East Kolkata Wetlands

NEWSLETTER

November 2010, Volume I

EAST KOLKATA WETLANDS MANAGEMENT AUTHORITY

WETLANDS INTERNATIONAL

The East Kolkata Wetlands Management Authority

EKWMA is an authority formed under the State Legislation in 2006 as per the East Kolkata Wetlands (Conservation and Management) Act. It has been entrusted with the statutory responsibility for conservation and management of the EKW area. The main task of the authority is to maintain and manage the existing land use along with its unique recycling activities for which the Wetlands has been included in the Ramsar List of Wetlands of International Importance.

Wetlands International – South Asia

WISA is the South Asia Programme of Wetlands International, a global organization dedicated to conservation and wise use of wetlands. Its mission is to sustain and restore wetlands, their resources and biodiversity for future generations. WISA provides scientific and technical support to national governments, wetland authorities, non government organizations, and the private sector for wetland management planning and implementation in South Asia region. It is registered as a non government organization under the Societies Registration Act and steered by eminent conservation planners and wetland experts.

"EAST KOLKATA WETLANDS" is the jointly published newsletter of the East Kolkata Wetlands Management Authority and Wetlands International - South Asia

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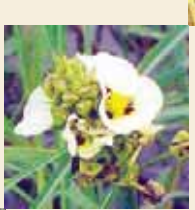


East Kolkata Wetlands : An Introduction

Dr. Nitai Kundu highlights the role the wetland system plays in securing ecological and economic security of the Kolkata city as well as the entire Gangetic Delta.

EKW forms the base of food security of Kolkata

The East Kolkata Wetlands (EKW), located on the eastern fringes of Kolkata city is one of the largest assemblages of sewage fed fish ponds spread over an area of 12,500 ha. These wetlands form a part of the extensive inter-distributory wetland regimes formed by the Gangetic Delta. EKW sustains the world's largest and perhaps oldest integrated resource recovery practice based on a combination of agriculture and aquaculture, and provides livelihood support to a large, economically underprivileged population of around 20,000 families which depend upon the various wetland products, primarily fish and vegetables for sustenance. Based on its immense ecological and socio cultural importance, the Government of India declared EKW as a Wetland of International Importance under Ramsar Convention in 2003. The wetland system currently produces over 15,000 MT per annum from its 264 fucntioning aquaculture ponds, locally called bheries. Additionally, nearly 150 MT of vegetables are produced daily by subsistence farmers. Needless to say, EKW serves as the backbone of food security of Kolkata City.

EKW is a classical example of harnessing natural resources of the wetland system for fisheries and agriculture through ingenuity of local communities with their traditional knowledge. This forms the basis of its inclusion as one of 17 case studies around the world on wise use of wetlands by the Ramsar Convention. The wetland provides strong arguments for integration of traditional knowledge of local communities into conservation and management practices.

From a malarious jungle to wise use of wetlands

EKW, presently widely hailed as an example of wise use of wetlands did not prominently figure as an ecological asset till about six decades ago. When Job Charnock laid the foundation of the Kolkata City on the levees of River Hooghly owing to its easy accessibility to entire hinterland of Bengal, the wetland complex bordering the eastern fringes of the city was known as locationally insignificant malarious jungle. These were called the salt lakes serving as the backwater swamp and spillarea of Bidyadhari River. The tidal effects of the Bay of Bengal made the water brackish and hence the name Salt Lakes. The wetlands in those days had utility only from the defence perspective owing to challenges presented to navigation.

Since early 15th century, the eastward shift of the course of River Ganges brought metamorphic change in the process of delta building in central and south Bengal. A number of distributaries and re-distributaries were cut off from upland flow that signalled the end of those channels. Human interference in the region primarily in the form of channelization further quickened the process of silt deposition within the river beds, and finally the Bidyadhari become defunct by the end of 18th century.

Kolkata grew to be a large urban and trade centre virtually without any proper sewerage and solid waste management system, and thereby also subject to frequent drainage congestion resulting health impacts. The waste was initially dumped into River Hooghly, a practice which was abandoned due to frequent outbreaks of malaria. A committee established to look into alternate solutions to the drainage problems recommended transferring all wastes to salt lakes, as the city had a natural eastwards elevation. The wetlands were nearly 8.5 feet below the highest point of the city. This recommendation prompted construction of a series of sewers and pumping stations

Over 20000 households live within the wetland complex

towards the salt lakes. In 1864, a portion of the salt lakes was acquired for dumping solid waste. The first attempt to freshwater aquaculture is reported in 1918. Subsequent construction of waste water channels in the city increased access to wastewater, which in turn encouraged others to adopt wastewater aquaculture. Application of sewage was sequenced skillfully on the basis of detention time needed to improve the water quality appropriate for growing fish. The wetland system presently has 264 functioning aquaculture ponds (locally called bheries). The solid waste dumping area on the western periphery of the wetlands were converted to horticulture since 1876. The whole area has come to be recognized officially as Waste Recycling Region.

Having established a successful sewage fed fisheries did not take the pressure of reclamation away from the wetland system. In fact, proposals for converting the wetland to accommodate ever expanding Kolkata City were made as early as in 1830s. The post independence surge of refugees to Kolkata City made the town planners further look into expansion of the urban area. This promoted reclaiming of nearly 1,000 hectare of the northern portion of the wetland and hundreds of fish ponds for establishment of the Salt Lake City. In 1969, redistribution of land through land reforms led to further filling up of approximately 2,500 hectare of water bodies for conversion into paddy fields.

However, there was also a gradual build up of opinion on the environmental sustainability of the urban planning policies adopted by the government. A group of environmental experts questioned the reclamation of wetlands for urban settlements. In the 1980s, the Government of West Bengal initiated systematic research into the wetland and its waste recycling systems. Subsequently, a map of the waste recycling area was prepared in 1985. In 1992, a case study on EKW was presented in the expert committee meeting of the Ramsar Convention, and the site included as the only Indian case study on wise use of wetlands in a document published by the same name by the Ramsar Convention Secretariat, initiating the process of declaration of the site as a Wetland of International Importance. Thus, when the idea of establishing a World Trade Centre on the wetland was mooted in 1991, a group of non-government organizations, notable of which was PUBLIC (People United for Better Living in Calcutta) filed a writ petition in the Calcutta High Court, asking directions of the state authorities to protect the wetlands and maintain their character, in particular preventing their reclamation as well as change in land use from agriculture to residential or commercial uses. The court ruled in favour of maintaining the overall environmental values of the wetland system, and banned any conversion or changes

Pumping stations transfer sewage from Kolkata City to EKW

Bagjola Khal- an important outlet of EKW

in land use. Several suits and court decisions followed against developmental activities within the wetland area. The culmination was the notification of the The East Kolkata Wetlands (Conservation and Management), act in 2006, which laid the foundation of the East Kolkata Wetland Management Authority and systematic implementation of wise use principles for management of the Ramsar Site.

