


2007 until now
SAFE initiatives on EKW...

Biorights of Commons

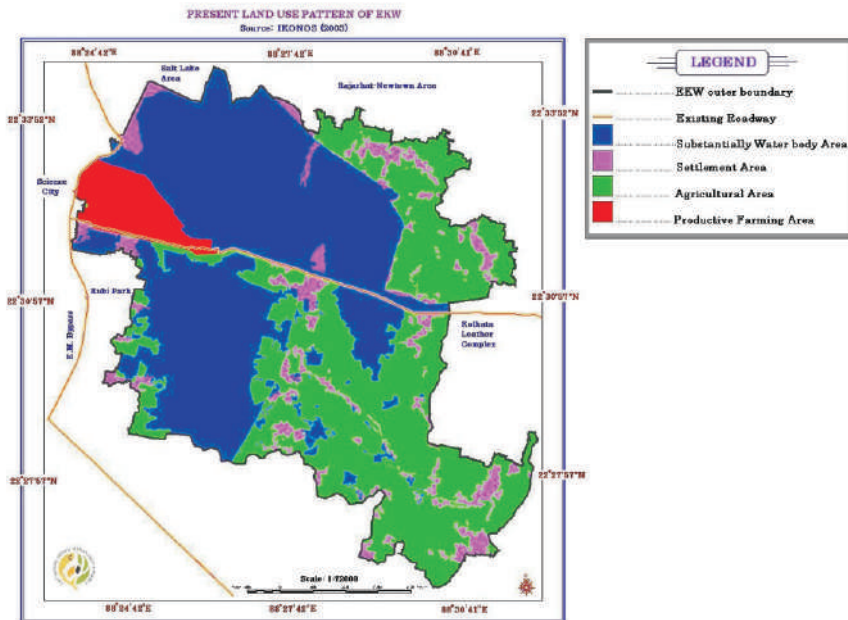
The New Conservation Paradigm to Combat Climate Change

A black and white photograph showing the silhouettes of several people on a boat. They are holding long poles, likely used for rowing or navigating. The background is a bright, overexposed sky and water, creating a high-contrast scene. The boat appears to be a traditional wooden vessel.

South Asian Forum for Environment

Geomorphology

Geologically the area forms the southern part of the Indo-Gangetic Basin and lies to the South of the Garo-Rajmahal line which forms a hinge. Basement sediments go down to depths of 5666m to 6666m while the depth of alluvium is about 816 m. This thickness of the sediment implies sedimentation along with subsidence. Geomorphologically the East Kolkata Wetlands form an



interdistributary marsh of the Hoogly – Bidyadhari riverine system. This depression covers an area of about 76.0 Sq. Km. Early records show that even in the middle of the 18th century the western margin of the area was within 3 km from river Hooghly. The general slope of this marshy tract is towards south-east. The aquifer in the area is found at 30 m to 90 m depth yielding fresh water. In the same area, aquifer at 125 m to 250 m depth yield slightly brackish water. In these wetland region,

which is the mature delta of Ganges River where its tributaries eventually drain into Bay of Bengal, human interference had cut off the spill area, escalating process of decay that caused river Bidyadhari to dry up, stopping silt deposition in spill areas.

When garbage was first brought to the area, fertility of the soil began to improve and became ideal for farming. At the same time, the drying up of the Bidyadhari spill channel caused the delta to deteriorate into derelict, brackish swamp. In the 1930s, Bidyadhari only carried city sewage and in the process became choked further because of high silt containing sewage. When Dry Weather Flow channel was constructed in 1943-44 to carry city sewage to Kulti Gong, more wastewater was brought there, which increased its freshwater content. Local farmers stocked some ponds and dug new ones as well. These sewage-fed fisheries spread quickly, and were innovated, developed, and upgraded by local fish producers and farmers through intensive fish culture.





Traditional knowledge, part enterprise, and creativity, much of folk technology is retained in informal, oral tradition in these wetlands acting as “sink” for 4,500 tons of municipal waste and 980 million liters (MLD) of raw sewage every day with a detention period of 4-5 weeks for natural recycling. Untreated sewage produced by the nation is 29,129 MLD of which only 6,127MLD is treated. EKW does 16% of the work free of any operational cost. However, 30% of total wastewater is used for aquaculture while rest flows directly into Bay of Bengal which pollutes the estuary, highlighting immediate need for improved efficiency of the system. It reached its peak productivity middle of the century but is now declining due to encroachments and development fed by a real estate boom leading to habitat loss.

Biodiversity and Nature Services in EKW

Once rich in species assortment, EKW has low flora diversity now in core area with only *water hyacinth* and 20 species of algae. In entirety EKW has 34 families, 68 genera and 104 species of Plants. About 20 species of mammals have been reported in the area. Other than Red listed marsh mongoose, Indian mongoose palm civet and small Indian civet are common. It used to have 28 reptile species including threatened Indian mud turtle and black cobra as reported earlier with 38 species of migratory and resident birds. 52 species of endemic fishes were present, however only 26



could be recorded in recent surveys.

