



The New Standard

for sustainable business and conservation in Sri Lanka



Convention on
Biological Diversity



BIODIVERSITY SRI LANKA

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**World
Wetlands Day**
2 February 2016

Wetlands
for our Future
Sustainable Livelihoods



Wetlands: Providing more than a billion livelihoods

More than a billion people depend on wetlands for a living! Just stop and think about that number – and about what a wetland actually is. The Ramsar Convention defines a wetland as any land area that is saturated or flooded with water, either permanently or seasonally, along with all beaches and shallow coastal areas.

This definition covers all inland wetlands such as marshes, ponds, lakes, fens, rivers, floodplains, and swamps... as well as the whole range of coastal wetlands which include saltwater marshes, estuaries, mangroves, lagoons and coral reefs. Then we should add in all man-made wetlands such as fishponds, rice paddies, and salt pans.

Wetlands host a diverse range of jobs, including a few we might not normally think of:

Rice farming

- Rice, grown in wetland paddies, is the staple diet of 3.5 billion people and accounts for 20% of all calories consumed by humans.

- Almost a billion households in Asia, Africa and the Americas depend on rice growing and processing for their main livelihoods.
- Some 80% of the world's rice is produced by small-scale farmers and is consumed locally.

Fishing

- The average human consumes 19kg of fish every year. Most commercial fish breed and raise their young in coastal marshes and estuaries. In addition, more than 40% of fish production is now through aquaculture.
- More than 660 million people depend on fishing and aquaculture for a living.

Tourism and leisure

- International tourists spent US\$ 1.3 trillion worldwide in 2013, and an estimated half of them seek relaxation in wetland areas, especially coastal zones.
- The travel and tourism sectors support 266 million jobs, and account for 8.9% of the world's employment.

Transport

- Rivers and inland waterways play a vital role in transporting goods and people in many parts of the world. In the Amazon basin, rivers carry 12 million passengers and 50 million tons of freight each year, sustaining 41 shipping companies.

Water provision

- Vast networks deliver fresh water and remove and treat wastewater, while employing large workforces. For example, Bangkok's Metropolitan Waterworks Authority employs over 5,300 staff.
- The bottled water industry delivered over 70 billion gallons of water in 2013. Danone sells major brands such as Evian, Volvic, Bonafont and Mizone, and employs more than 37,000 people in its water businesses worldwide.

Traditional wetland product-based livelihoods

- Medicinal plants, dyes, fruits, reeds and grasses are just a few of the wetland products that provide jobs, especially in developing countries.
- Reeds and papyrus collected from the Barotse floodplain wetland in Zambia are estimated to be worth US\$373,000 per year to local communities.



www.worldwetlandsday.org



World Wetlands Day is made possible by the Danone Fund for Water.



From the Editors

The Secretariat of Biodiversity Sri Lanka would like to first and foremost wish all our Members, partners and the entire readership of The New Standard (TNS) a Happy New Year and an year that is filled with opportunities to help conserve Sri Lanka's valuable biodiversity heritage!

Starting off related international commemorations, we celebrate World Wetlands Day on the 2nd of February, the day that marks the date of the adoption of the Convention on Wetlands on 2nd February 1971, in the Iranian city of Ramsar on the shores of the Caspian Sea. As an island nation that is abound with wetlands, we think it is appropriate to shed light on the importance of these vulnerable ecosystems through our first issue of the TNS for this year, highlighting their value and issues surrounding them that need urgent addressing.

We also take this opportunity to thank Ms. Buddhi Seneviratne who rendered her services to us in the last year as our Projects and Communications Coordinator and to inform our readership that Buddhi has now been replaced by Ms. Sherani Ruberu who will be here to assist you as BSL's Projects and Events Coordinator.

We look forward to engaging and collaborating with you on the exciting line up of initiatives and events planned for this year and as always, invite you to forward all your questions and comments anytime to businessandbiodiversity@chamber.lk. We hope you enjoy this issue of The New Standard!

Secretariat of Biodiversity Sri Lanka

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Become a Member of Biodiversity Sri Lanka and gain,

- Access to best practices/case studies in biodiversity conservation within the corporate sector.
- Access to national and international conservation priorities.
- Access to technical expertise on biodiversity conservation and environmental management.
- Discounted participation opportunities at subject-related capacity building and awareness programmes.
- Collaborative support to organize corporate training on mainstreaming biodiversity considerations in business.
- Access to a project bank which can be utilized to achieve core business and CSR objectives of the company.
- Access to participate in pilot and ongoing standardization, certification and awards schemes.
- Opportunities to add value, build corporate image, attract publicity and network with like-minded progressive businesses.

