

BRIEF DOCUMENT OF POOKODE LAKE

State / Union Territory : Kerala

Name and address of person(s) compiling this information :

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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) : **Pookode Lake**

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

Villages : Kunnathidavaka
Taluks : Vythiri
Local Boady : Vyithri (GP)

1.3 District(s) in which wetland complex is located: Wayanad

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

: Latitude: From 11°19'20.747" to 11°31'8.536"N
: Longitude: From 75°38'22.347" to 75°48'0.678"E

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

Local Self Governments, Irrigation Department and State Wetland Authority
Kerala, Fisheries Department, Forest Department

Section 2: Site Characteristics

2.1 Area of the wetland (ha) : 5.2 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 floodplain <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) : Average : 6.5 Maximum : **7 m**

2.4 Elevation (m above mean sea level) : 740 to 940m (Including Zone of Influence)

2.5 Water regimes

a) Main source of water (tick all applicable):

- Rainfall Groundwater Catchment runoff Direct / indirect
inflow from river Others, please specify _____

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) Circumneutral (5.5 – 7.4) Alkaline (> 7.4) Not known

e) Water salinity

Fresh (< 0.5 g/l) Brackish (0.5 – 30 g/l) Euhaline (30- 40 g/l)
 Hypersaline (>40g/l) Not known

f) Nutrient in water

Eutrophic Mesotrophic Oligotrophic Not known

2.6 Climatic setting

- a) Annual Rainfall (mm) : 4430
- b) Temperature (°C) : Minimum 7°C , Maximum 35°C
- c) Humidity (%) : 90% (Average)

2.7 Area of zone of influence (in ha) : **81.15ha**

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

Forests : 10.46

Plantation : 07.27

Agriculture : 15.26

Settlements (Rural) and (Urban) : 60.89

Water body : 6.12

Industrial : 0.00

2.9 Map of wetland complex and zone of influence

Section 3: Biodiversity

3.1 Notable plant species present in wetland:

Sidarhombifolia, *Urena lobata*, *Triumfettarhomboidea*, *Mimosa pudica*, *Osbeckiaoctandra*, *Ludwigiaoctovalvis*, *Centella asiatica*, *Hydrocotylejavanica*, *Ophiorrhizamungos*, *Spermacoceocymoides*, *Ageratum conyzoides*, *Blumeamembranacea*, *Dichrocephala integrifolia*, *Elephantopusscaber*, *Erechtites valerianifolia*, *Spilanthesciliata*, *Spilanthes radicans*, *Vernonia cinerea*, *Wedeliatrilobata*, *Rauwolfia serpentina*, *Rauwolfiaverticillata*, *Solanum nigrum*, *Solanum surattense*, *Solanum torvum*, *Linderniaantipoda*, *Mecardonia procumbens*, *Scoparia dulcis*, *Andrographis macrobotrys*, *Strobilanthesheyneanus*, *Lantana camara*, *Stachytarphetajamaicensis*, *Leucas aspera*, *Pogostemonpaniculatus*, *Polygonum chinense*, *Sarcandrachloranthoides*, *Elatostemalineolatum*, *Asparagus racemosus*, *Kyllingamonocephala*, *Paspalum conjugatum*, *Panicum brevifolium*, *Lagenandrameeboldii*, *Phyla nodiflora*

3.2 Notable animal species present in wetland:

Fish: *Channa marulius* (Vathavaral), *Channa micropeltes* (Cherumeen), *Etioplossuratsensis*(Karimeen), *Lates calcarifer* (Kalanchi), Tor khudree (Deccan Mahseer), *Pethiapookodensis*, *Barburthor*, *Arius sp*, *Gobiussp*, *Ophicephalussp* etc. Introduced varieties include *Catlacatla*, *Labiorohita* and the common carp *Cyprinus carpio*. *Heteropneustus fossilis* (Stinging Catfish), *Mastacembelus armatus* (Aaral fish), Wallago species (Pulluvala), *Puntius fasciatus* (Vazhakkavarayan)

