diversion or any other hydrological intervention	Regulated	<input checked="" type="checkbox"/> Wetland <input type="checkbox"/> Zone of influence	High	Water Resource Department	Statutory approval required
Harvesting of resources (living / non-living)	Regulated	<input checked="" type="checkbox"/> Wetland <input type="checkbox"/> Zone of influence	Mid	State Fishery Department	Only traditional activities to continue.
Grazing	Regulated	<input checked="" type="checkbox"/> Wetland / boundary <input checked="" type="checkbox"/> Zone of influence	Low	State Forest Department	

Discharge of treated sewage/ effluent / wastewater	Regulated	✓Wetland ✓Zone of influence	High	State Public Works Department	Statutory national and state legislation applicable
Construction of boat jetties, and facilities for temporary use ,as pontoon bridges	Prohibited	✓Wetland ✓Zone of influence	High	State Public Works Department	Statutory approval required for new activities within the wetland boundaries and buffer
Aquaculture, agriculture and horticulture activities within the Wetland boundaries.	Regulated	✓Wetland <input type="checkbox"/> Zone of influence	Mid	Fishery, Agriculture & Horticulture Department	Traditional activities may continue
Any other, please list 1. Disposal of solid waste/untreated sewage	Prohibited	✓Wetland <input type="checkbox"/> Zone of influence	High	Panchayat/ Corporation/ Municipality	Statutory national and state legislation applicable
2. Construction activities	Prohibited	✓Wetland <input type="checkbox"/> Zone of influence	High	Panchayat/ Corporation/ Municipality	Approval required
3. Extraction of soil, mud, rocks for commercial purpose	Prohibited	✓Wetland <input type="checkbox"/> Zone of influence	High	Panchayat/ Corporation/ Municipality	Approval required

Section 8: Activities Proposed to be permitted

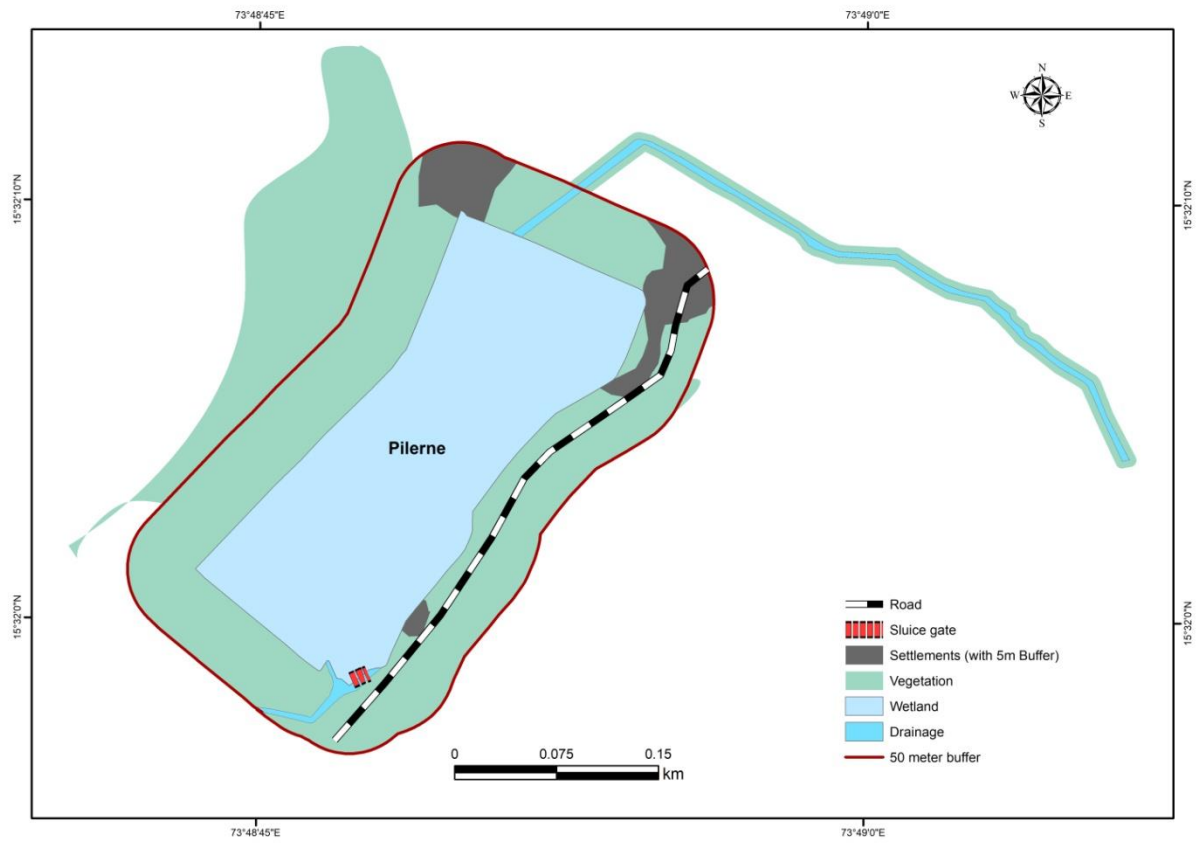
Activity	Place a tick mark if relevant	Within wetlands or zone of influence	Additional information, if any
Traditional Agriculture/ Paddy cultivation	✓	<input type="checkbox"/> Wetland ✓Zone of influence	Downstream of the lake
Traditional fishery	✓	✓Wetland <input type="checkbox"/> Zone of influence	
Traditional Religious activities	✓	✓Wetland ✓Zone of influence	

