

Inception note on the project

# “Our Wetland - Our Future”

## A Conservation programme for Bolgoda Wetland Complex

Implemented by

Sri Lanka Water Partnership (SLWP)

in collaboration with

Chamber of Commerce and Sampath Bank Plc.

2016 (Revised)



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# **“Our Wetland - Our future”**

## **A Conservation programme for Bolgoda Wetland complex**

### **1. Background**

#### **1.1 General**

Wetlands provide significant economic, social and cultural benefits. Wetlands help to reduce the impacts from storm damage and flooding, maintain good water quality in rivers, recharge groundwater, store carbon, help stabilise climatic conditions and control pests. They are also important sites for biodiversity. They provide primary products such as medicinal plants, raw materials for domestic industries fish and timber and support recreational and tourist activities. Figure 1 is a simple diagram to show how wetlands operate to serve the ecosystem.

Despite all the services they provide wetlands worldwide continue to face many pressures from human activities, and Sri Lanka is no exception. Reclamation and clearing for urban expansion, unsustainable solid waste disposal by a planned dump site as well as from industries specially from saw mills, release of industrial, domestic and commercial waste water have greatly diminished the health of the ecosystem. Recent increases in flood damages, and the declining of aquatic biodiversity are, in part, the result of wetlands degradation and destructions. In this context, conservation of our natural heritage is the duty of any responsible citizen.

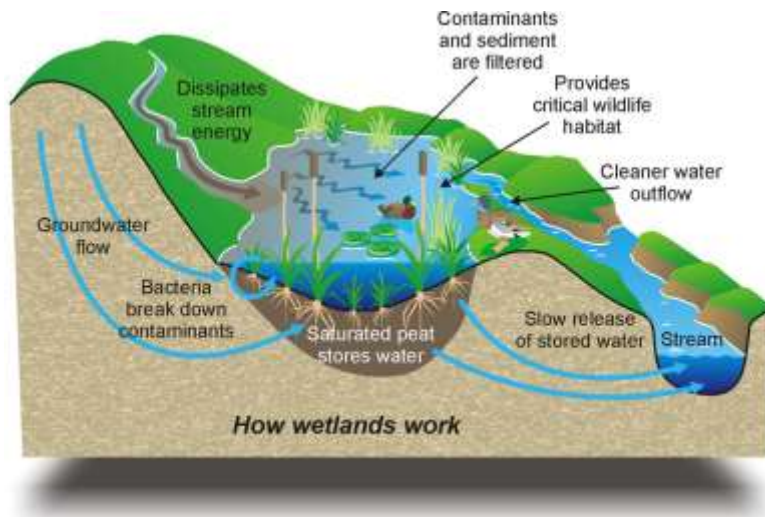


Figure 1: How wetlands work

## 1.2 Bolgoda wetland

The Bolgoda Wetland is the largest natural freshwater lake in the country. This complex is interconnected to with major urban wetlands including Diyawanna , Talangama tank etc. ( annex 1- Map)

The lake which covers 400 square kilometres, comprises two vast fresh water bodies , namely, the Bolgoda North Lake and the Bolgoda South Lake connected by Weres Ganga (annex 2 - Map). It is a crucial part of Kalu Ganga river basin.

Bolgoda Wetland, though best known for their natural beauty and wildlife habitat values, also naturally provide many water quality improvement and management services. It is tightly linked with the lives of the communities of the area and hence many community / ecosystem interactions exist. It serves as a rich fishery ground on which many people depend on for livelihood. Another prominent aspect is the opportunities for hotel and hospitality industry which is becoming rapidly growing in the area which too depend on the wetland and its quality. Protecting and restoring wetlands and its sustainable development can therefore contribute to the economic health, public safety, and quality of life of the communities.

As per anecdotal and empirical evidences, the significant ecosystem services and social and economic benefits offered by this wetland provide adequate rationale for enhanced conservation efforts.

Yet, this ecosystem is under immense pressure from the unsustainable anthropogenic activities. In a pilot study that SLWP has carried out, it was evident that some areas have been affected with dumping of industrial effluents and raw sewage which have led to pollution of water. In addition, disposal of solid wastes in different forms have been common to certain lowlands. Due to increased developmental pressure, unsustainable land use practices including encroachment, filling of wetland and illegal constructions too flourish in environmentally sensitive areas.

In addition, conservation of urban wetlands is critical in developing landscapes in the new Megapolis concepts where they provide natural infrastructure for clean and green cities, disaster risk reduction (floods and droughts), waste removal and water purification.

## **2. What we have done so far**

### **2.1 Bolgoda Mithuro (Friends of Bolgoda) programme conducted by SLWP**

Recognizing the urgent need of protecting and conserving this valuable ecosystem and the importance of integrated actions of all stakeholders to conserve Bolgoda wetland, Sri Lanka Water Partnership took a leading role on conserving this ecosystem with the partnership of different governmental and local governmental agencies as well as with citizens groups.