Birds: Red Spurfowl (*Galloperdixspadicea*), Nilgiri Wood-Pigeon (*Columba elphinstonii*), Grey-fronted Green-Pigeon (*Treronpompadora*), Emerald Dove (*Chalcophaps indica*), Mountain Imperial-Pigeon (*Duculabadia*), Greater Coucal (*Centropus sinensis*), Indian Swiftlet (*Aerodramus unicolor*), White-breasted Waterhen (*Amaurornisphoenicurus*), Woolly-necked Stork (*Ciconia episcopus*), Oriental Darter (*Anhinga melanogaster*), Little Cormorant (*Microcarboniger*), Indian Cormorant (*Phalacrocorax fuscicollis*), Intermediate Egret (*Ardea intermedia*), Little Egret (*Egrettaagarzetta*), Cattle Egret (*Bubulcus ibis*), Indian Pond-Heron (*Ardeolagracyii*), Black-crowned Night-Heron (*Nycticoraxnycticorax*), Black-winged Kite (*Elanus caeruleus*), Crested Serpent-Eagle (*Spilornischeela*), Black Eagle (*Ictinaetusmalaiensis*), Booted Eagle (*Hieraetuspennatus*), Besra (*Accipiter virgatus*), Brahminy Kite (*Haliasturindus*), Jungle Owlet (*Glaucidium radiatum*), Brown Hawk-Owl (*Ninoxscutulata*), Malabar Trogon (*Harpactes fasciatus*), Malabar Grey Hornbill (*Ocyeros griseus*), Small Blue Kingfisher (*Alcedoatthis*), White-throated Kingfisher (*Halcyon smyrnensis*), Coppermith Barbet (*Psilopogonhaemacephalus*), White-cheeked Barbet (*Psilopogonviridis*), Greater Flameback (*Chrysocolapteslucidus*), Common Flameback (*Dinopiumjavanense*), Black-rumpedFlameback (*Dinopiumbenghalense*), Peregrine Falcon (*Falco peregrinus*), Rose-ringed Parakeet (*Psittaculakrameri*), Malabar Parakeet (*Psittaculacolumboides*), Vernal Hanging-Parrot (*Loriculusvernalis*), Small Minivet (*Pericrocotuscinnamomeus*) Orange Minivet (*Pericrocotusflammeus*), Indian Golden Oriole (*Orioluskundoo*), Ashy Woodswallow (*Artamusfuscus*), Malabar Woodshrike (*Tephrodornisvirgatus*), Common Iora (*Aegithina tiphia*), Bronzed Drongo (*Dicrurus aeneus*), Greater Racket-tailed Drongo (*Dicrurusparadiseus*), Black-naped Monarch (*Hypothymisazurea*), White-bellied Treepie (*Dendrocittaleucogastra*), House

Crow (*Corvus splendens*), Large-billed Crow (*Corvus macrorhynchos*), Cinereous Tit (*Parus cinereus*), Common Tailorbird (*Orthotomussutorius*), Ashy Prinia (*Priniasocialis*), Blyth's Reed Warbler (*Acrocephalus dumetorum*), Grey-headed Bulbul (*Brachypodius priocephalus*) Flame-throated Bulbul (*Pycnonotus melanicterus*), Red-vented Bulbul (*Pycnonotus cafer*), Red-whiskered Bulbul (*Pycnonotus jocosus*), Yellow-browed Bulbul (*Acritillas indica*), Square-tailed Bulbul (*Hypsipetes leucocephalus*), Green Warbler (*Seicercus nitidus*), Greenish Warbler (*Seicercus trochiloides*), Indian White-eye (*Zosterops palpebrosus*), Dark-fronted Babbler (*Rhopocichla atriceps*), Indian Scimitar-Babbler (*Pomatorhinus horsfieldii*), Puff-throated Babbler (*Pellorneum ruficeps*), Velvet-fronted (*Nuthatch Sitta frontalis*), Southern Hill Myna (*Gracula religiosa*), Common Myna (*Acridotheres tristis*), Orange-headed Thrush (*Geokichla citrine*), Asian Brown Flycatcher (*Muscicapadaurica*), Brown-breasted Flycatcher (*Muscicapamuttui*), Oriental Magpie-Robin (*Copsychus saularis*), Indian Blue Robin (*Larvivorabrunnea*), Malabar Whistling-Thrush (*Myophonus horsfieldii*), Rusty-tailed Flycatcher (*Muscicaparuficauda*), Nilgiri Flowerpecker (*Dicaeum concolor*), Crimson-backed Sunbird (*Leptocoma minima*), Loten's Sunbird (*Cinnyris lotenius*), Asian Fairy-bluebird (*Irena puella*), Jerdon's Leafbird (*Chloropsis jerdoni*), Golden-fronted Leafbird (*Chloropsis aurifrons*), House Sparrow (*Passer domesticus*), Grey Wagtail (*Motacilla cinerea*), White-browed Wagtail (*Motacilla maderaspatensis*), White-rumped Munia (*Lonchura striata*).

