

Director/Jt. Secretary (ENV)

Inward No: 2126

Date: 09/12/2019



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GOA STATE WETLAND AUTHORITY

C/o Goa State Biodiversity Board

Department of Environment

Opp. Saligao Seminary, Saligao, Bardez, Goa – 403511

E-mail:-goanbiodiversity@gmail.com

Phone No-(0832)2407032 Fax-2407033

No. GSWA/2019-20/DOE/010/066

Dated: 06.12.2019

09

To:
✓ The Director,
Department of Environment,
Saligao, Bardez- Goa

Sub: Hon'ble NGT order dated 10.5.2019 in M.A. No. 26/2019 in O. A. No. 325/2015 in the matter of Lt. Col. Sarvadaman Singh Oberoi Vs UOI & Ors....reg

Ref: Email dated:18/11/2019

Sir,

With reference to the above subject, kindly be informed that Goa State Biodiversity Board (GSBB) is the 'Nodal Agency' for Goa State Wetland Authority to carry out the work of identification and notification of the wetlands in the State of Goa.

Brief report is as below:

1. As per National Wetland Atlas: Goa: 2009 (SAC/RESA/AFEG/NWIA/ATLAS/01/2009) prepared by Space Application Centre (ISRO) Ahmadabad and sponsored by MoEF, GOI as a part of National Wetland Inventory and Assessment (NWIA) delineated 550 wetlands in Goa with the total wetland area estimated as 21,337 ha out of the total geographic area of 3702 sq km. This needs to be verified and thoroughly documented as per Wetlands (Conservation and Management) Rules, 2017.
2. The task of identification and notification of wetlands is entrusted to National Institute of Oceanography (NIO), Dona Paula.
3. The task involves identification of wetlands, verification of data, preparation of Brief Document, preparing action plan for restoration/ management of wetlands, etc.

4. NIO has already commenced the work. Ground truthing and sampling of 35 waterbodies identified by GSWA and considered as priority area having potential for protection and conservation have been initiated.
5. Prior to the appointment of NIO, Director, Department of Environment requested GSBB to prepare brief document on Bondvol Lake, Santa Cruz. Accordingly, Goa State Biodiversity Board submitted the Brief Document to Goa State Wetland Authority. During the 06th meeting of GSWA held on 23rd October 2019 it was resolved that Bondvol Lake be declared as wetland.
6. Bondvol Lake is also selected as one amongst 130 wetlands in the country as a part of transformative ideas within the 100 days programme of the Government of India.
7. Action plan prepared for restoration of water bodies in the State of Goa is attached for your kind information.

Thanking you



Yours faithfully,

Dr. Pradip V. Sarmokadam
Member Secretary, GSBB

- Copy to: (1) The Chief Secretary, Secretariat, Porvorim, Bardez- Goa.
(2) The Secretary (Env.), Secretariat, Porvorim, Bardez- Goa.
(3) The Member Secretary, Goa State Pollution Control Board, Saligao, Goa

Action Plan for Restoration of Waterbodies in the State of Goa

Based on the presentation given by CSIR - National Institute of Oceanography Dona Paula, Goa, below given is the strategy and action plan for the conservation and management of wetlands which include restoration plan also. The detailed work plan with budgetary estimates will be prepared only after completion of first phase of identification and brief document preparation of wetlands.

After notification of each wetland, its management and restoration plan could be prepared as given below.

Basic Outline of Plan.

1. Identification, brief document preparation, ground truthing and notification of wetlands after stakeholders' consultations. (One Year)
2. Preparation of management and conservation plan including setting up of committees and local management framework. (one month)
3. Wetland specific restoration plan, budgetary provisions, approvals, selection of agencies in transparent way and execution of plan for each wetland identified and notified. (two years total period for each wetland)

Wetland Conservation and Management Plan:

- Based on the initial survey, consultation and scope given in part-I above, one important wetland will be selected for formulating a model 'Conservation and Management Plan'.
- Detailed baseline data will be collected for **one selected wetland** which is to be notified for conservation. The data shall include

baseline on the physical, physico-chemical, biological and social aspects, including ecological health indicators of the wetland.