The East Kolkata Wetland Management Authority (EKWMA)

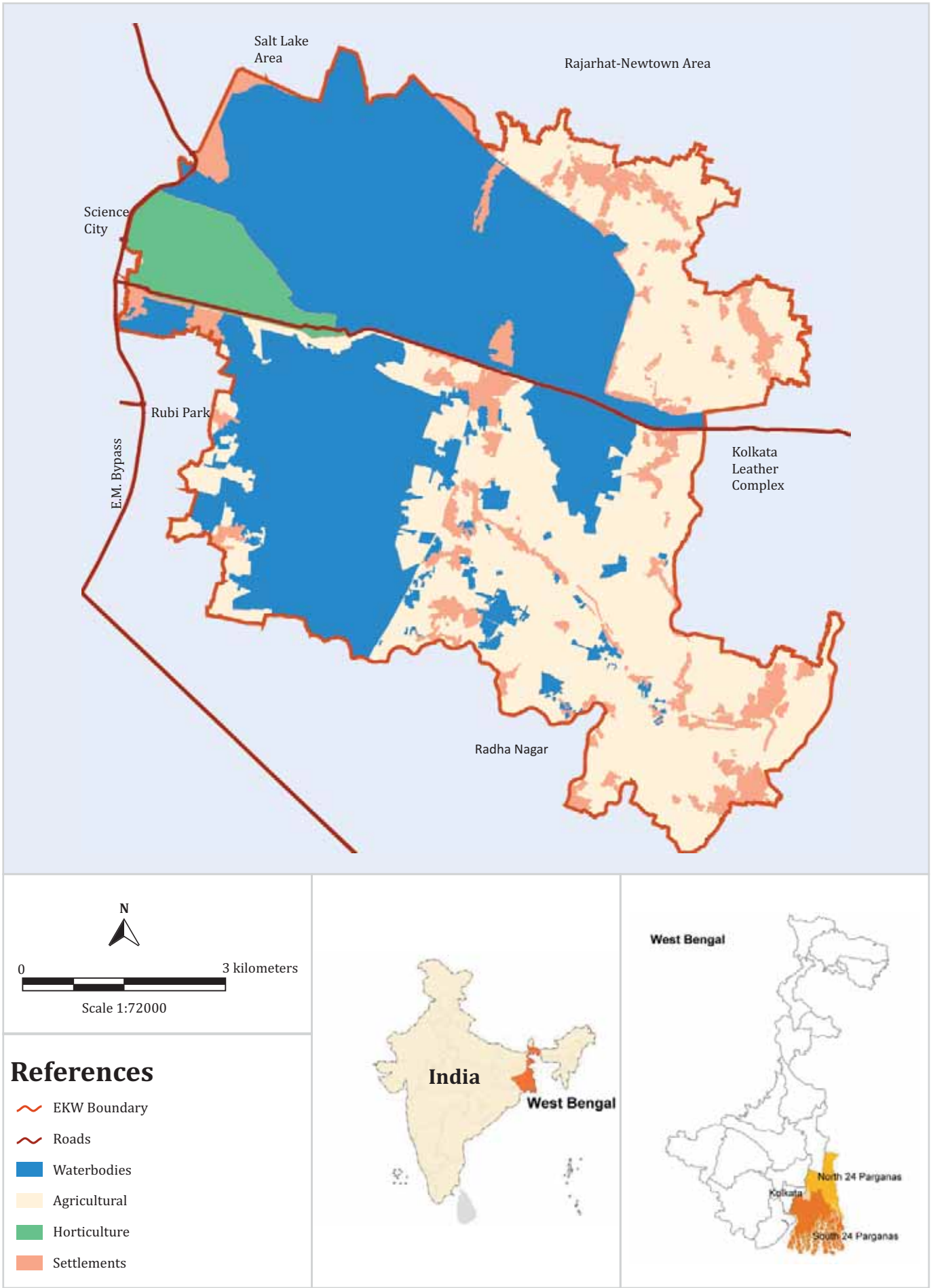
The East Kolkata Wetlands (Conservation and Management) Act 2006 represents an important landmark for establishing an appropriate institutional regime for managing this Ramsar Site. The Act took explicit cognizance of EKW as a Wetland of International Importance and its various ecosystem services, including regulation of water regime, mechanism for waste water treatment, as source for underground water recharging and other socio cultural values. It also recognized the immense urbanization pressure on the wetland and the need to prevent its conversion for alternate uses.

The Act defined the land use within the wetland as per revenue records, identifying each land parcel to be either substantially water dominated, under agriculture or under settlement. Any further diminution of the wetland area, change in its (ecological) character, and land use was banned under the act.

It paved way for establishment of the East Kolkata Wetland Management Authority for conservation and management of the wetlands, and identified the following functions :

- Demarcation of the wetland boundaries
- Detecting changes in ecological character and land use, and enforcing land use control
- Preventing any unauthorized developmental project within the boundaries of the wetland system
- Preventing any mining, quarrying, blasting or any operation of the like nature to protect and conserve the wetland system
- Undertaking measures to abate pollution, and conserving the wetland biodiversity
- Promoting research and networking with other Ramsar sites
- Raising awareness on wetlands in general and EKW in particular

Dhapa produces 150 MT vegetable daily



East Kolkata Wetlands

- Promoting conservation principles – like sewage fed fisheries and ecotourism

The Act also lays a process wherein people living within the wetland area can apply for a permission to undertake any land use change. It also lays down exemplary punishment for not complying to the provisions of the act, which includes imprisonment upto three years, fine upto Rupees One Lakh (Rupees One Hundred Thousand) or both. An additional fine of Rs. 5,000 a day is prescribed for every day such failure or contravention continues after the first conviction. Contravention to the act is identified as a cognizable and a non-bailable offence.