Amphibians: *Duttaphrynus melanostictus*, *Duttaphrynus parietalis*, *Pedostibes tuberculosus*, *Minervarya brevipalmata*, *Minervarya rufescens*, *Minervarya sauriceps*, *Euphlyctis cyanophlyctis*, *Indosylvirana indica*, *Indosylvirana intermedius*, *Uperodon triangularis*, *Indiranabeddomii*, *Indiranaparamakri*, *Nyctibatrachus minimus*, *Clinotarsus curtipes*, *Polypedates maculatus*, *Polypedates occidentalis*, *Raorchestes akroparallagi*, *Raorchestes anili*, *Raorchestes ochlandrae*, *Raorchestes nerostagona*, *Raorchestes ponmudi*, *Pseudophilautus wynaadensis*, *Rhacophorus malabaricus*, *Rhacophorus lateralis*, *Ichthyophis bombayensis*.

Butterflies: Southern Birdwing (*Troides minos*), Malabar Rose (*Pachliopta pandiyana*), Common Rose (*Pachliopta aristolochiae*), Common Bluebottle (*Graphium sarpedon*), Common Jay (*Graphium doson*), Tailed Jay (*Graphium agamemnon*), Red Helen (*Papilio helenus*), Common Mormon (*Papilio polytes*), Blue Mormon (*Papilio polymnestor*), Malabar banded Peacock (*Papilio Buddha*), Paris Peacock (*Papilio paris*), Common Emigrant (*Catopsilia pomona*), Mottled Emigrant (*Catopsilia pyranthe*), Common Grass Yellow (*Eurema hecabe*), Three-spot Grass Yellow (*Eurema blanda*), Painted Sawtooth (*Prionerissa*), Psyche (*Leptosia nina*), Common Albatross (*Appias albina*), Chocolate Albatross (*Appias lycida*), Great Orange-Tip (*Hebomoia glaucippe*), Common wanderer (*Pareronia hippia*), Common Evening Brown (*Melanitis leda*), Great Evening Brown (*Melanitis zitenius*), Common Palmfly (*Elymnias hypermnestra*), Bamboo Treebrown (*Lethe Europa*), Common Treebrown (*Lethe rohria*), White-bar Bushbrown (*Mycalesis anaxias*), Common Bushbrown (*Mycalesis perseus*), Medus Brown (*Orsotriaena medus*), Common Five-ring (*Ypthima baldus*), Common Four-ring (*Ypthima huebneri*), Common Nawab (*Charaxes athamas*), Cruiser (*Vindula erota*), Rustic (*Cuphaerymanthis*), Common Leopard (*Phalantophalanthia*), Tamil Yeoman (*Cirrochroa thais*), Common Sailer (*Neptis hylas*), Common Map (*Cyrestis thyodamas*), Common Castor (*Ariadne merione*), Lemon Pansy (*Junonia lemonias*), Peacock Pansy (*Junonia almana*), Grey Pansy (*Junonia atlites*), Chocolate Pansy (*Junonia iphita*), Danaid Eggfly (*Hypolimnasia sippus*), Great Eggfly (*Hypolimnasia bolina*), Blue Tiger (*Tirumala limniace*), Dark Blue Tiger (*Tirumala septentrionis*), Glassy Tiger (*Parantica aglea*), Striped Tiger (*Danaus genutia*), Indian Common