#### ***Raising awareness and initiating policy dialogue***

The SLWP has organized several interactive seminars/ awareness workshops as part of the series of programmes from 2013. These programme were designed to raise awareness highlighting the services and value of urban wetlands as well as legislative and policy framework that govern these natural resources. Different stakeholder groups included participants from following parties:

- a. Government sector/ Regulator- relevant Divisional Secretariats and Central Environmental Authority, Sri Lanka Land Reclamation and Developmental Corporation
- b. Local government- Pradeshiya Sabha of Kesbewa, Piliyandala
- c. Community organizations- Different NGOs and CBOs of Bolgoda Catchment

So far we were able to organize 4 such awareness programmes from 2013 with participation of over 200 individuals representing the above mentioned institutions.

(Please see photographs in Figure 3)

Some salient outcomes:

- a. Establishing the links between the regulators/ local government members and community members and facilitating discussion on several critical issues
- b. Establishment of 6 Environmental CBOs to protect Bolgoda and getting them registered under the CEA
- c. Facilitating community reporting of Environmental Issues related to the wetland to the CEA (So far 3 such CBOs have sent written reports on pollution and habitat degradation in the area with photographs as evidence)



Programmes conducted for government and Local government members



Programmes conducted for CBO members in Bolgoda area



Programmes conducted for school children

**Figure 3: Workshops conducted**

## 2.2 Studying and identifying threats to the wetland

We have conducted a preliminary survey in selected locations in the Bolgoda wetland ecosystem and in the catchment area. As a result we were able to identify several pressing problems in the area that could lead to deterioration of the quality and quality of the habitat, create an environmental imbalance, affect biodiversity and basically impair the overall health of the ecosystem. Moreover, if these conditions continue it would obviously affect social and environmental well-being of the society and dependent of the ecosystem and influence negatively on sustainable development.

*Some unhealthy interventions we have identified:*

- Cleaning of vegetation, specially mangrove areas for developmental activities
- Encroachment and illegal constructions
- Filling parts of wetlands for developmental activities
- Loss of sensitive habitats(this is a result of interventions by man- let us list them separately, along with flood level rise, etc)
- Pollution from solid waste dumping, industrial effluents and household sewage



**Figure 4: Habitat degradation- solid waste dumping and Illegal constructions in Delthara and Madapatha**

Yet, this ecosystem is a home to a wide array of biodiversity: animals and plants, many of which are totally dependent of the wetland and are a part of its integrated functioning.

### 3. Proposed activities with the Corporate Sponsor:

Recognizing the need to conserve this important wetland, the proposed project is designed to be carried out as a **Pilot project**.

We intend to carry out these activities in two phases to address pressing conservation needs.

**Phase I** – “Wetworking”- Stakeholder consultation workshop for enhanced community participation for wetland conservation and awareness programme.

**Phase II** - Field Study on Conservation of Bolgoda wetland complex –

#### 3.1 Phase 1 – “Wetworking” for Urban wetlands

Following workshops proposed under this phase will be carried out in Piliyandala (at Kesbewa Pradeshiya Sabha/ AGA’s office) at the selected location in Bolgoda and in SLWP/IWMI (Battaramulla) premises for establishment of network of stakeholders in conservation of Bolgoda lake.

- i) stakeholder consultation workshop would be organized with the following objectives:
  - a) To create a platform to get together all stakeholders to share views, ideas and learn from each other and creating a network (a **wetwork**)
  - b) To discuss the situation of urban wetlands, report present status and discuss steps to be taken for conservation
  - c) To identify the roles and responsibilities of each stakeholder
  - d) To prepare and agree upon the activities to follow up and finalise a work plan for conservation
  - e) Influence policy makers (on what?)

Stakeholders- Central Environmental authority, SLLRDC, Wetland Unit of Ministry of Defence, Universities, Corporate Sector, NGOs and CBOs



ii) Awareness programmes (for all are stakeholders of the wetland)

Several awareness programmes that aims at enhancing knowledge on the wetland and its importance will be carried out for different stakeholder groups. At least 4 interactive seminars for urban council (UC) members , youth groups and CBO will be organized at different areas.

Under these four interactive Seminars, it is expected that 200 participants will be covered.

### **3.2 Phase II - Field Study on Conservation of Bolgoda wetland complex**

Field studies will be carried out in the following selected areas in the Bolgoda wetland to represent following two main components, i.e. North and South Lakes of the wetland (*pl. refer map- annex I*).