- A comprehensive conservation and **management plan for one selected wetland** will be prepared and an action plan will be delineated. This shall also include permissible and **restricted** activities for ecological sustenance and efficient ecosystem **function** of the wetland.
- The plan will have strategies for **conservation and wise use** of wetlands within their jurisdiction; **wise** use being a principle for **managing** these ecosystems which **incorporates** sustainable uses (such as capture fisheries at subsistence level or harvest of aquatic plants) as being compatible with **conservation**, if ecosystem functions (such as water storage, groundwater **recharge**, flood buffering) and values (such as recreation and **cultural**) are maintained or enhanced;
- The plan shall include restoration **activities** and habitat enhancement strategies; if required.
- In cases wherein lands within **boundary** of notified wetlands or wetlands complex have private tenancy rights, recommend mechanisms for maintenance of **ecological** character through promotional activities;
- Identify mechanisms for convergence **of implementation** of the management plan with the existing **State/Union Territory** level development plans and programmes;

**Stage
-I**

- Removal of Weeds, debris and rubbish
- De-Silting, Lake deepening & Excavation
- Surrounding Earth/civil Work

**Stage
-II**

- Embankment construction
- Pitching & Gabion etc.
- Sewage Treatment

**Stage
-III**

- Treatment for pH, nutrients and weed eradication
- Bio-restoration
- Chat Construction, Paving, Benches, Machans and SWM

**Stage
-IV**

- Plantation and Gardening
- Walkways, Lighting and recreational facilities
- SD Enhancement Measures & Lake Beautification

Bio-restoration methods

Preventive methods:

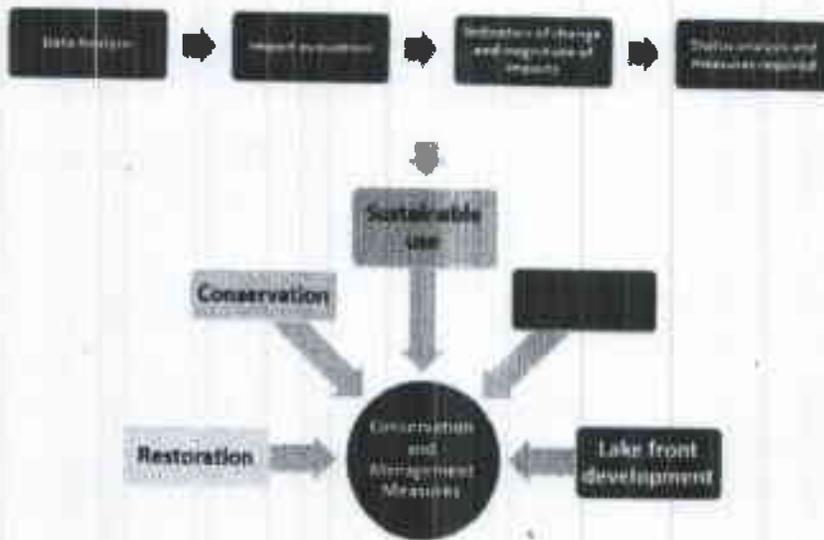
- Drainage basin alterations
- Waste prevention/ STP/SW Management
- Legal Implementations

Direct methods:

- Mechanical biomass harvest
- Phosphate flocculation/ precipitation
- Aeration
- Hydrophyte plantation
- Restoration of native fish species
- Algaecide/herbicide treatment



Lake Conservation and Management Measures



Wetland Conservation and Management Plan

- Baseline data of the wetland (Physico-chemical, Biological, pollution)
- Activities required as per the baseline status
- Restoration activities, conservation activities and remediation
- Lake front development activities and other sustainable socio-economic activities
- Budget and action plan

Schedule:

Inventorization of Wetlands of Goa:

Schedule	Months												
	1	2	3	4	5	6	7	8	9	10	11	12	
Field Survey													
Map preparation, documentation and analysis													
Web Portal													
Final Report Writing & Submission													

Wetland Conservation and Management Plan:

Schedule	Weeks					
	1-4	4-8	8-12	12-16	16-20	20-24
Field Sampling and Survey						
Sample analysis, mapping and interpretation						
Data analysis, database management, strategies and conservation						
Final Report Writing & Submission						