Crow (*Euploea core*), Malabar Tree-Nymph (*Idea malabarica*), Common Pierrot (*Castaliusrosimon*), Angled Pierrot (*Caleta decidia*), Zebra Blue (*Leptotesplinius*), Hampson's Hedge Blue (*Acytolepis lilacea*), Plain Hedge Blue (*Celastrinalavendularis*), Common Quaker (*Neopithecopszalmora*), Malayan (*Megisbamalaya*), Pea Blue (*Lampidesboeticus*), Common Cerulean (*Jamidesceleno*), Tailless Lineblue (*Prosotasdubiosa*), Tiny Grass Blue (*Zizulahlax*), Red Pierrot (*Talicedanyseus*), Common Imperial (*Cheritrafreja*), Indian Awlking (*Choaspebenjaminii*), Common Dartlet (*Oriensgola*), Common Small Flat (*Sarangesadasahara*), Common Spotted Flat (*Celaenorrhinusleucocera*), Chestnut Angle (*Odontoptilum angulate*), Chestnut Bob (*Lambrixsalsala*), Bush Hopper (*Ampittiadioscorides*), Sahyadri Orange Ace (*Thoressahonorei*), Common Banded Demon (*Notocryptaparalysos*), Hampson's Hedge Hopper (*Baracushampsoni*), Pale Palm-Dart (*Telicota colon*), Dark Palm-Dart (*Telicotabambusae*), Rice Swift (*Borbocinnara*)

Odonates: *Anax guttatus*, *Anax immaculifrons*, *Gynacantha bayadera*, *Gynacantha dravida*, *Hemicordulia asiatica*, *Heliogomphus promelas*, *Ictinogomphus rapax*, *Merogomphus tamaracherriensis*, *Macrogomphus wynaadicus*, *Paragomphus lineatus*, *Acisoma panorpoides*, *Aethriamanta brevipennis*, *Brachydiplax chalybea*, *Brachydiplax sobrina*, *Brachythemis contaminata*, *Bradinopyga geminata*, *Cratilla lineata*, *Crocothemis servilia*, *Diplacodes trivialis*, *Hydrobasileus croceus*, *Hylaeothemis indica*, *Neurothemis tullia*, *Orthetrum chrysis*, *Orthetrum glaucum*, *Orthetrum luzonicum*, *Orthetrum pruinosum*, *Orthetrum sabina*, *Pantala flavescens*, *Rhodothemis rufa*, *Rhyothemis triangularis*, *Rhyothemis variegata*, *Tramea limbata*, *Trithemis aurora*, *Trithemis festiva*, *Trithemis pallidinervis*, *Urothemis signata*, *Epopthalmia vittata*, *Macromia cingulata*, *Vestalis gracilis*, *Aciagrion occidentale*, *Agriocnemis keralensis*, *Caconeura gomphoides*, *Chlorogomphus campioni*, *Epithemis mariae*, *Euphaea dispar*, *Idionyx rhinoceroideis*, *Idionyx saffronata*, *Idionyx travancorensis*, *Macromia ida*, *Macromia irata*, *Melanoneura bilineata*

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

Uperodon triangularis, *Rhacophorus lateralis* (VU), *Pedostibes tuberculosus*, *Raorchestes nerostagona*, *Pseudophilautus wynaadensis*(EN), *Pethia pookodensis*(CR), *Anhinga melanogaster*, *Ciconia episcopus*, *Duttaphrynus parietalis*, *Clinotarsus curtipes*, *Melanoneura bilineata*(NT), *Macrogomphus wynaadicus*, *Agriocnemis keralensis*, *Caconeura gomphoides*, *Chlorogomphus campioni*, *Epithemis mariae*, *Euphaea dispar*, *Idionyx rhinoceroideis*, *Idionyx saffronata*, *Idionyx travancorensis*, *Macromia ida*, *Macromia irata*, *Troides minos*, *Pachliopta pandiyana*, *Pachliopta aristolochiae* (**Endemic to Western Ghats**)

3.4 Major plant invasive alien species:

Cabomba Caroliniana, *Lantana camara*

3.5 Major animal invasive alien species:

No data available..