For more information on the application process, please call the Coordinator on +94.11.558.8833 or email businessandbiodiversity@chamber.lk

Expert Q&A

In the spotlight from many angles, Dr. N. S. Wijayarathne – Deputy General Manager (Wetland Management) – of the Sri Lanka Land Reclamation and Development Corporation, kindly obliged to answer a few questions for us with regard to the vulnerability and opportunities of the Colombo wetlands...

1. Given the rapid rate of change in and around the Colombo wetlands, can you elaborate on the importance of the Colombo wetlands?

Colombo is a dynamic and evolving city which is pursuing a vision to be a global hub and an example of sustainable urban development. As the principal gateway to the country, the Colombo Metropolitan Region (CMR) is the national centre for manufacturing, commerce and finance and is the driving force behind Sri Lanka's economic development. Despite covering less than 6% of the country's total land area, the CMR houses over a quarter of the nation's population and accounts for almost 50% of national Gross Domestic Product (GDP). However, the CMR is vulnerable to a range of threats which unless addressed, will compromise the ability of the nation to achieve its full potential and thereby securing the well-being of the population. Colombo city is built on and around wetlands. Despite progressive degradation, wetlands still cover some 20km² of the Colombo Metropolitan Region. The wetlands are fundamental to the well-being of the people of Colombo. All of the wetlands, even the most degraded ones, provide a range of benefits which contribute to human well-being in the city. Of all the benefits provided by the wetlands, over 90% of these benefits remain within the Colombo Metropolitan Region.

The importance of Colombo wetlands include, assisting in delivering food security, providing the citizens of Colombo with traditional medicines, providing effective protection from flooding, reducing extreme air temperatures and making the city more liveable, mitigating global climate change by wetland soil, protecting the health of citizens, supporting critically endangered plant and animal species.

Colombo wetlands significantly benefit the urban poor. The income for households in and around the wetlands is less than 40% of the average income for the Metropolitan Colombo Region. Over 60% of these local households directly benefit from livelihoods and products derived from the wetlands and 100% will be receiving indirect benefits from flood mitigation, climate cooling and pest regulation.

2. What are the key threats faced by the Colombo wetlands?

Wetland loss and degradation continues across Colombo today. Despite all the benefits that the wetlands provide, wetlands continue to be completely lost or progressively degraded. Whilst rates of loss vary across the city, peer-reviewed, published information suggests that in some areas of the city, the rate of loss

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since the 1980s has been as high as 60%. Infilling is the major threat that Colombo wetland faces and it has increased the flood risk across the city. The current rate of wetland loss in the Colombo Metropolitan Region is approximately 1.2% per annum.

3. How do these threats affect those that depend on wetlands for their livelihood?

If this trend continues, the area of wetlands would be reduced by one third by 2038 and by half by 2070. This will also produce a proportional decrease in flood storage capacity. If all the wetlands were infilled, flood water levels would increase by two meters during the most severe rainfall events resulting in devastation across the city.

The water quality in the wetlands and catchments which supply the wetlands are severely degraded. This has an impact on the ecological functioning and consequently the range of benefits being provided will be compromised in at least two thirds of the wetland areas. The water quality situation has been critical since 2010. Historical water quality issues have existed for decades, however the degradation has become more widespread and acute during the last five years. The Colombo wetlands have remained resilient but an ecological threshold was crossed in 2010 and the changes in functioning may be permanent.

Invasive alien species present a significant threat to the native biodiversity of the wetlands in the city. Eleven species of alien invasive plants are currently known to be present in the wetlands including *Eichhornia crassipes*, which is widespread and chokes canals and waterways, and *Annona glabra* which occurs in almost every wooded wetland in the city and results in significant changes in the native ecological character of the wetlands.

4. How does protection of these wetlands ensure the sustainability of the livelihoods of those that depend on it?

There should be no further wetland loss. In order to achieve this, several actions should be taken. New guidelines on wetland zonation and no net loss should be developed and rigorously implemented. The new guidelines should reflect the principles adopted by Sri Lanka as a contracting party to the Ramsar Convention under Resolutions XI.9 An Integrated Framework for avoiding, mitigating, and compensating for wetland losses and Resolution XI.11 Principles for the planning and management of urban and peri-urban wetlands. Moreover, Integration with the Ministry of Megapolis and Western Development is vital. The benefits wetlands provide must be integrated into urban policy and planning. Good environmental governance also must seek to engage with a diversity of stakeholders. Biodiversity and the benefits it provides, is another essential factor to the sustainable future of Colombo. To assist with protecting and promoting wetland biodiversity, more sites should be developed which encompass both traditional approaches to biodiversity conservation but also secure the benefits nature

provides to human society. Sustainable management of wetlands will make a positive contribution to climate change mitigation and adaptation. There is a need for a better understanding of the links between hydraulics and ecological issues. Therefore, a balance should be made between the hydraulic gains and the ecological impacts in order to protect the wetlands. The collection and treatment of waste water and solid waste across the Colombo area is essential to prevent the continued impacts on wetlands.