Section 9: Listing of Available Scientific Resources Used

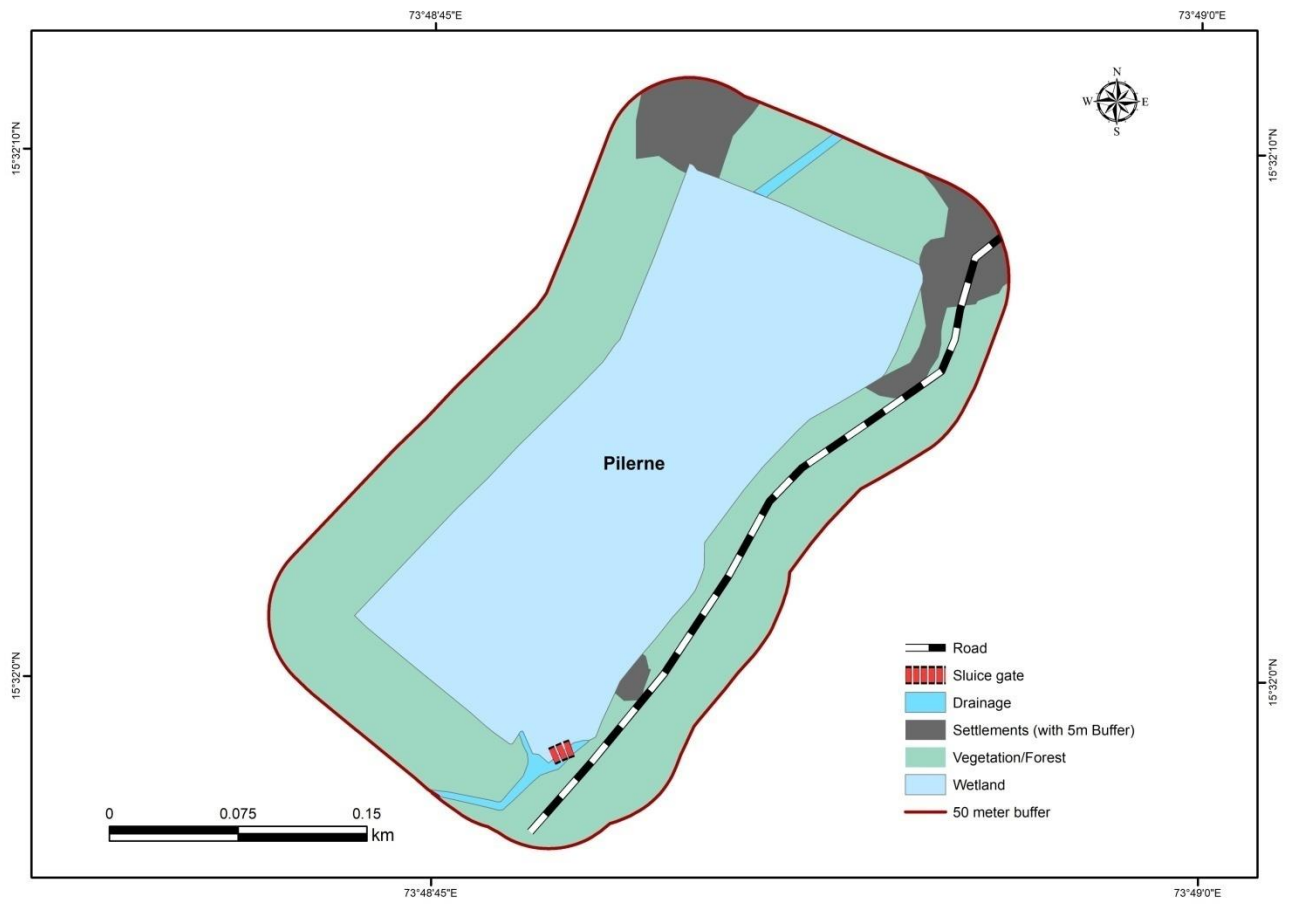
Table-I: Area table of LULC of Pilerne Lake