Site 1 : Bolgoda North lake- Eg. Deltara, Madapatha, Gorakana, Dampe

Site 2 : Bolgoda North lake- Eg. Gonaduwa, Aruggoda, Kokduwa

These areas have been tentatively identified in a preliminary survey as representing areas with prominent wetland characters with natural settings and areas under threatening human activities such as pollution, garbage disposal, illegal encroachments and habitat destruction/ alternations. It is intended to extend this study to select most appropriate locations and the indicators . For each area, 2-3 km strip in the wetland and the watershed will be studied following a standard protocol.

Control site needs to be specified identifying locations specific issues, for intervention during the project . This will enable project status to be evaluated after completion.

Under Phase II, following activities are proposed to be carried out

**a. *Investigations on biodiversity***

A survey on aquatic (fish and amphibian) and terrestrial (reptiles, birds and mammals) fauna in the wetland and immediate surroundings will be carried out and representative parts of the wetland complex (Bolgoda North lake, South lake) will be taken into consideration and sampling areas will be selected and the present status will be studied

A species list with information on endemism, conservation status as per IUCN will be formulated.

**b. *Development of a Vulnerability Index for different areas of the wetland to determine the extent of environmental degradation***

This will be carried out by field visits (monthly for 6-9 months) to identify the activities that can pose harm to the health of wetland. Representative parts of the wetland complex (Bolgoda North lake and South lake) will be taken into consideration and sampling areas will be selected and the present status will be studied. This includes water pollution input, solid waste dumping, filling and encroachment, destruction of natural vegetation. A rank will be given for each activity visible and a cumulative index will be developed as follows:

- 1-No signs of threats**
- 2-Less vulnerable**
- 3- Vulnerable**
- 4- Extremely vulnerable**

Then a **GIS map** will be developed using data collected to depict the present status of environmental degradation and possible future impacts.

**Expected outcome**

- I. A status and a survey report on biodiversity including aquatic (fish and amphibian) and terrestrial (reptiles, birds and mammals) fauna
- II. A GIS map depicting environmental vulnerability of different areas of the ecosystem

Above a and b will be presented to the relevant policy/ decision making bodies to be used as a tool in planning and implementation of wetland conservation programmes with focus on environmental, economic and social well being and sustainable development. This is only a pilot intervention and continues programmes are essential to achieve sustainable developmental goals. The impact might be visible at some stage 2-3 years.

Tentative work plan is described (given in 5.3, Page 11).

#### **4. Available resources at the SLWP**

**all are working voluntarily.**

- Resource persons/ Experts (Ecologist, Sociologist, Environmental Scientists, Civil Engineer) –
- Office and staff
- Equipment- Computers, Printers, Cameras (still, video)
- A network of interested stakeholder groups in the area- Urban Council members, youth groups, Relevant government institutes, media

#### **5. Resource persons and Proposed activity plan**

##### ***5.1 Resource persons:***

- Eng. BadraKamaladasa (BK)- Chair, SLWP; ex Director General Irrigation Department
- Prof. DeepthiWickramasinghe (DW) - Professor in Zoology, University of Colombo; Executive Secretary, SLWP
- Prof. ChampaNavaratne (CN)-Professor in Agriculture, University of Ruhuna; Senior member, SLWP
- Dr.MissakaHettiarachchi (MH) – Consultant, WWF; Senior member, SLWP

## 5.2 Schedule of Activities and Deliverables

**Overall in charge of finances-** Mr. Ranjith Ratnayake, Country Coordinator

**Overall project coordinator-** Prof. Deepthi Wickramasinghe

Activity	Deliverables
Consultative stakeholder workshop	Workshop with Stakeholders- Central Environmental authority, SLLRDC, Wetland Unit of Ministry of Defence, Universities, Corporate Sector, NGOs and CBOs (DW, MH, BK)*
Three other workshops (school children/ adults)	Workshops aiming at school children, Youth groups and community leaders  (DW, MH, BK)
Biodiversity assessment (6-8 months, 15 field visits)	A survey on aquatic (fish and amphibian) and terrestrial (reptiles, birds and mammals) fauna in the wetland and immediate surroundings will be carried out and a species list with information on endemism, conservation status as per IUCN will be formulated.  (DW, CN and a team of field assistants)
Vulnerability index and mapping (6 months with 6 field visits)	A pilot study to identify threats that include water pollution input, solid waste dumping, filling and encroachment, destruction of natural vegetation will be carried out and the following areas will be identified 1-No signs of threats 2-Less vulnerable 3- Vulnerable 4- Extremely vulnerable  (DW, BK, MH and a team of field assistants)
Data analysis and Report writing	DW, MH, CN
Final report	DW

*Please note that the field visits might get influenced by the weather and other factors. Yet, all activities will be completed during the study period.*

### 5.3 Initiation of selective actions:

- Facilitating a stakeholder network to be established with common conservation interests related to the Bolgoda wetland.
- Initiating a platform for all stakeholders to discuss issues related to the wetland and its sustainability and ecological well being.
- Making available a biodiversity profile (selected species groups) for the selected filed localities which could be used by any interested party. This could be uploaded to a website for common references.
- Presenting information related to the areas which are sensitive and vulnerable for degradation based on the vulnerability index to the policy makers.