Through creation or restoration of wetlands, this can be achieved. Connecting all fragmented wetlands through a network of ecological corridors is a good way to optimize ecosystem functioning, connection of wetlands and other natural ecosystems which should be a part of strategic urban planning.

5. What is the role the corporate sector can play in order to safeguard these wetlands?

Conservation of urban wetlands in Colombo is not only a government responsibility. The corporate sector has a huge responsibility in managing them. Sustainable management of Colombo wetlands is vital in order to gain the maximum benefits ecologically, economically and socially. Since these are the only green patches remaining in Colombo city and suburban areas, there is a high potential of gaining economic value out of them. When promoting Colombo as a major tourism destination of Sri Lanka, wetlands of Colombo could be considered as an integral part of nature-based tourism activities of the city. Furthermore, the Colombo urban wetlands are determined to be a critical component of the city's long term development and urban resilience. Development of nature trails, bird watching and butterfly watching tours, canal-based transportation are some of the potential ventures that the corporate sector can be involved in. These activities will add value to these wetlands which are critical for sustainable management which can further enhance the ecological, economic and social value of these ecosystems.

Key Foci of the Colombo Wetlands Management Strategy

A collation of excerpts from the Draft Colombo Wetlands Management Strategy formulated through the Metro Colombo Urban Development Project...

Wetlands have always been an inextricable part of Colombo, a city built around wetlands. Much of the city still depends on these wetlands for a number of ecosystem services. However, since the 1980s, more than 60% of these wetlands have been lost owing to a number of causes. The degradation and continuous loss of the wetlands in the Colombo Metropolitan Region (CMR) has been a result of anthropogenic causes such as pollution from dumping of solid waste and unregulated wastewater, encroachment from unplanned settlements and permitted developments, changes in hydrological regimes as well as natural causes such as intrusion of sea water

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(as a result of the loss of wetlands) and the proliferation of alien invasive species and habitat changes. This multitude of factors is severely undermining the functioning of wetlands and impacting upon the benefits they provide. With the growing threat of climate change, these pressures continue to be exacerbated.

Despite these rising pressures, the wetlands within the CMR continue to support a rich biodiversity of global importance. A few of these wetlands such as the Sri Jayawardenapura Kotte area and Thalangama Tank confer a degree of protection under environmental laws of the country. In addition to this, other wetlands such as Beddagana Biodiversity Park, Thalawathugoda Wetland Park, Malabe Marsh, Weli Park Marsh, Mulleriyawa Marsh and Kolonnawa Marsh, despite being unprotected, do support a high species diversity and richness including endemic and threatened plant species.

Based on the national and global conservation status, at least 20 critical species of animals are known to exist in the wetlands of the CMR including four species of dragonflies, two species of reptiles and four mammalian species. Of these, two species are globally endangered - the Sri Lanka Paddyfield Frog (*Zakerana greenii*) and the Fishing Cat (*Prionailurus viverrinus*).

The Fishing Cat is recorded across a range of wetland sites across the CMR whereas the Sri Lanka Paddyfield Frog had only recently been recorded at the Thalawathugoda Wetland Park. Other critical animal species occupy several wetland sites or connected complexes of wetland areas. The interconnectivity of these sites may be crucial in supporting and maintaining viable populations and acting as vital refugia in the urban environment.

Whilst the importance of wetlands remains predominantly as flood risk management with the occasional address of being biodiversity rich ecosystems, the quality and extent of the wetlands in Colombo continue to degrade resulting in adverse impacts on human well-being.

As stipulated by the draft Wetland Management Strategy, the CMR should ideally demonstrate cohesive integration and diverse sectoral synergy in order to achieve a sustainable future and set the benchmark for urban management. All these sectors (include private landowners and corporations, local, regional or national governmental bodies and authorities, and components of civil society, including NGOs and local communities) stand to benefit from wetland restoration activities. Starting from the grass-root level, community participation in wetland restoration activities can contribute significantly to long-term success by educating local communities and focusing attention on the causes and impacts of degradation, as well as by creating employment and a more equitable distribution of benefits for example, by growing endemic ornamental plants as a saleable commodity thus increasing employment opportunities, and ensuring enhanced, sustainable livelihoods for the local

community. Private sector involvement should also be encouraged as enhancement and restoration of the wetlands can make locations more attractive to the corporate sector. However, adding equal value to the aesthetic values conferred by restoration, are the private finances that may be of leverage to assist in the multifunctional restoration of wetlands to widen the suite of benefits.