The authority has a broad based structure and includes representation of all line departments and organizations. The Chief Secretary to the Government of West Bengal is the Chairman of the Authority, and the Secretary, Department of Environment (Government of West Bengal) its Member Secretary. The other members include:

- Secretaries of the state government departments of urban development, irrigation and waterways, fisheries, forests, municipal affairs, land and land reforms, panchayat and rural development;
- Chairman and Member Secretary, West Bengal Pollution Control Board
- Chief Executive Officer, Kolkata Metropolitan Development Authority
- Commissioner, Kolkata Municipal Corporation
- District Magistrates of the 24 Parganas (North and South)
- Representative of Institute of Environmental Studies and Wetland Management
- Two nominated representatives of non-government organizations
- One representative of fishermen cooperative societies

The office of the authority is headed by a Chief Technical Officer, who is in-charge of the day to day affairs and functioning. The authority has a website www.ekwma.com which provides details of the various interventions currently being undertaken by the agency.

Integrated Management Planning for East Kolkata Wetlands

Ritesh Kumar presents a summary of the management plan for East Kolkata Wetlands.

A panoramic view of EKW

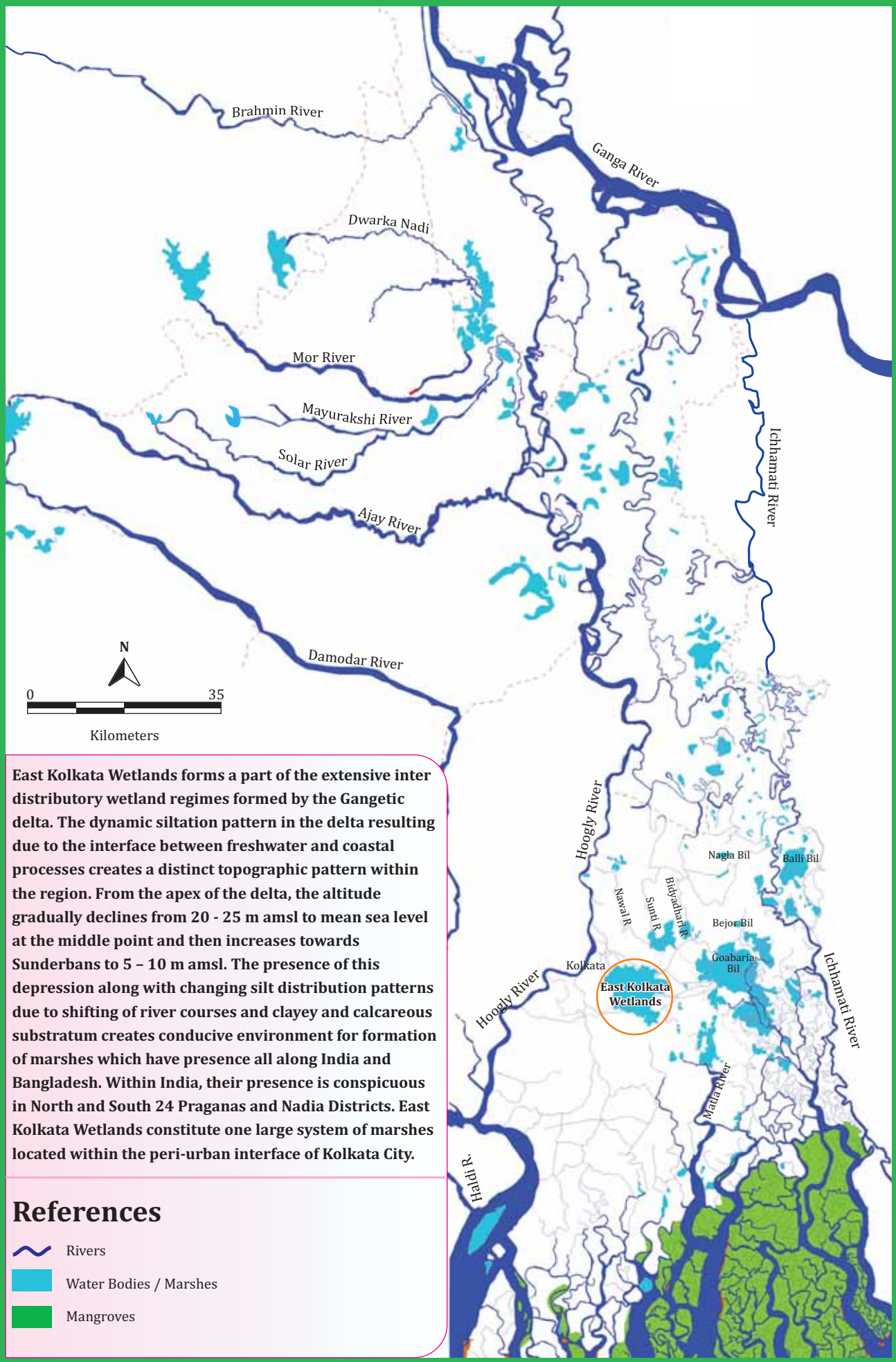
The East Kolkata Wetlands provide a range of ecosystem services which form the base of ecological security of the entire region and livelihoods of dependent communities. Being a dynamic ecosystem, the wetland is also subject to influence from various natural as well as human factors. Integrated management of EKW and its catchments is crucial for maintaining the rich productivity of the wetland ecosystem as well as achieving wise use of resources by communities.

EKW was declared by the Government of India as a Wetland of International Importance under the Ramsar Convention in 2003. Designation of a wetland as a Ramsar site marks the commitment of the Contracting Party, i.e. Government of India, to undertake measures for ensuring its wise use. Wise use of wetlands is defined in the Convention text as 'the maintenance of their ecological character, achieved through implementation of ecosystem approaches, within the context of sustainable development'. Ecological character is 'the combination of ecosystem components, processes and benefits / services that characterize the wetland at any given point of time'. The 'Wise Use' concept of the Ramsar Convention provides an overarching framework for management planning for wetlands. The planning process provides a mechanism to achieve an overall agreement between wetland managers and stakeholders on the objective of site management to achieve wise use and thereby maintenance of ecological character.

