

**Annex 2: Format for preparing Brief Document**

State / Union Territory: \_\_\_\_\_ Goa \_\_\_\_\_

Name and address of person (s) compiling this information \_\_\_\_\_ CSIR- NIO & GSWA \_\_\_\_\_

**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)

Sancoale lake (Bandolem tollem, बंडोले तळे)

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

Sancoale village, Mormugao taluka

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

South Goa

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

Latitude: From 15°23'44.06" N to 15°23'38.74" N

Longitude: From 73°54'11.33"E to 73°54'15.17"E

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

Sancoale Village Panchayat, Water Resource Department (WRD)

**Section 2: Site Characteristics**

2.1 Area of wetland/wetlands category(ha): 0.85 ha

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

Category	Subcategory
✓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 2m

2.4 Elevation(m above mean sea level) 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 salt water intrusion during post monsoon

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 20°C Maximum 33°C
- c) Humidity (%) Minimum 67% Maximum 84%

2.7 Area of zone of influence(in ha) 4.09 ha [Ref.paras32-34of the guidelines on wetlands]

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

Forests/vegetation	<u>14.18 %</u>
Plantation	<u>10.51 %</u>
Agriculture	<u>40.59 %</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 as site  
photographs to this document)

### **Section 3: Biodiversity**

3.1 Notable plant species present in wetland

Nymphaea sp. (water Lily)

3.2 Notable animal species present in wetland

Dendrocygna javanica (Whistling duck), Phalacrocorax fuscicollis (Indian cormorant)

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 type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Fisheries	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Locals do fishing with hook and line
Cultivation of aquatic food plants	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
For buffalo wallowing and use of domesticated animals	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Medicinal plants	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Is a recreational site	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Tourism (proposed to develop boating)
Buffering communities from extreme events as floods and storms	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Acts as a large reservoir for runoff water protecting the surrounding from possible floods
Groundwater recharge	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Water purification	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Acts as a sink for sediments	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Provides de-silting, settling of silt from rainwater runoff
Has significant cultural and religious values	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Ganesh visarjan done by around 300 families
Is a site for recreation and tourism	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Proposal to construct boating activities
Supports noteworthy plants species	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<i>Nymphaea</i> sp. (Water lily)
Supports noteworthy animal species	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<i>Dendrocygna javanica</i> , <i>Phalacrocorax fuscicollis</i>
Site of high congregation of migratory water birds	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Migratory birds visit in December
Supports life cycle of fish or amphibians	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Helps complete life cycle of fishes
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 type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Not assessed	
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	Ganesh visarjan
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 type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Not assessed	Earlier local people use to do agriculture but now it is not done due to saline intrusion
Bathing or wallowing of domestic animals	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Not assessed	
Plying of boats	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Not assessed	Proposal to start boating
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 checked="" type="checkbox"/> Medium <input type="checkbox"/> Low	<input checked="" type="checkbox"/> Present <input type="checkbox"/> Potential	Sluice gate broken thereby changing normal flow of water
Pollution	<input checked="" type="checkbox"/> High <input type="checkbox"/> Medium <input type="checkbox"/> Low	<input checked="" type="checkbox"/> Present <input type="checkbox"/> Potential	From Zuari plateau, sewage discharged into waterbody
Unsustainable harvest of biological resources	<input type="checkbox"/> High <input type="checkbox"/> Medium <input checked="" type="checkbox"/> Low	<input type="checkbox"/> Present <input type="checkbox"/> Potential	
Mining	<input type="checkbox"/> High <input type="checkbox"/> Medium <input checked="" type="checkbox"/> Low	<input type="checkbox"/> Present <input 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	Silt washes down from high lying areas, proposed to desilt
Encroachment	<input type="checkbox"/> High <input type="checkbox"/> Medium <input checked="" type="checkbox"/> Low	<input type="checkbox"/> Present <input type="checkbox"/> Potential	
Spread of invasive species	<input type="checkbox"/> High <input type="checkbox"/> Medium <input checked="" type="checkbox"/> Low	<input type="checkbox"/> Present <input 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	Medium	WRD	Allow natural flow of water
Harvesting of resources (living / non-living)	Regulated	<input checked="" type="checkbox"/> Wetland <input type="checkbox"/> Zone of influence	Low	Fishery department/ farmers	Statutory approval required
Grazing	Prohibited	<input checked="" type="checkbox"/> Wetland <input checked="" type="checkbox"/> Zone of influence		Agriculture	
Discharge of treated sewage/ effluent / wastewater	Prohibited	<input checked="" type="checkbox"/> Wetland <input checked="" type="checkbox"/> Zone of influence		Panchayat	Statutory national and state legislation applicable