Such approaches could be developed in association with corporate social responsibility agendas which can demonstrate a continuing commitment by businesses to behave ethically and contribute to sustainable development while improving the wellbeing of their workforce, the local community, society as well as the environment.

Only through collaborative efforts and horizontal integration between local communities, the private sector and government organizations can such opportunities be realized and the multi-functional benefits that they confer to the overall well-being of the population of the CMR be delivered.

Member Focus: Sampath Bank PLC



Sampath Bank to Enhance the Conservation of the Bolgoda Wetland Complex

The Bolgoda Wetland Complex (BWC) is the largest natural freshwater lake in the country. The lake which covers 400km², comprises of two vast fresh water bodies, namely, the Bolgoda North Lake and the Bolgoda South Lake, which are connected by the river Weras.

Sampath Bank, as a responsible corporate citizen in the country, has reiterated its commitment towards a sustainable greener tomorrow for Sri Lanka with the initiation of the Bolgoda Wetland Complex Conservation Project. Launched in partnership with Biodiversity Sri Lanka, technical assistance to the project will be provided by the Sri Lanka Water Partnership (SLWP) hosted by the International Water Management Institute (IWMI).

The main objective of this project is to assist in restoring the degraded areas of the BWC to conserve biodiversity, maintain watershed services and increase its resilience to climate change for the benefit of local communities, agriculture and industry. The programme will host awareness sessions amongst stakeholders that will carry out appropriate actions including conducting biodiversity assessments to identify high risk activities damaging the environment.

This initiative will also focus on developing a vulnerability index and an indicator map, and emphasise on creating awareness amongst adults and children particularly in the immediate vicinity of the BWC.

Member Focus:
Hatton National Bank PLC



HNB Contributes to Wetland Conservation

The Bank's CSR arm - HNB Sustainability Foundation - under its CSR pillar 'Care for Nature', has sponsored the 2016 World Wetlands Day Art Competition organized by the Central Environmental Authority, in view of creating awareness among school children in the country. A series of articles on wetlands have been published in newspapers and 150 students selected from over 8,000 participants in preliminary rounds, have participated in a live drawing competition held at the Bolgoda Lake on the 7th of January.

HNB's contribution to conservation is not limited to awareness creation. HNB Sustainability Foundation has extended its support to protect Wetlands in the country through the removal of invasive species including *Prosopis juliflora* in the Bundala Ramsar Wetland in the past.

The Bank has identified Wetlands in the Mannar area as critical habitats for migratory and resident waterfowl. After a preliminary investigation carried out by the Sustainable Business Unit in 2015, the "Korakulam" Wetland in Mannar Island has been identified as a site that needs attention. Critical information on this wetland was obtained from Dr. Sampath Seneviratne - Senior Lecturer - at the Department of Zoology, University of Colombo.

Korakulam is one of the major wetlands in the Mannar area and it is the only freshwater lake available for both migratory and resident birds in the island. The wetland is a major spectacle especially from October to April (winter months) due to the large numbers of migratory waterfowl, shorebirds and seabirds found in the wetland. Therefore, it is an important nature-tourism destination as well. According to Dr. Seneviratne, 62 species of land birds, 13 species of seabirds, 26 species of shorebirds and 7 species of diurnal raptors have been recorded from this wetland.

In the non-migratory season, it acts as an important breeding and feeding site for our resident birds. Vulnerable species such as the Kentish Plover (*Charadrius alexandrinus*) and the Little Tern (*Sterna albifrons*) breed in the dry lakebed in fair numbers. The critically endangered Spot-billed Duck (*Anas poecilorhyncha*) is found in this wetland when water is available, even during the summer months. Other endangered resident species such as the Large Crested Tern (*Sterna bergii*), the Roseate Tern (*Sterna dougallii*), the Common Tern (*Sterna hirundo*: resident population - juveniles use this habitat in August and September) and Long-tailed Strike (*Lanius schach*) use this wetland and nearby scrub forest year round. Altogether 8 species of birds have been breeding successfully in the wetland during the past breeding

season.