EKW is under severe pressure due to anthropogenic stresses. Changes in land use, rapid siltation due to changes in hydrological regimes, pollution and stakeholder conflicts have greatly impaired the wetland functioning. Conservation efforts for these wetlands have also been limited in scope. Scientific assessments on the wetland system have largely been restricted to academic exercises and research and no systematic approach to conservation and sustainable development of these wetlands has been adopted. The wetland ecosystem faces grave threat to its ecological character, thereby endangering the overall sustainability of the resource recovery practices which forms the base of existence of the entire Kolkata city, and of the livelihoods of 0.2 million poor who depend on its resources for sustenance.

Management approach and methodology

Management Planning for EKW mandates recognition of the values, functions and attributes of the wetland and their interlinkages with hydrological and ecological processes within a river basin framework. The river basin approach to address the management issues of EKW needs to take into account the external, natural and induced factors and their influence on the wetland, calling for maintenance of ecosystem characteristics and sustainable utilization of resources for benefit of the stakeholders, particularly local communities. The approach followed for formulation of integrated management plan emphasizes on development of effective institutional mechanisms for conservation and sustainable development of the wetland for the benefit of stakeholders. The management planning framework seeks to harmonize



East Kolkata Wetlands forms a part of the extensive inter distributory wetland regimes formed by the Gangetic delta. The dynamic siltation pattern in the delta resulting due to the interface between freshwater and coastal processes creates a distinct topographic pattern within the region. From the apex of the delta, the altitude gradually declines from 20 - 25 m amsl to mean sea level at the middle point and then increases towards Sunderbans to 5 – 10 m amsl. The presence of this depression along with changing silt distribution patterns due to shifting of river courses and clayey and calcareous substratum creates conducive environment for formation of marshes which have presence all along India and Bangladesh. Within India, their presence is conspicuous in North and South 24 Praganas and Nadia Districts. East Kolkata Wetlands constitute one large system of marshes located within the peri-urban interface of Kolkata City.

References

- Rivers
- Water Bodies / Marshes
- Mangroves

Heavily urbanized wetland periphery is a major management challenge

planning at various levels with participation of concerned stakeholders to achieve the objectives of integrated conservation and sustainable resource development.

The methodology for management planning is based on the New Guidelines for Management Planning for Ramsar Sites and Other Wetlands as adopted by Contracting Parties to the Ramsar Convention on Wetlands in their seventh meeting held in 2002 at Valencia, Spain. The methodology is based on critical evaluation of ecological, socioeconomic, and cultural features to identify objectives and operational limits for effective restoration and management of wetland ecosystems.

Current status and trends

Adapting the New Guidelines of Management Planning for Ramsar Sites and Other Wetlands; establishment of management planning rationale and scope was based on rapid inventorization and assessment of wetland features and factors governing the features. Review of existing information augmented through GIS mapping, intensive community consultations and participatory rural appraisals indicated the following trends:

- There has been a progressive shift in the land use within EKW leading to a gradual dominance of agriculture, which accounts for ~ 40% of the wetland area. The area under fish farms has reduced from 7,300 ha in 1945 to 5,842 ha in 2003. Construction of fish farms bunds and roads within the fish farms have further reduced the effective area under waterbodies to 2,481 ha. The gradual reduction in waterspread within the wetlands has reduced its capacity to recycle wastes and attenuate floods.
- Despite having a large direct catchment of 1,625 sq km (including the basins of Kulti, Piyali Bidyadhuree, Adiganaga and Kolkata Municipal Corporation), inflows to the wetland are largely governed by the sewage generated from the Kolkata Municipal Corporation (KMC). Of the total flows, more than 95% is siphoned off from the wetland to reduce waterlogging within the Kolkata city. Drastic reduction of freshwater flows and gradual dominance of marine flows has induced rapid siltation within the system. The carrying capacity of various canals within the KMC has been assessed to be reduced in the range of 15 – 50% with silt depths ranging between 0.3 – 1.6 m. Of the 2,481 ha of area under fish ponds, 377 ha have been rendered redundant due to siltation.
- Management of hydrological regimes within EKW is biased towards flood management in Kolkata city through engineering structures, without considering the flow requirements for maintenance of ecological processes within the wetland system. Thus, on one hand opportunities for natural cleansing of the channels through high velocity monsoon flows are lost; failure to effectively management water regimes integrating

Farmers pump sewage for agriculture

hydrological processes has led to adoption of cost intensive and unsustainable solutions for water management.

- There has been a rapid change in biodiversity associated with the wetlands due to changes in hydrological regimes and land use. Of the 271 species of birds recorded from the wetlands, only 162 species have been variably noted during the last 30 years. It is assessed that 109 species of birds have become locally extinct, majority being aquatic birds. Similarly, there has been significant loss of vegetational diversity, particularly those of mangroves and other brackishwater species. The wetland which in early twentieth century teemed with a large spectrum of brackishwater and freshwater water fishes, only supports cultivable freshwater species. The presence of invasive exotic fish species *Clarius guripinus* and *Pangasius sutchi* pose great threat to the native diversity.

- The sewage fed fisheries (SFF), for which the wetland is known globally, has been constrained due to inadequate management of water regimes, technology integration and weak marketing, post marketing and value addition opportunities. Baseline data on fish farms collected by the authority indicate a relatively higher sewage access, productivity and net returns to the large farmers as compared to the smaller ones. The current farm management systems indicate a skewed incentive towards the large private farmers, as against the small and medium size cooperatives.

- Despite living within a highly resource rich area, the communities living within EKW have high rates of poverty incidence. The average household income of the wetland communities still stands equivalent to les than 70 % of the state average. Seventy seven percent of the population is under poverty line. Regional disparities within poverty incidence have been observed, with the southern region settlements faring lower than the northern region. Less than 35% of the total population has access to safe drinking water and adequate sanitation facilities leading to high frequency of waterborne diseases. Less than one fourth of the total households have access to formal economic infrastructure for credit and saving needs, thereby limiting opportunities for receiving equitable share of economic enterprise.