Pilerne Lake					
Sl:No:	LULC	Influence Zone		50 meter Buffer	
		Area(Hec)	Percentage Area	Area(Hec)	Percentage Area
1	Vegetation	7.63	100	5.03	100
	Total Area	7.63	100	5.03	100

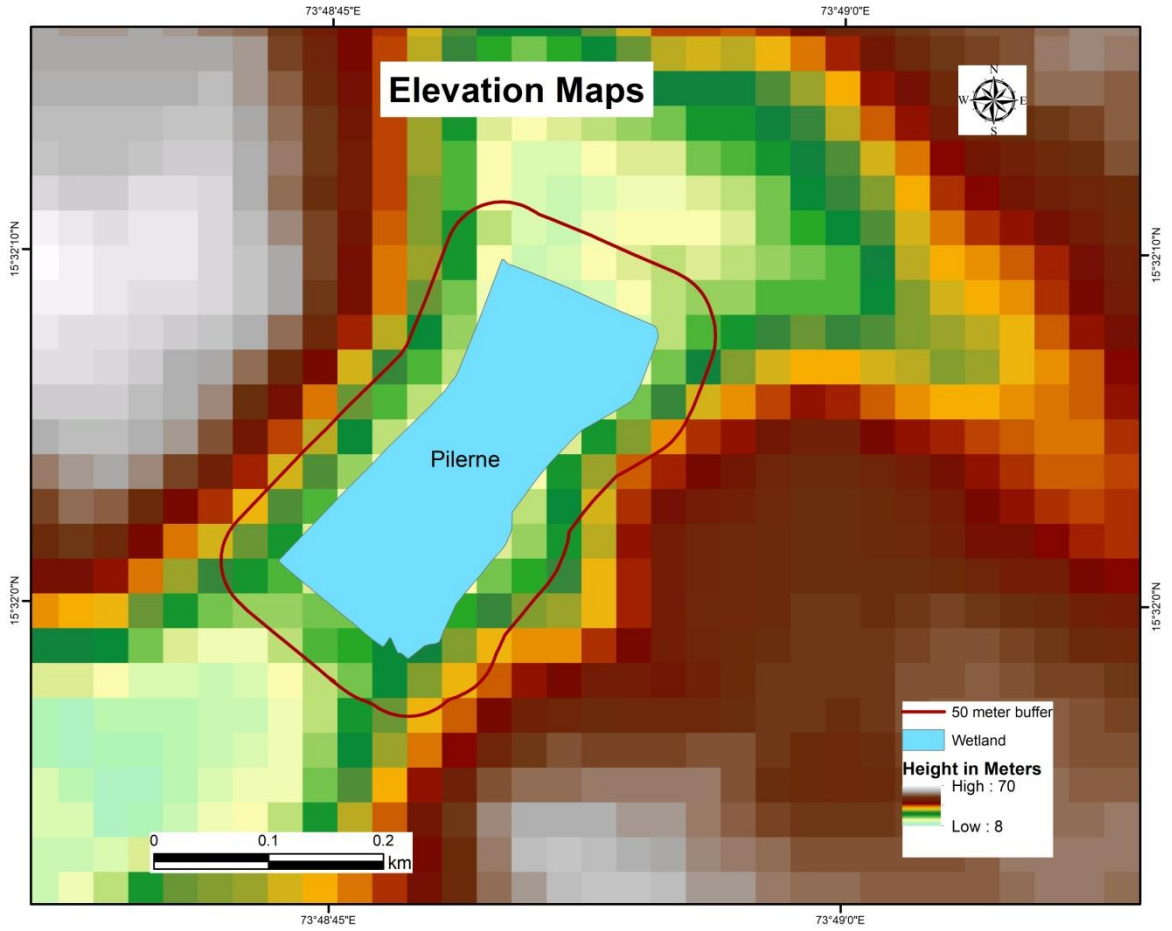
Annexure-I: LULC of the influence zone with elevation contour of Pilerne Lake