Construction of boat jetties, and facilities for temporary use ,as pontoon bridges	Regulated	✓Wetland <input type="checkbox"/> Zone of influence	Medium	Tourism	For boating only
Aquaculture, agriculture and horticulture activities within the wetland boundaries.	Regulated	✓Wetland <input type="checkbox"/> Zone of influence	High	Fishery department/ local bodies	Aquaculture
Any other, please list 1. Disposal of solid waste/untreated sewage	Prohibited	✓Wetland ✓Zone of influence		Panchayat	Wastewater discharge should be stopped
2. Construction activities	Prohibited	✓Wetland ✓Zone of influence		Panchayat/ PDA	Statutory national and state legislation applicable
3. Extraction of soil, mud, rocks for commercial purpose	Regulated	✓Wetland ✓Zone of influence	Medium	Panchayat/ Local bodies	Statutory 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	Only for fields
Traditional fishery	✓	✓Wetland <input type="checkbox"/> Zone of influence	Only for hook line fishing
Traditional Religious activities	✓	✓Wetland ✓Zone of influence	Visarjan
Tourism	✓	✓Wetland <input type="checkbox"/> Zone of influence	Boating

### Section 9: Listing of Available Scientific Resources Used

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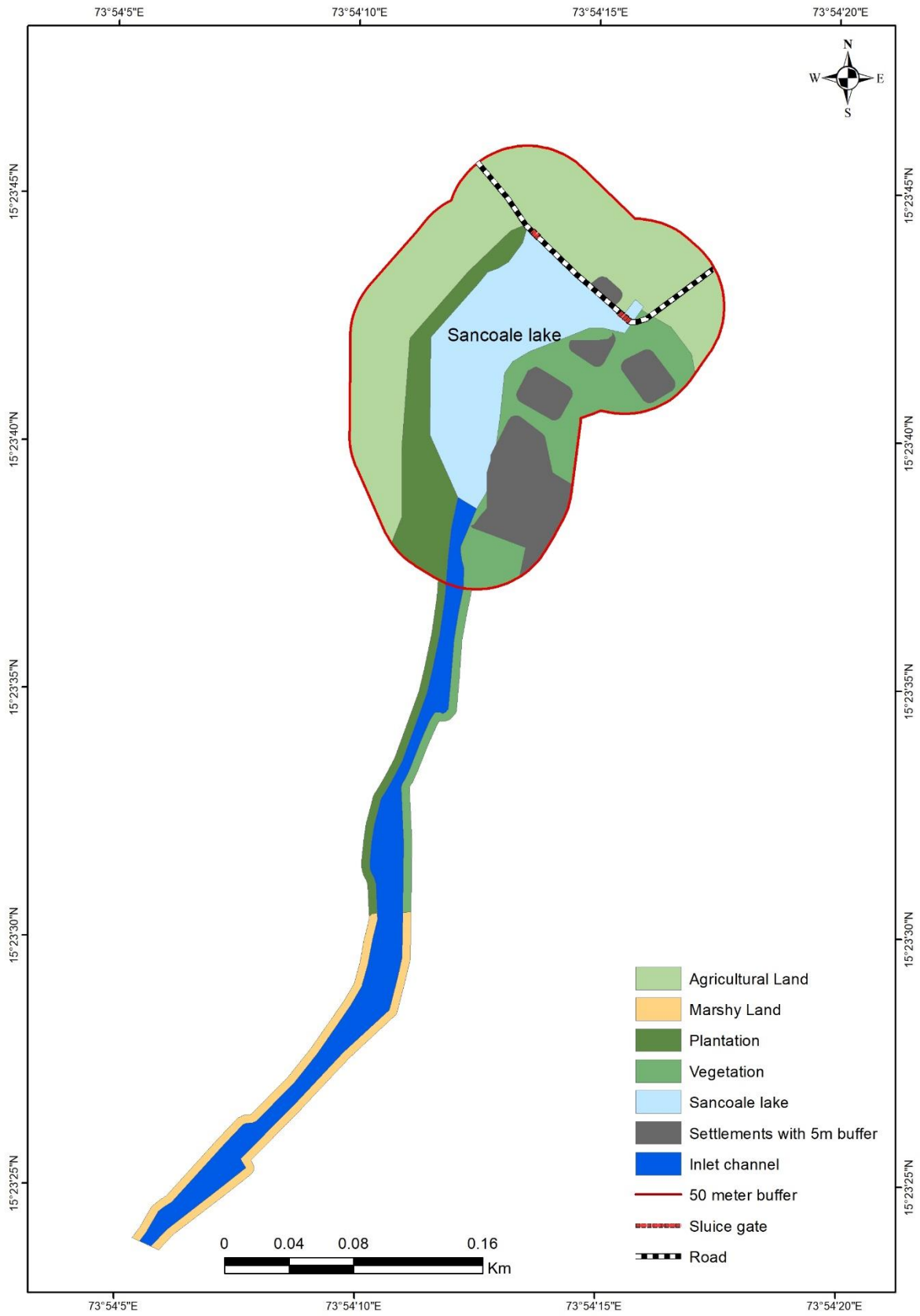