- The current institutional arrangements are not effective limiting implementation of the East Kolkata Wetlands (Conservation and Management Act), 2006. There is, on an overall, focus on patch management with engineering measures ignoring interlinkages with hydrological processes and biodiversity. Involvement of multiple agencies with sectoral approaches limits adoption of a holistic management approach and strategy. Absence of appropriate monitoring and evaluation mechanisms limits assessment of impacts of implementation of action plans.

Key management issues :

- Absence of policies and strategies to guide coordinated actions within river basin linking hydrological processes
- Full range of values and functions of EKW not integrated into developmental planning
- Water allocation biased towards human uses ignoring ecological purposes
- Lack of involvement of stakeholders , particularly marginalized communities in planning and decision making
- Lack of baseline information for planning and decision making
- Absence of effective institutional mechanisms

Management planning framework

The management planning framework envisages ecosystem conservation and sustainable resource development and livelihood improvement supported by institutional development; communication, education and public awareness; and institutional development as the key management components.

The goal of management planning for EKW is ***conservation and sustainable resource utilization for ecological security and economic improvement of stakeholders***. The purpose is to ***establish effective management practices for EKW and providing economic incentives to stakeholders through coordinated actions at river basin level integrating coastal processes***.

Key management strategies :

- Management zoning identifying entire wetland area as core zone and direct basin as buffer zone
- Establishing hierarchical and multiscalar inventory of hydrological, ecological, socioeconomic and institutional features to support management planning and decision making
- Ensuring hydrological connectivity of EKW with freshwater and coastal processes at basin level
- Regulating industrial effluent discharge as per CPCB standards
- Environmental flows as basis for water allocation for conservation and developmental activities
- Biodiversity conservation through habitat improvement of endangered and indigenous species
- Ecotourism development for enhancing awareness, income generation and livelihood diversification
- Poverty reduction through sustainable resource development and utilization
- Formation of multistakeholder groups for planning , implementation and monitoring of MAP
- Strengthening EKWMA with adequate legal and administrative powers
- Capacity building at all levels for technical and managerial skills
- Result oriented monitoring and evaluation activity, outcome and impact levels

Fish from the farms being transported in hundies to the market

ACTION PLAN

Management Zoning

- Implementing a multiscalar and hierarchical inventory and assessment of wetlands at basin level (Lower Gangetic Delta – 1: 1,000,000 scale), EKW Basin (1:250,000 scale), EKW and associated wetlands (1:50,000 scale) and EKW (1:10,000 scale) to support management planning and decision making.
- Regulating developmental activities through a zoning plan. Entire EKW to be declared as core zone with complete implementation of EKWMA Act, 2006 to guide developmental activities. Lake basin be demarcated as buffer zone with focus on ensuring hydrological connectivity with freshwater and coastal processes. Activities be regulated balancing ecosystem conservation and development.

Water Management

- Enhancing hydrological connectivity within the direct basin through rejuvenation of derelict water courses of Suntee, Nowaee, Nonagong, Adiganga, Bidhyadhuree and Piyali.
- Rehabilitation of inflow regimes through selective dredging of KMC network and primary and secondary channel network within EKW and its downstream reaches. Upgrading Palmer's Bazaaar Pumping Station and Ballygunge Drainage and Pumping Station to ensure effective sewage delivery.
- Improving water quality through management of Dhapa landfill to reduce percolation to the EKW; solid waste availability be organized by ensuring waste segregation at source and promoting ragpicker unions for improvising waste hadling. Comprehensive sanitation coverage within core area be ensured through establishment of 3,000 ecosan units.
- Water allocation for human and ecological purposes through assessing and implementing environmental flows as a basis for operation of all the hydraulic structures in the upstream and downstream reaches.

Biodiversity conservation

- Inventorization and assessment of key waterbird habitats within EKW basin , ie Bartee Beel, Gobadiabad Beel, Nalban and Goltala be carried out. Plantation of phragmites, shola, typha and other indigenous spp be undertaken and community reserves be created at Goltala, Nalban, Birtee and Gobariabad beels to restore waterbird habitats. Bird protection committees with conservation incentives be formed to control poaching. Networking with national and international treaties be done to strengthen habitat conservation efforts.
- Enhancing fish biodiversity through establishing a centre for culture of indigenous fish species at Goltala. Establishing units for standardization of captive breeding of endangered species at Captain bhery.

Ecotourism Development

- Construction and operationalization of an interpretation centre north of Krishnapur Canal with facilities as panel displays, interactive maps, 3D models, dioramas, audiovisual rooms, viewing galleries, play areas. Development of recreational facilities as board walks, nature trails, guided boat rides, landscape gardens as effective tool for communicating ecosystem values as well as livelihood diversification of communities. Specific training programmes for various target groups be undertaken as an integral part of the activities. Signages, communication and transport facilities be developed for complete tourist education and recreation experience.

Sustainable Resource Development and Livelihood Improvement

- Enhancement of fish yield through establishing four hatcheries at Dhapa-Manpur, Tardah-Kapasiti, Kantipota, and Kharki with production capacity of 1.5 million fingerlings /operation to ensure better availability of fingerlings within the wetland area. The management be entrusted within fisher self help groups. Microfinance linked desiltation programme be implemented for bheries 277 bheries facing siltation problem.

- Improvement of harvesting and post harvesting. Two community utility centres be established at Chaubhaga and Bamanghata for improvement and maintenance of crafts and gears. Infrastructure for seven fish markets (Krishnapur, Chingrighata, Goltala, Chaubhaga, Bamanghata, Garia and Gangajoara) be improved through construction of sheds, vehicle transportation facility, water and electricity access, storage facilities etc.

- Promoting rainwater harvesting in agricultural fields to enhance availability of freshwater.

Bamboo provides an important livelihood option

- Diversification of cropping pattern. Low irrigated rabi season crops (mung bean, mustard, chilli, cotton); high value vegetables; floriculture (jasmine, marigold, sunflower) and medicinal plants (tulsi , ghritokumari) be introduced in 1,000 ha of agricultural lands for crop diversification and enhancing returns to farmers.

- Development of vegetation based micro enterprise (150 units), ornamental fish culture (300 units), Goatery (250 units), Piggery (250 units), fish cum duck rearing (300 units) for livelihood diversification of EKW communities.