Korakulam is more important as a habitat for migratory birds. About 3,000-5,000 birds regularly use this wetland during the Boreal winter months. Large numbers of gulls, migratory ducks, storks and shorebirds are found in Korakulam during these months. The globally vulnerable Great Knot (*Calidris tenuirostris*) uses this wetland annually. Several locally important species such as the Greater Flamingo (*Phoenicopterus roseus*), the Great Black-headed Gull (*Ichthyaetus ichthyaeetus*), the Heuglin's Gull (*Larus heuglini*), the Eurasian Spoonbill (*Platalea leucorodia*), the Glossy Ibis (*Plegadis falcinellus*) and the Northern Teal (*Anus crecca*) are also found frequently in the wetland.

The feral Horse (*Equus ferus*) and Donkey (*Equus africanus*) of Mannar Island graze in Korakulam, especially at the feeder area. The Jungle Cat (*Felis chaus*) and Wild Boar (*Sus scrofa*) are also found at this site. Korakulam is also an important site for endangered butterflies found in the arid zone such as the Large Salmon Arab (*Colotis fausta*), the Crimson Tip (*Colotis danae*) and the Joker (*Byblia ilithyia*).

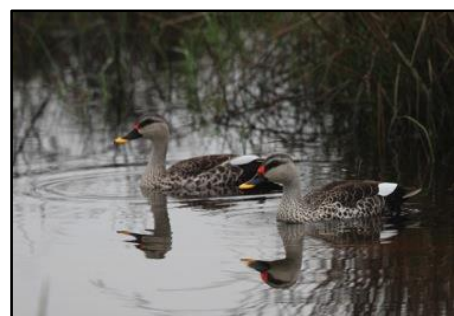
Unfortunately Illegal encroachments damage the biodiversity of Korakulam at an alarming rate. The executive - Sustainable business of HNB has discussed this situation with several authorities and is persuading to get Korakulam declared as a protected area to initiate conservation of the wetland.



Korakulam wetland in winter months



Flamingoes at Korakulam wetland



Spot-billed Duck

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Little Tern Chicks



Nest of a Grey Partridge



Encroachment around the wetland



Solid waste dumped near water

20 per cent loss of mangrove forest coverage since 1980.

The main pressures on wetlands come from:

- Habitat loss, for example through wetland drainage for agriculture or infrastructure developments, driven by population growth and urbanization;
- Over-exploitation, for example the unsustainable harvesting of fish;
- Excessive water withdrawals for use in, for example, irrigated agriculture;
- Nutrient loading from fertilizer use and urban waste water, which can lead to eutrophication - the excessive growth of algae that deprives other species of enough oxygen and can create dead zones;
- Climate change, which can change ecosystem conditions through rising temperatures;
- Pollution, remarkably through extractive industries, invasive species and siltation.

Such pressures threaten wetlands' natural infrastructure, which delivers a wider range of services and benefits than corresponding man-made infrastructure at a lower cost.

The Benefits of Wetlands

Water:

Wetlands are a key factor in the global water cycle and in regulating local water availability and quality. They contribute to water purification, denitrification and detoxification, as well as to nutrient cycling, sediment transfer, and nutrient retention and exports. Wetlands can also provide waste water treatment and protection against coastal and river flooding.

Biodiversity:

Wetlands are some of the most important biologically diverse areas in the world and provide essential habitats for many species. Coral reefs, peatlands, freshwater lakes, waterbirds, amphibians and wetland-dependent mammals such as hippopotamus, manatees and river dolphins are among those examples of biodiversity covered by the global Ramsar Convention network of "Wetlands of International Importance", which comprises over 2,000 sites covering over 1.9 million km.

Climate change:

Wetlands provide climate regulation, climate mitigation and adaptation, and carbon storage - for example in peatlands, mangroves and tidal marshes.

Peatlands cover 3 per cent of the world's land surface, about 400 million hectares (4 million km²), of which 50 million hectares are being drained and degraded, producing the equivalent of 6 per cent of all global Carbon Dioxide emissions. While vegetative wetlands occupy only 2 per cent of seabed area, they represent 50 per cent of carbon transfer from oceans to sediments, often referred to as 'Coastal Blue Carbon'.

Please refer to the source site for the extended article...

Vital Economic and Environmental Role of Wetlands Must Be Recognized to Avoid Further Degradation and Losses

Source:

<http://www.unep.org/newscentre/Default.aspx?DocumentID=2697&ArticleID=9305&l=en>

Rapid Wetland Loss

Inland wetlands cover at least 9.5 million km² (about 6.5 per cent of the Earth's land surface), while inland and coastal wetlands together cover a minimum of 12.8 million km².

Between 1900 and 2003, the world lost an estimated 50 per cent of its wetlands, while recent coastal wetland loss in some places, notably East Asia, has been up to 1.6 per cent a year. This has led to situations such as the

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The Ceylon Chamber of Commerce