Section 4: Ecosystem services

Importance	Relevant for the site (please tick yes or no)	If Yes, Details (up to 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	Fishery hatchery units, Aqua park and aquarium is present in the wetland under the State Fisheries Department. (Example Deccan mahaseer, kari, pulluvala...etc)
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 checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<i>Leucas aspera, Ludwigia octovalvis, Osbeckia octandra, Mimosa pudica, Urena lobata, Triumfetta rhomboidea, Sidar hambifolia, Ageratum conyzoides, Asparagus racemosus, Blumea membranacea, Rauwolfia serpentina, Dichrocephala integrifolia, Ophiorrhiza mungos, Rauwolfia verticillata</i> are seen in the wetland area
Is a recreational site/tourism	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	One of the best tourist hotspots in Wayanad district. A total of 25 pedal boats and 9 row boats & Kayaking – 9 are present in the lake, boating facilities, a children’s park, a handicrafts and spices emporium, Indigenous Fish seed production unit Fish Spa, SAF Unit and a freshwater aquarium including Cafeteria are among the tourist attractions here. A beautiful walkway around the lake is another unique attraction here. There

Importance	Relevant for the site (please tick yes or no)	If Yes, Details (up to 50 words for each category)
		are 30 numbers of cycles for cycling activities.
Buffering communities from extreme events as floods and storms	<input type="checkbox"/> Yes <input type="checkbox"/> No	Not assessed quantitatively
Groundwater recharge	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Not assessed quantitatively
Water purification	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Not assessed quantitatively
Acts as a sink for sediments	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Not assessed quantitatively
Has significant cultural and religious values	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	-
Supports noteworthy plants species	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Supports noteworthy plant species as mentioned in section 3.1
Supports noteworthy animal species	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Supports noteworthy animal species as mentioned in section 3.2
Site of high congregation of migratory water birds	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	The wetland area is a site noted for high congregation of migratory birds as per the reports of Kerala State Biodiversity Board.
Supports life cycle of fish or amphibians	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Not assessed quantitatively
Mining	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	-
Any other, please list		

Section 5: Pre-Existing Rights and Privileges

Nature of rights and privileges	Relevant for the site (please tick yes or no)	Does this negatively impact the wetland's ecological health?	Brief description (up to 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 type="checkbox"/> No <input type="checkbox"/> Not assessed	-

Nature of rights and privileges	Relevant for the site (please tick yes or no)	Does this negatively impact the wetland's ecological health?	Brief description (up to 50 words for each category)
Fishing under lease from government department	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input 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 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 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 type="checkbox"/> No <input type="checkbox"/> Not assessed	-
Grazing	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not assessed	-
Religious practices	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not assessed	-
Withdrawal of water for domestic use	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not assessed	-
Withdrawal of water for aquaculture	<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 for aquaculture by the State Fisheries Department
Bathing or wallowing of domestic animals	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not assessed	-
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	Pedal boats and Kayaks are operated here by the Wayanad District Tourism promotion council.
Sustainable tourism activities	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Not assessed	<ul style="list-style-type: none"> • Cycling • Natural walk • Bird watching • Butter fly & Anisoptera watching