- Construction of 280 safe drinking water units for enhancing freshwater availability within the wetland communities.

Institutional Development

- Restructuring EKWMA for effective management planning and coordination amongst the line departments and agencies. Governing Body be established chaired by the Chief Minister/Chief Secretory for overall policy directions and performance. High level steering committee be constituted below the governing body for ensuring interagency cooperation. Project Implementation Committee be constituted with representation of all line departments for MAP implementation. Scientific and community advisory groups be constituted to advise on implementation. Implementation of specific action plans be undertaken through project management units.

- Enhancing technical and infrastructural capacity of EKWMA through training on wetland management and related aspects and procurement of necessary equipment. Multistakeholder working groups be established to resolve conflicts and develop shared vision for management planning.

- Results based monitoring and evaluation at activity, output, outcome and impact level be developed to guide implementation. Inventory and assessment information to support implementation and mid term corrections.

Budget

The overall budget for implementation of the action plan has been estimated to be Rs.304 crores (at 2008 prices) for a period of five years.

Highlight of activities

Restoration of Adiganga

Adiganga historically provided the connectivity of East Kolkata Wetland system to the Bay of Bengal. The marine influence to the wetlands received through this river gave its original name, the Salt Lake. However, with rapid changes in deltaic processes, extensive hydrological fragmentation, and choking of the river bed, this connectivity has been lost.

The Authority has taken a special initiative to restore Adiganga, through the financial support of National Lake Conservation Plan of the Ministry of Environment and Forests. The detailed project report for rejuvenation of the 22 km stretch was prepared by the Institute of Environmental Studies and Wetland Management (IESWM), Department of Environment, Government of West Bengal. The project focused on two specific stretches, i.e between Rajpur-Sonarpur and Baruipur Municipality, disposal of sewage and solid waste from which choke the system. Key action components of the project include:

- Construction of intercepting sewer lines, lifting stations, sewage treatment plants
- Enhancing connectivity of derelict waterbodies
- De-silting and weed removal
- Setting silt-traps
- Bio-remediation

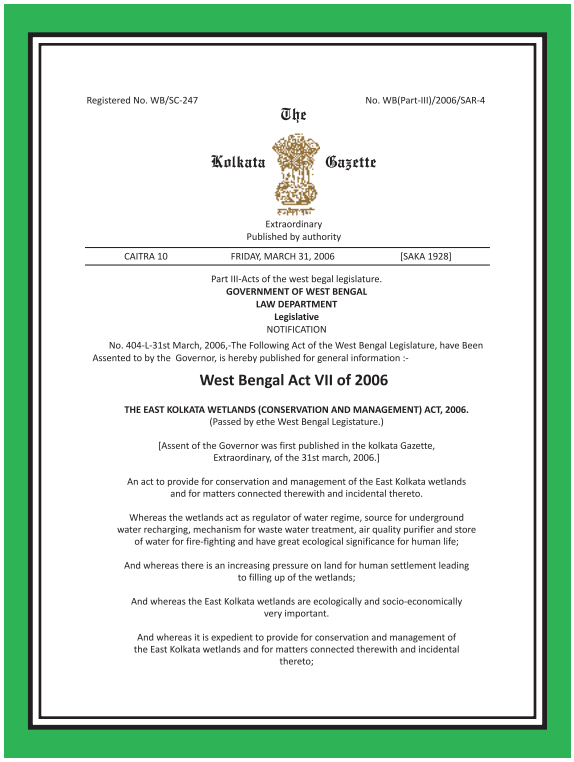
A nearly defunct canal of Adiganga

Canal near Chowhati undertaken for restoration

- Linkage with Tolly's Nallah
- Development of eco-park
- Public participation and awareness

Two committees, headed by Chief Secretary, Government of West Bengal and Principal Secretary, Environment Department, Government of West Bengal have been constituted to oversee smooth implementation of the project. IESWM is nodal implementation agency. Project implementation involves the department of Irrigation and Waterways, the East Kolkata Wetlands Management Authority (EKWMA) , the Kolkata Metropolitan Development Authority (KMDA) and local municipalities. Supervision of day to day field implementation is through a multi-disciplinary Project Management Group.

Implementation till date includes initiation of the desilting and deweeding activities. Design and drawings of the bridges have been completed. Design of Sewage Treatment Plants, lifting stations and intercepting sewer line has also been completed. Linkage with Tolly's Nallah, needless to say, remains the most complex part of this project. Intensive efforts are also underway to enhance awareness and public participation within the restoration programme. It is expected that the project will lead to major improvements in the river channel and the overall hydrological regimes of the wetland system.



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Part III-Acts of the west begal legislature.
GOVERNMENT OF WEST BENGAL
LAW DEPARTMENT
Legislative
NOTIFICATION

No. 404-L-31st March, 2006,-The Following Act of the West Bengal Legislature, have Been Assented to by the Governor, is hereby published for general information :-

West Bengal Act VII of 2006

THE EAST KOLKATA WETLANDS (CONSERVATION AND MANAGEMENT) ACT, 2006.
(Passed by ethe West Bengal Legistature.)

[Assent of the Governor was first published in the kolkata Gazette, Extraordinary, of the 31st march, 2006.]

An act to provide for conservation and management of the East Kolkata wetlands and for matters connected therewith and incidental thereto.

Whereas the wetlands act as regulator of water regime, source for underground water recharging, mechanism for waste water treatment, air quality purifier and store of water for fire-fighting and have great ecological significance for human life;

And whereas there is an increasing pressure on land for human settlement leading to filling up of the wetlands;

And whereas the East Kolkata wetlands are ecologically and socio-economically very important.

And whereas it is expedient to provide for conservation and management of the East Kolkata wetlands and for matters connected therewith and incidental thereto;

Enforcement of East Kolkata Wetlands (Conservation and Management) Act 2006

EKWMA has been taking a concerted effort to implement the EKW (Conservation and Management) Act 2006 through monitoring land use changes using high resolution satellite data and ground truthing. A survey of the entire wetland area has also been completed to develop a digital elevation map and project future land use changes to support wetland management. The emphasis is to prevent anthropogenic land use change, particularly unauthorized constructions and illegal filling up of water bodies.