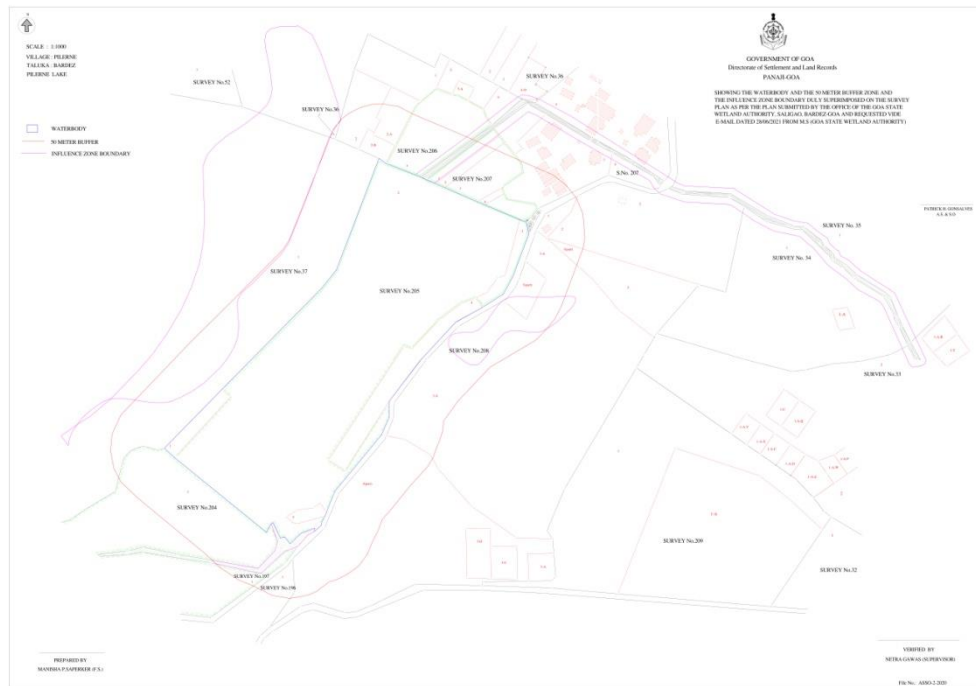
Annexure-II: LULC of 50m buffer of Pilerne Lake



Annexure-III: Elevation (DEM) map of Pilerne Lake



Annexure-IV: Survey map of Pilerne Lake showing influence zone



Annexure-V: Google image of Pilerne Lake



Annexure-VI: Site photographs of Pilerne Lake





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