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 checked="" type="checkbox"/> Present <input type="checkbox"/> Potential	The outflow from the lake has been regulated for the past few decades to maintain the water level for boating to promote tourism.
Pollution	<input type="checkbox"/> High <input type="checkbox"/> Medium <input checked="" type="checkbox"/> Low	<input checked="" type="checkbox"/> Present <input type="checkbox"/> Potential	Solid waste dumping was reported in the surrounding areas of the lake.
Unsustainable harvest of biological resources	<input type="checkbox"/> High <input type="checkbox"/> Medium <input type="checkbox"/> Low	<input type="checkbox"/> Present <input type="checkbox"/> Potential	-
Mining	<input type="checkbox"/> High <input type="checkbox"/> Medium <input type="checkbox"/> Low	<input type="checkbox"/> Present <input type="checkbox"/> Potential	-
Siltation	<input type="checkbox"/> High <input checked="" type="checkbox"/> Medium <input type="checkbox"/> Low	<input checked="" type="checkbox"/> Present <input type="checkbox"/> Potential	<p>During the rainy season the soil from the adjoining farmland and other areas are getting washed off and deposited in the lake. Continuous siltation will reduce the depth of the lake and further water holding capacity.</p> <p>Various construction works and cleaning of lake are in progress. It was observed that the sides surrounding the lake are damaged during the silt removal phase and the vegetations were removed. This will</p>

Threat	Degree	Present or Potential	Additional information, if any
			further enhance the erosion of sides of the lake. The drains approaching the lake are damaged in several places.
Encroachment	<input type="checkbox"/> High <input type="checkbox"/> Medium <input 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 checked="" type="checkbox"/> Present <input type="checkbox"/> Potential	The spread of <i>Cabombacaroliniana</i> and <i>Lantana camara</i> in the shallow portions of the lake is reported
Other threats identified	<input type="checkbox"/> High <input type="checkbox"/> Medium <input checked="" type="checkbox"/> Low	<input checked="" type="checkbox"/> Present <input type="checkbox"/> Potential	<ul style="list-style-type: none"> • Biodiversity loss due to unscientific constructions and tourism activities. • There was a considerable reduction in the number of <i>Indirana</i> frogs, butterflies, documented at Pookode during transect survey, though there were considerably good numbers sighted from the forests nearby. The change in diversity and abundance at Pookode may be because of the paving of interlock tiles in

Threat	Degree	Present or Potential	Additional information, if any
			the trek path around the Lake.

Section 7: Activities Proposed to be prohibited (other than those listed in Rule 4(2) of Wetlands Rules)

Activity	Prohibited within wetlands or zone of influence	Details of specific area wherein activity is prohibited	Name of department / agency responsible for regulation	Additional information, if any
Introduction of exotic invasive species	<input checked="" type="checkbox"/> Wetland / Wetlands complex boundary <input checked="" type="checkbox"/> Zone of influence	This activity to be prohibited within the wetland and the zone of influence	Wetland Management Unit, SWAK, LSG, Fisheries Department, KSBB	This prohibition is much needed to arrest the introduction of any more exotic species which will adversely affect the wetland ecosystem of the lake
Aquaculture/agriculture	<input checked="" type="checkbox"/> Wetland/ Wetland complex boundary <input type="checkbox"/> Zone of influence	Within the wetland boundary	Wetland Management Unit, SWAK, LSG, Fisheries, Agriculture Department	As this will adversely affect the wetland ecosystem of this small lake
Motor boating	<input checked="" type="checkbox"/> Wetland/ Wetland complex boundary <input type="checkbox"/> Zone of influence	This activity is prohibited within the wetland boundary only	Wetland Management Unit, SWAK, LSG, PCB	As this will adversely affect the wetland ecosystem of this small lake including the risk of Oil and other chemicals used in motor Boat.
Further construction inside the	<input checked="" type="checkbox"/> Wetland/ Wetland	This activity is prohibited within the	Wetland Management	

Activity	Prohibited within wetlands or zone of influence	Details of specific area wherein activity is prohibited	Name of department / agency responsible for regulation	Additional information, if any
wetland including the boat jetties, except the renovation of existing facilities without increasing the area.	complex boundary <input type="checkbox"/> Zone of influence	wetland boundary only	Unit, SWAK, LSG, PCB	
Any other, please list				