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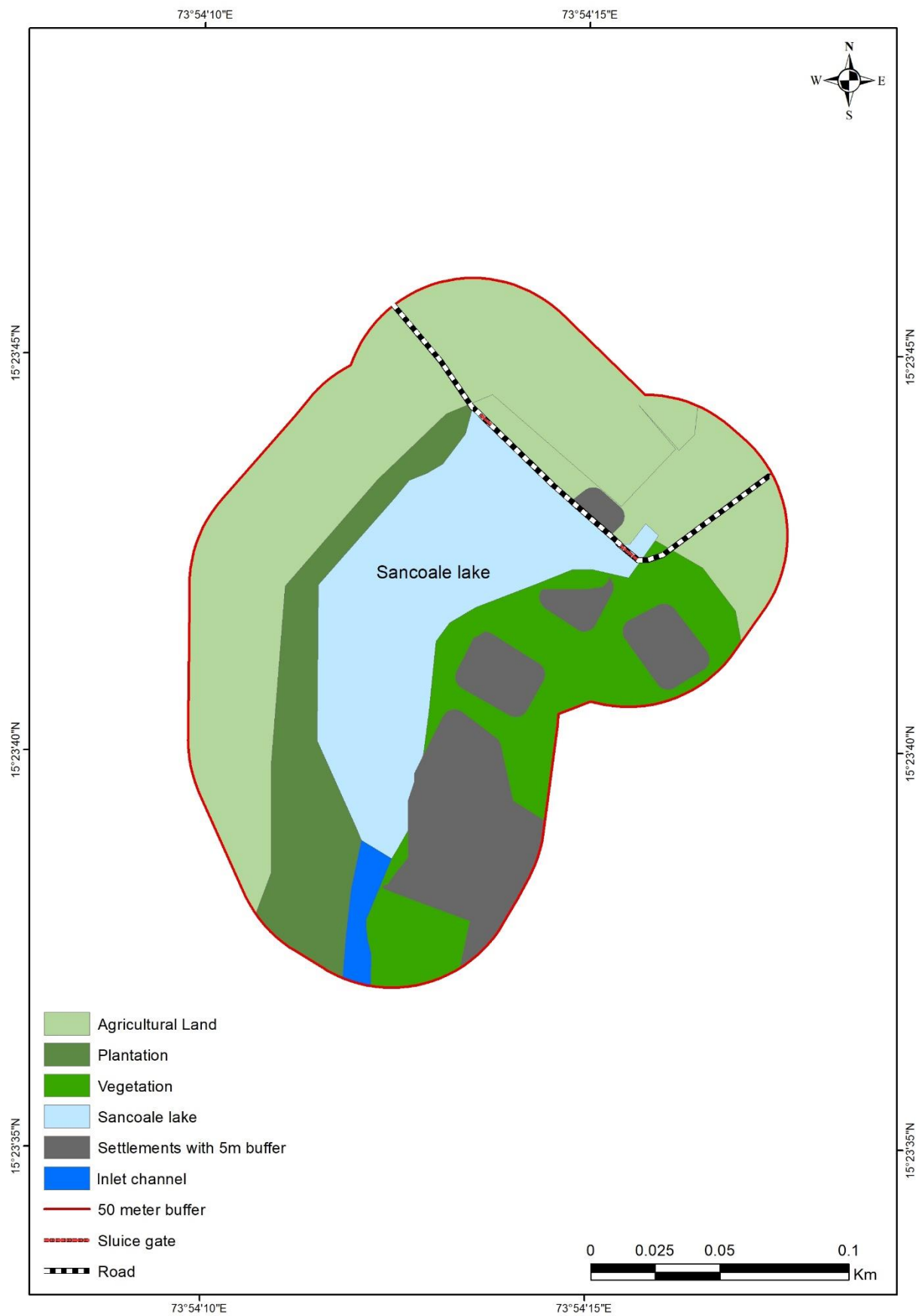
Table-I: Area table of Sancoale Lake