EKW Provides 3 basic securities for food, sanitation and livelihood. It yields 150 tons of fresh vegetables per day, 11000 tons of paddy and 10500 tons of table fish per year from 272 bheries own by formal or informal cooperatives while it sustains livelihood for more than 100 thousand people and creates another 12000 job opportunities, which is more than any agro-fields with canal irrigation. It supports diverse human activities of wetland dwellers of which 83.86%

are poor, underprivileged and 46% are women fishers working in wastewaters.

Significance of Wetlands

Wetlands are the greatest natural resource recycling ecosystems with multiple nature services and develop a confluence of terrestrial and aquatic habitat to host rich biodiversity genetic



resource and provide a critical refuge and breeding ground for many species. Multifunction of the ecosystem includes micro-climate regulation & carbon sequestering, flood control, erosion reduction and maintain groundwater levels. It plays a large role in water purification particularly in urban areas in regard to absorption of pollutants, toxins, heavy metals.



It has been rightly depicted by IPCC about the implications of climate change impacts on wetland ecology as - **"Any alterations of these regimes will influence biological, biogeochemical, and hydrological functions in wetland ecosystems,**

thereby affecting the socio-economic benefits of wetlands that are valued by humans."

In case of sensitive ecosystems alike East Kolkata Wetlands the implications of climate change are even more serious. Given the fact that Kolkata metropolis has the highest carbon footprints in the nation, EKW stands as a unique facility for carbon sequestering to the conurbation, though mismanaged wetlands can equally be fatal adding to the emission levels largely from decay and decomposition of organics. Thus habitat health can only assure pliability to the critical thresholds of carbon sequestering functions of a wetland that behaves both as source and sink for carbon. Even though mean average rainfall and temperature may not show major fluctuations, micro-climatic variations of 2-3°C temperature or 20-30mm of rainfall may lead to shifting and fragmentation of wetlands, species migration and habitat loss, drastically reducing the quanta of nature services available from wetlands.



The Crisis in East Kolkata Wetlands

Owing to fast urban encroachment by real estate dealers and dumping of untreated wastes, the international site was facing the threat of getting de-listed in 2005. The most important and massive land use change was caused by urbanization initiated by the government of West Bengal since 1956. The former Calcutta Metropolitan Planning Organization (CMPO) plan converted the north-western part of the wetlands adjacent to the city into what is now known as Salt Lake City or *Bidhnnagar*. Thus out



of 20,000 acres of wetlands recorded in 1945, EKW now have less than 10,000 acres left as wastewater fish ponds. A four lane expressway from Barasaat to Rainchak under “New Kolkata International Development project of Indonesian Business group will run through 85 Km of wetlands, Further one SEZ and industrial hub will be established to which the East Kolkata Management Authority of Government of West Bengal had given clean chit. Till date neither any accurate mapping of the wetland has been done nor do any inventory made for conservation. Habitat loss and vanishing biodiversity from EKW is a matter of serious concern. EKW is shrinking at an alarming rate of 1% per annum.

Sociometric survey conducted by SAFE revealed that poverty, ignorance and wretched life status are the immediate constraints of wetland dwellers, especially fisherwomen at EKW. They have no proper sanitation and medical facility that are the basic life sustaining prerequisites. Whereas,



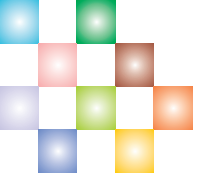
different development projects are continually destroying the EKW habitat, of which the Dhapa II water treatment plant, Moni Bhowmick Foundation area, Heritage School complex, City Bus Depot, Bantala leather complex, highways and many others are included. The sewerage draining system laid down by the municipal corporation is unevenly planned destabilizing the nutrient load balance of the ecosystem. Further, excessive load of silt and solid waste carried by these drains is posing indirect threats of landfill and encroachment today in EKW. A burning example is the *Mollar Bheri*



Fishers Cooperative that was closed and converted to solid waste dumping ground extraditing 126 families of fishers, who turned to rag pickers.

Policy initiatives of the state government for conservation of East Kolkata Wetlands taken through conservative top-down approach has established the Wetlands Regulatory Act in 2003 with the formation of East Kolkata Wetlands Management Authority that lies as an incomplete defunct organ till date.

East Kolkata Wetlands survives today with the community endeavors of the wetlanders who earn their livelihood and efforts of the civil society organizations who are working towards sustainable environmental development of EKW through community partnership and participation.



2007 until now...

SAFE initiative on EKW...