Section 8: Activities Proposed to be regulated

Activity	Place a tick mark if relevant	Regulation within wetland or zone of influence	Level of regulation (in terms of people, restricted area or any other)	Name of department / agency responsible for regulation	Additional information, if any
Withdrawal of water / impoundment/diversion or any other hydrological intervention	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> Wetland / Wetlands complex boundary <input checked="" type="checkbox"/> Zone of influence	Applicable to the entire wetland and its zone of influence	Wetland Management Unit, SWAK, LSG, Irrigation Department	Prior permission is required from the Wetland Management Unit/ SWAK
Discharge of treated sewage/ effluent / wastewater	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> Wetland / Wetlands complex boundary <input checked="" type="checkbox"/> Zone of influence	Applicable within the wetland boundary only	Wetland Management Unit, SWAK, LSG, PCB	Prior permission is needed from the Wetland Management Unit/ SWAK
Silt removal/ sand mining	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> Wetland / Wetlands complex boundary <input type="checkbox"/> Zone of influence	Applicable within the wetland boundary only	Wetland Management Unit, SWAK, LSG, Soil Conservation Department,	Prior permission is needed from the Wetland Management Unit/ SWAK

Activity	Place a tick mark if relevant	Regulation within wetland or zone of influence	Level of regulation (in terms of people, restricted area or any other)	Name of department / agency responsible for regulation	Additional information, if any
				Revenue Department	
Any other, please list	<input type="checkbox"/>	<input type="checkbox"/> Wetland / Wetlands complex boundary <input type="checkbox"/> Zone of influence			

Section 9: Activities Proposed to be permitted

Activity	Place a tick mark if relevant	Within wetlands or zone of influence	Additional information, if any
Maintenance of existing building, tourism products will be needed for the smooth functioning of tourism activities.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> Wetland /Wetlands complex boundary <input type="checkbox"/> Zone of influence	
Sustainable Tourism activities like; <ul style="list-style-type: none"> ● Natural walk ● Bird watching ● Butter fly & Anisoptera watching 	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> Wetland / Wetlands complex boundary <input checked="" type="checkbox"/> Zone of influence	