<b>Sancoale lake</b>					
<b>Sl.No:</b>	<b>LULC</b>	<b>50 meter Buffer</b>		<b>Influence Zone 50 meter Buffer</b>	
		<b>Area(Hec)</b>	<b>Percentage Area</b>	<b>Area(Hec)</b>	<b>Percentage Area</b>
1	Vegetation	0.58	14.18	0.69	13.61
2	Agricultural land	1.66	40.59	1.66	32.54
3	Plantation	0.43	10.51	0.54	10.65
4	Inlet channel	0.05	1.22	0.69	13.61
5	Settlement with 5m buffer	0.52	12.71	0.52	10.25
6	Marshy land			0.14	2.76
7	Sancoale waterbody	0.85	20.78	0.85	16.57
	<b>Total Area</b>	<b>4.09</b>	<b>100</b>	<b>5.09</b>	<b>100</b>

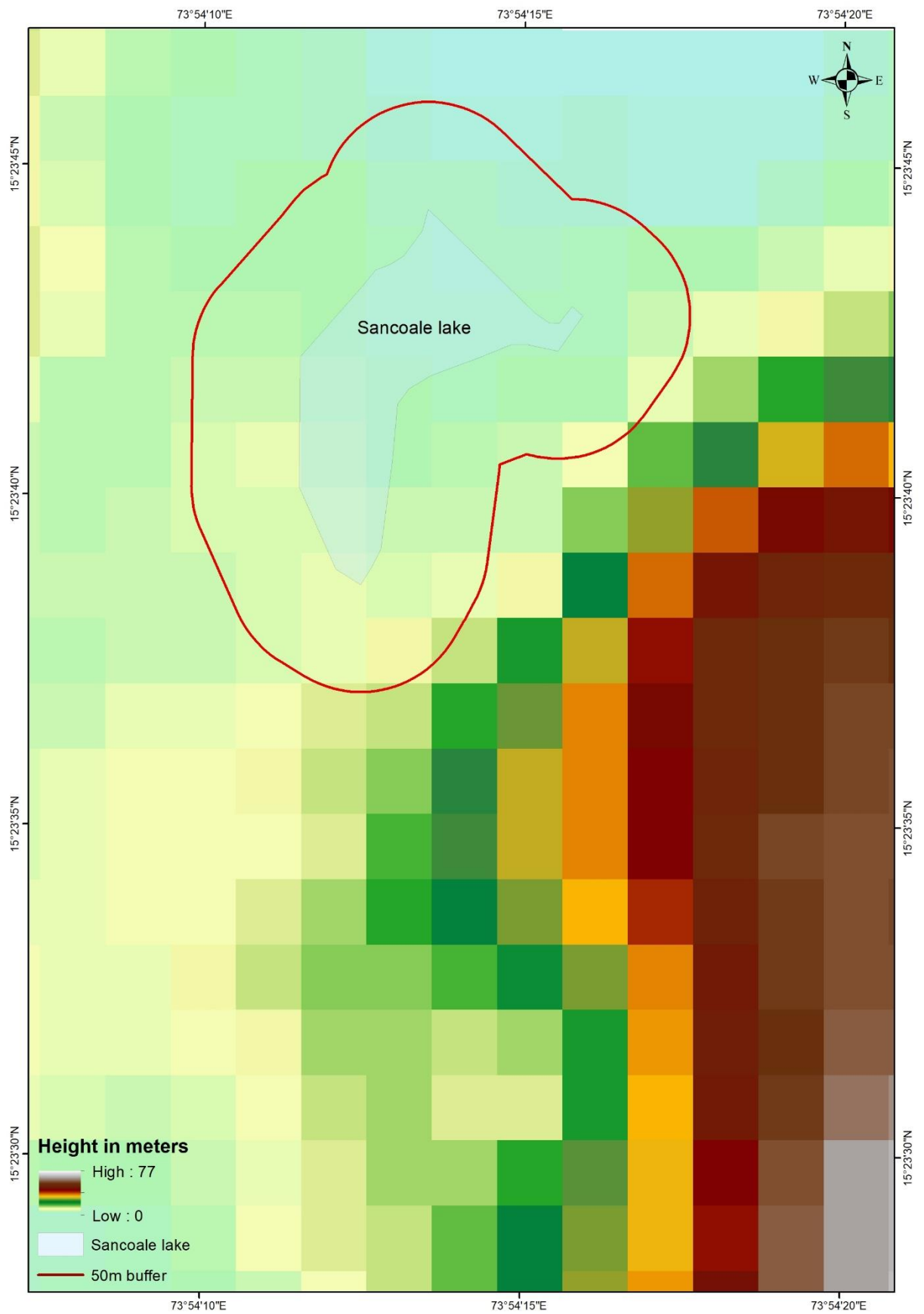
# Annexure-I: LULC of the influence zone of Sancoale Lake