### 5.4 Tentative Work plan

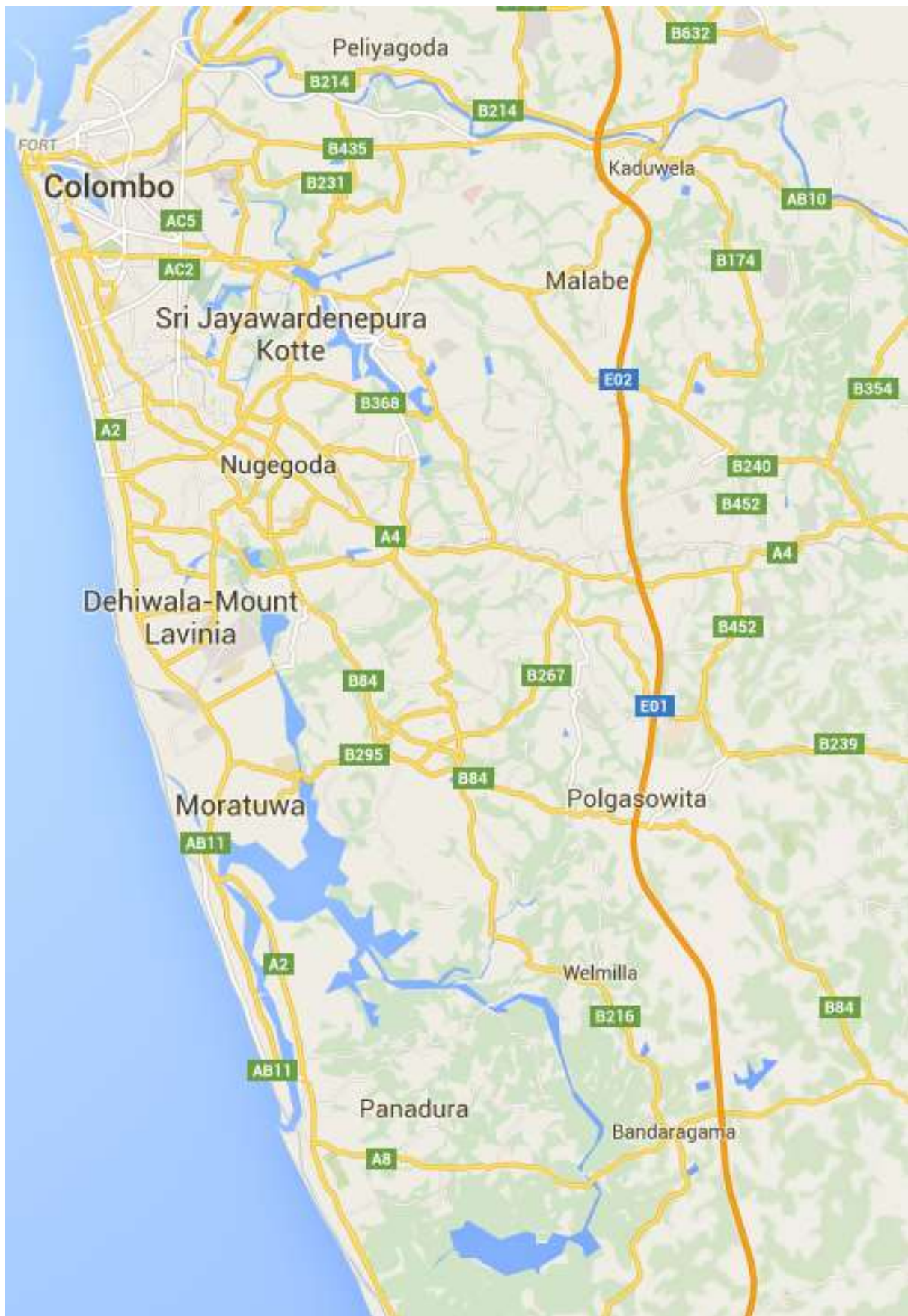
Activity	Month											
	1	2	3	4	5	6	7	8	9	10	11	12
Submission of inception report												
Consultative stakeholder workshop												
Three other workshops (school children/ adults)												
Biodiversity assessment (6- 8 months, 15 field visits)												
Vulnerability index and mapping (6 months with 6 filed visits)												
Data analysis and Report writing												
Final report												

# Annex 1- Field locations in Bolgoda wetland



Figure 2

## Annex 2 – Bolgoda and Diyawanna Complex



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