Till date, EKWMA has lodged 113 FIRs within Sonarpur, Tiljala and K.L.C. police stations. Criteria for processing application received under the act for permissible land use changes have been finalized. A committee has been formed to recommend applications on the basis of such criteria to the EKWMA for final approval. Till date, 367 applications have been received for construction of houses, factories, schools, eco-tourism centres and other purposes. Of these, 245 have been processed and 112 accorded approval.

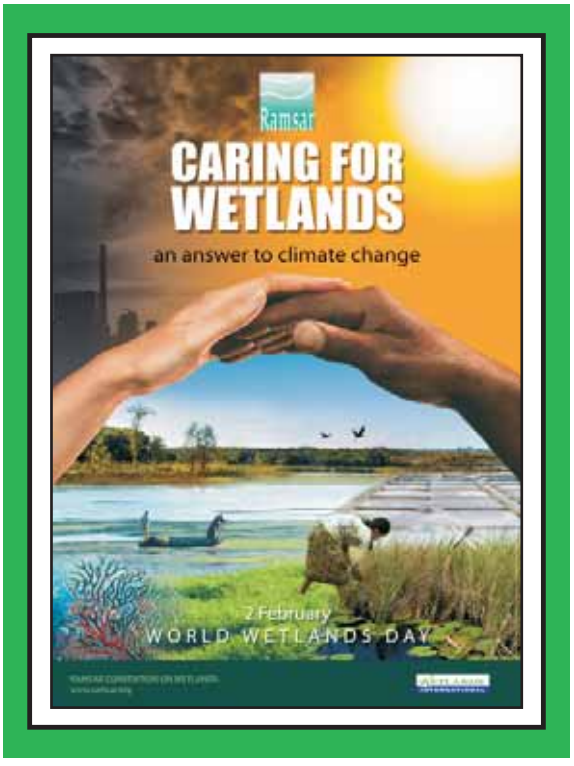
As per the decision taken in the 10th meeting of the EKWMA held February 10, 2010, 17 unauthorized structures within Bonchtala and Nonadanga mouzas, within Tiljala Police Station of South 24 Parganas were demolished on February 17 in a joint effort by the EKWMA, Kolkata Municipal Corporation and District Magistrate Office- South 24 Parganas.

Creating Environmental Awareness

EKWMA organized a series of environment awareness programme in association with Centre for Environmental Management and Participatory Development (CEMPD), Calcutta Electric Supply Corporation Limited (CESC Limited) and Jalabhumi Bachao Committee. Slide shows, caption writing, quizzes and poster competitions were organized in 24 primary and high schools within the wetland area on themes related to wetlands. Hoardings displaying the demarcated wetland area as per the East Kolkata Wetland (Conservation and Management) Act, 2006 have been erected at various places for information of the general public. Financial assistance for the programme was provided under the National Wetland Programme of the Ministry of Environment and Forests.

Celebration of World Wetland Day

The Convention on Wetlands was signed on 2nd February 1971 in the Iranian City of Ramsar and since then, this day is celebrated as Worlds Wetland Day. The Worlds Wetland Day is attached with a slogan each year. The aim of the celebration is to enhance awareness of the values and benefits of wetlands in general and Ramsar in particular. The slogan for the year 2010 is Caring for Wetlands- an answer to climate change.



EKWMA celebrates World Wetlands Day every year to enhance public awareness of the values and functions of East Kolkata Wetlands. This year, the Day was celebrated at Bheri No.1 of the Matsajibi Samabay Samiti. Leaflets on World Wetland Day and East Kolkata Wetlands emphasising the role of wetlands in providing the goods and services, its impact on the life of local residents and its importance in maintaining a healthy environment were distributed on this occasion. All members of all cooperative fish farms, schools teachers and students, panchayats and ward members were invited to the celebration function.

Afforestation in association with EKWMA, CEMPD and JBC

School children learning about the wetland

Desiltation of the canal systems

Canals are the lifeline of the East Kolkata Wetland system as they transport sewage from the city to the area, distributing it for use in the fish farms and subsequently for agriculture and horticulture. Siltation of the canal system impedes efficient distribution of sewage, and is a major concern for sustaining production within the wetland.

The EKWMA has identified desiltation of the canal system as a priority implementation area. Under the National Rural Employment Guarantee Scheme (NREGS) of South 24 Paragnas District, 8.5 km stretch of the Bidyadhari canal with an average width of 25 feet and depth of 4 feet has been re-excavated from Bantala (Lalkuthi) to Boynala via Dakshin Garumara, Bagdoba, New Bamanghata, Dakshin Bamanghata, Nalban, Haripota, Tankpara, and Bhangarkhal. The desiltation programme addresses the problems of farmers of Dakshin Dhapamanpur, Hadia, Tardaha Kapashati, Goalpota, Khodahati mouzas where 75% of the beneficiaries are fish farmers.

The National Wetland Programme of the Ministry of Environment and Forests continued their support to canal desiltation programme in the northern and southern parts of EKW. About 20 canals were identified for the desiltation programme based on their functional capacities. A major desiltation work was conducted in the Sumit Gheri canal which was inaugurated by Sri Abdur Rejjak Molla, Minister-in-charge, Land and Land Reforms Department. An 11 member beneficiary committee was formed comprising the local people of Kheyadaha II Gram Panchayat to look after the desiltation of the 6.15 km long canal. This intervention has helped in irrigating the crop fields of Tardaha Kapashati mouza.

Kolkata Environmental Improvement Project (KEIP) has undertaken desiltation of 74.5 km length of canals in the northern part of EKW. KEIP has integrated this initiative within its overall sewage management programme.

Improving community livelihoods and quality of life

EKWMA is also undertaking efforts for improving community livelihoods and quality of life while ensuring maintenance of ecological character of the wetland system.

Celebration of World Wetlands Day in EKW

Demolition of unauthorized structures within Tiljala Police Station

A number of villages in EKW are affected by arsenic contamination. The authority has therefore granted permission to the KMC for setting up of a water treatment plant at Dhapa to provide purified drinking water.