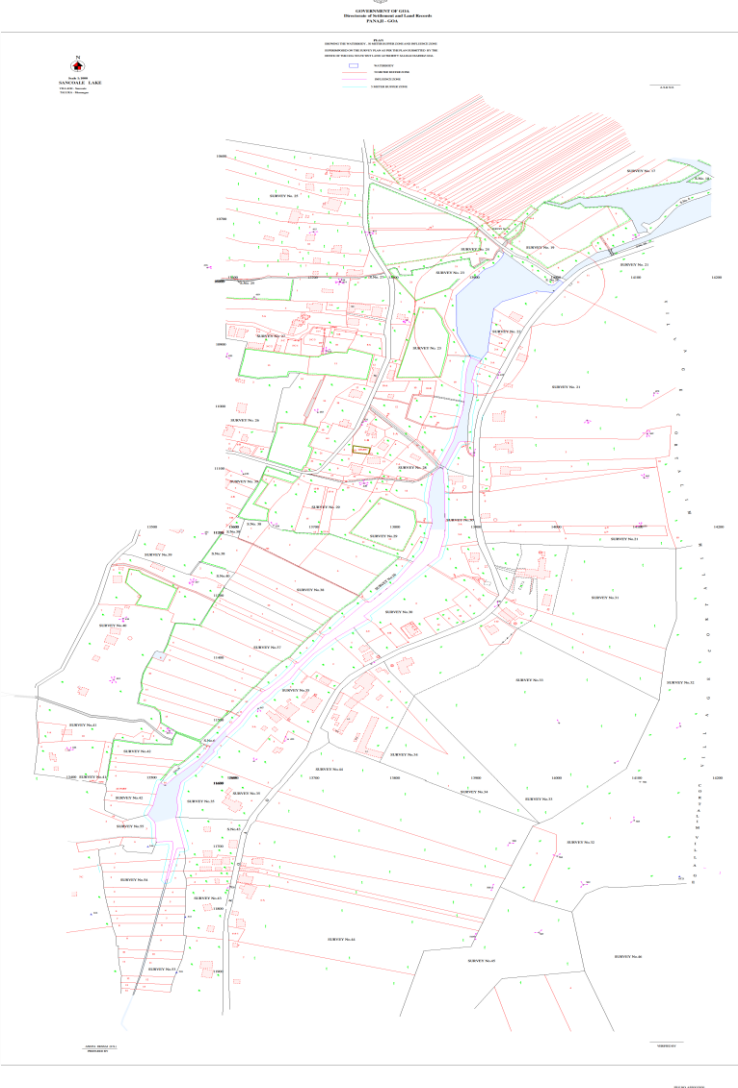
Annexure-II: LULC of 50m buffer of Sancoale Lake



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



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



Annexure-V: Google image of Sancoale Lake



Annexure-VI: Site photographs of Sancoale Lake