Section 10: Listing of Available Scientific Resources Used

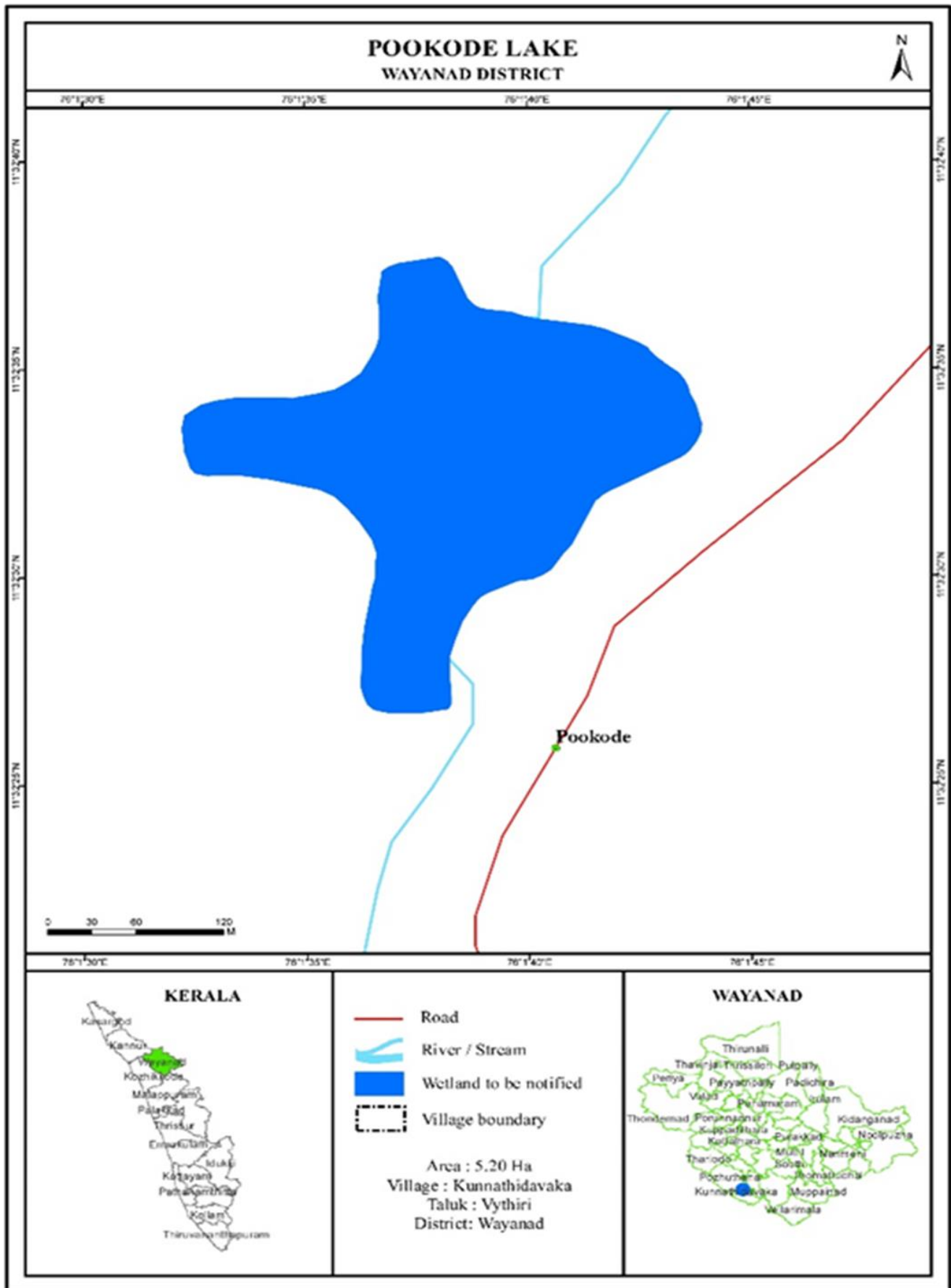
1. CED, 2003. Survey and Inventory of wetlands of kerala for conservation and sustainable management of resources in freshwater lake ecosystem. Centre for Environment and Development Trivandrum
2. CWRDM, 2016. Detailed project report of Pookode Lake. Centre for Water Resources Development and Management, Kozhikode

3. Jayaprakash, S. B., & Nagarajan, N, 2017. Studies on mycorrhizal biodiversity in medicinal plant species of Pookode Lake area, Wayanad, India. Annals of Plant Sciences, 1835-1844.
4. Kerala State Biodiversity Board, 2020. A Concise Report on Biodiversity Loss Due to 2018 Flood in Kerala, Editors Dr. S.C. Joshi IFS (Rtd.) Dr. V. Balakrishnan Dr. N. Preetha (Impact assessment conducted by Kerala State Biodiversity Board).
5. Kerala State Biodiversity Board, 2019. Post - Flood Impact Assessment on Biodiversity Selected Faunal Groups, Final report submitted to Kerala State Biodiversity Board.
6. Rale, M. S. V., Anoop, K., & Prakash Kumar, R. A. R, 2012. A Proper analysis of the wetlands of Wayanad District Kerala, South India. The Journal of Economic and Taxonomic Botany, 36(2).

CHECKLIST

- Responsible agency has been clearly identified and details of contact person included
- Wetland/ wetlands complex boundary has been delineated using GIS and firmed up by adequate ground truthing
- Wetland/ wetlands complex map has been provided at required scale
- Zone of influence has been delineated and included in wetland map or a separate map
- Wetland zone of influence is sufficient to manage all activities
- Site's importance have been listed, and for major categories, justification is provided
- Site's biodiversity values are listed, and for major categories, justification is provided
- List of pre-existing rights and privileges is provided
- Consistency or inconsistency of pre-existing rights and privileges is indicated to be best of available knowledge
- Threats to site are listed, and for major categories details are provided
- Activities prohibited, beyond those already listed in Rule 4(2) have been mentioned
- List of activities to be regulated within wetlands and zone of influence is provided
- List of activities to be permitted is provided

Annexure I :



Annexure II :