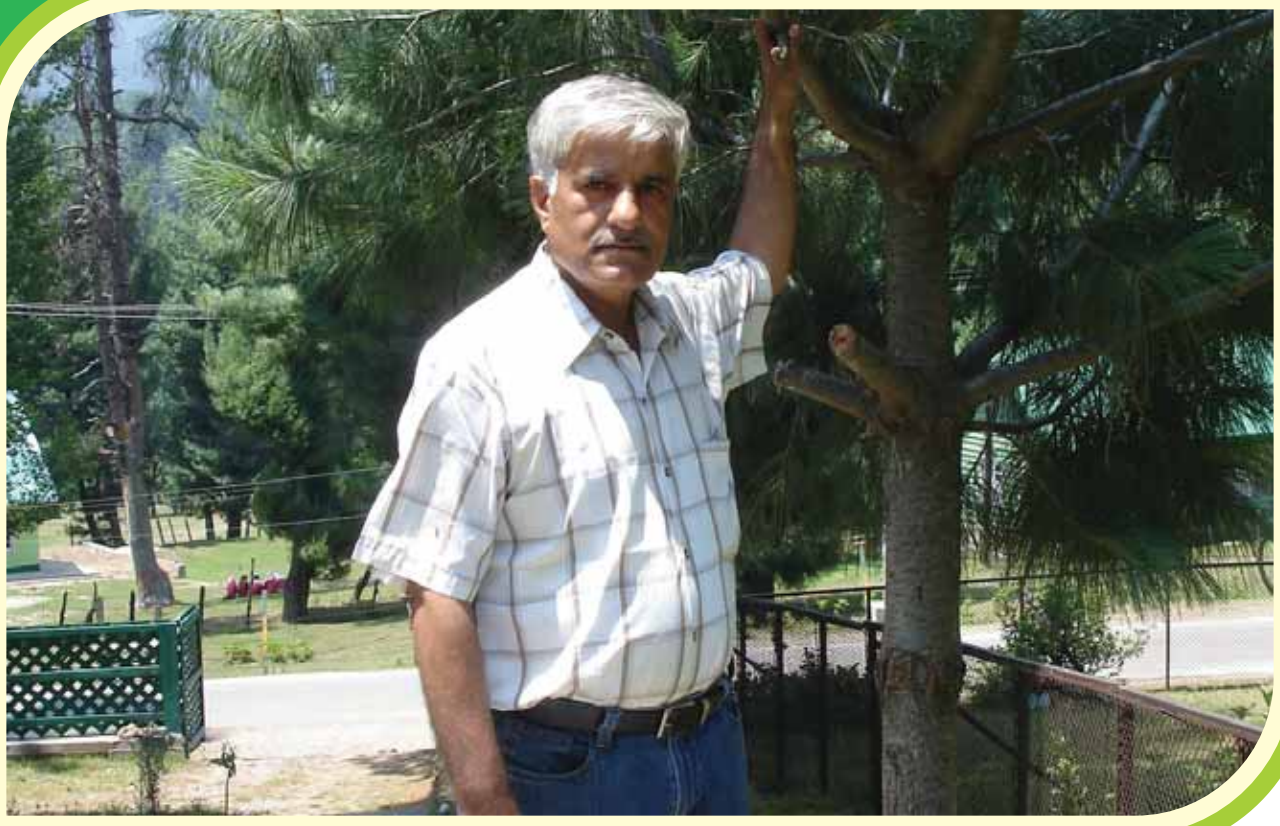
The sanitation situation within EKW also needs urgent attention. A survey was carried out in association with CEMPD and CESC Limited to understand the exact

extent of the problem. Data on access to toilets, drinking water sources and availability, diseases, status and adequacy of access to community health infrastructure was compiled. This data will form the basis of implementation of a comprehensive community health programme.

Limited afforestation programmes have also been taken up within the wetland area with financial support of the Ministry of Environment and Forests, with an objective of enhancing local hydrological regimes and access to non wood based products. The locations were identified in consultation with the communities and considering the hydrological and ecological aspects. A total of 5000 seedlings comprising a mixture of both deciduous and evergreen varieties were planted in the selected sites with the help of local residents, school children and clubs. EKWMA in association with the two local NGOs named Centre for Environmental Management and Participatory Development (CEMPD) and Jalabhumi Banchao Committee, Calcutta Electric Supply Corporation Limited (CESC Limited) and Kolkata Municipal Corporation (KMC) has undertaken similar afforestation programmes on the bank of Metropolitan canal, beside the road and playground at Khanaberia and Surja Sangha at Kheyadaha.

Further, the authority has identified 35 villages for electrification. This work will be funded by CESC within their project for installation of 220 KV overhead power line through EKW without causing any land use change. Dakshin Garumara village in Bamanghata panchayat has been identified as the first village under the programme.

Establishment of a pumping station at Jalpath point on the Basanti road has also been approved by the authority to promote sewage fed fisheries in areas facing decline in pisciculture. The proposal submitted by Sonarpur Block Development Office was approved and funded by the authority after necessary verification of drawings, technical details and confirmation on operation and management.



Dr. Chaman Lal Trisal

(June 14th, 1948 - September 10th, 2009)

The first death anniversary of Dr. Chaman Lal Trisal , Founder Director of Wetlands International – South Asia was on September 10th, 2010.

Dr. Trisal was one of the key architects of wetland conservation in India and abroad. He championed the cause of scientific management of wetlands, and led formulation of integrated wetland management plans for several Ramsar sites, including East Kolkata Wetlands. His key contribution was rendering a nested socio-ecological systems perspective to management planning, wherein people and ecosystems formed an integral part. Recognizing this, The Ramsar Convention invited him to present several key guidelines to the Contracting Parties, most notably the Guidelines on Integration of Wetlands Conservation and Wise Use within River Basin Management (CoP 7, Costa Rica) and New Guidelines on Integrated Wetland Management Planning (CoP 8, Valencia). He also kept his feet grounded in hardcore research and made significant contributions to understanding in wetland dynamics for several sites. At core of his heart was a vision of wetland conservation and wise use which spanned across sectors and stakeholders, ultimately for the well-being of the communities, especially those who seek livelihoods from these ecosystems.

WISA and EKWMA fondly remember Dr. Trisal on his first death anniversary as a visionary who demonstrated practical wetland management balancing conservation and livelihoods, and rededicate themselves to the cause of promoting sustainable wetland management.

WETLANDS INTERNATIONAL

To sustain and restore wetlands, their resources and biodiversity for future generations

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