South Asian Forum for Environment [SAFE], a civil society organization working towards sustainable environment development and poverty alleviation through community based participatory efforts in the Indian ecoregion. In view of the UNDP Millennium Development Goal, SAFE is prioritizing habitat assessment and restorations of important wetlands which are the natural resource recycling ecosystems and profusely regenerate the water table. Significance of wetland ecosystem is further avowed through its role in carbon sequestering that minimizes global warming. It's amazing to note that the poor communities in the global south mostly flock around the wetlands that assure the benefits of both terrestrial and aquatic ecosystems. SAFE envisages global reciprocal partnership and participatory policy frame for commons to promote sustainable environment development and wise use of natural resources.



It took up the challenge of restoring the East Kolkata Wetlands Ramsar Site in 2005 as a flagship project, when EKW was facing the threat of getting included in the **Montreux Record** of wetland sites on the Ramsar List of Wetlands of International Importance where changes in ecological character have occurred, are occurring, or are likely to occur as a result of technological



developments, pollution or other human interference. The immediate concerns were to undertake a habitat evaluation study and sociometric assessment to develop a community based restoration programme. Dr Dipayan Dey, Chair SAFE, led the first restoration programme under the aegis of British Ecological Society, UK in 2006-07 to develop an EIA report on East Kolkata Wetlands. The study highlighted the critical information gap about the impacts of climate change on ecological dynamics of the ecosystem on one hand and the negative link between poverty and conservation in restoring the wetlands on the other. A primary line wetland inventory development was inevitable at this stage, whereas laying down immediate restoration plans without compromising with the community livelihood was bare essential. The challenge invoked an innovation to restore the habitat by compensating the opportunity cost of the poor wetlanders and this led to the birth of BIORIGHTS of commons.



BIORIGHTS : Commons Conservation Coin

Biorights is a concept that tries to protect areas of global biological importance by compensating poor people that live near nature areas and that are dependent of these nature areas for cash generating activities. The hypothesis is that in this way a sustainable rural development is possible as the negative link between poverty and nature degradation will disappear. The monetary value of nature has so far not been recognized by the world community with our current economic system and hence its value is only marginally present in the market. Mostly the costs of nature conservation are visible in the market and only the most obvious benefits, such as tourism revenues, are accounted for in the market. That is why it is not possible at present to make an unbiased cost-benefit analysis of existing nature reserves. Pointing out the most cost-effective areas worldwide is one thing, making nature conservation a sustainable solution for the local people is another. One of the suggested solutions for the poverty problem is to compensate people for managing their natural resources. Biorights could contribute to this by compensating local people in developing countries directly for not degrading the natural environment. The global average compensation cost that is needed to cover the opportunity costs of the local people lies in the range



of US\$13.65 (INR 520.00) ha⁻¹ yr⁻¹ and although biorights is not a new concept, it does hold elements that are new and that have potential, such as:

- A. The direct payments to compensate for poverty related costs. These payments are also for the long term to guarantee a sustainable rural development.
- B. The distribution of payments to communities and not to individuals on the basis of nature conservation.

The hypothesis is that in this way a sustainable rural development is possible as the negative link



between poverty and nature degradation will disappear. Successful projects on Biorights have already been installed in Central Kalimantan of Indonesia, Chinkogurana village of Uganda, and Philippines.

SAFE successfully initiated the first Pilot Project on Biorights in India under the leadership of Dr Dipayan Dey supported by Innovative Challenge Fund of 'Kolkata Urban Services for the Poor' (ICF-KUSP) programme funded by DFID (UK) through Municipal Affairs Department, Government of West Bengal. NABARD supported the second phase of the programme with a Rural Innovative Fund. The project has been accredited as the Best Practice Case Study

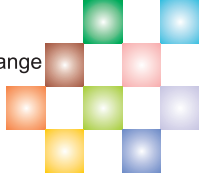
in Payment from Environmental Services (PES) in the 4th TEEB (The Environment Economics and Biodiversity) report of UNEP (United Nations Environmental Programme) available at www.TEEBweb.org

In the said project, revenue returns from ecotourism and species conservation in sewerage fed wetlands acts like a financial tool for risk spreading and risk coverage as well. The conservation activities assure an alternative economic opportunity for livelihood sustenance to the commons in the lean period. A portion of the revenue goes for premium of family micro-insurance coverage for the wetlanders who struggle in stinking sewerage waters for their livelihood and produce fish for the metropolis. The innovation is that environmental awareness explicitly acts as a marketing tool for the revenue generation system and thus endorses the BIORIGHTS component.

OUTLINES OF 'BIORIGHTS PROJECT'

PROJECT AREA

East Kolkata Wetlands Ramsar site situated in the eastern fringe of Kolkata metropolis of West Bengal is the project area. Five fishermen cooperative namely Sukantanagar Bheri, Sardar Bheri, Chaker Bheri, Mollar Bheri and Natar Bheri were selected with twelve waste water fish ponds under urban local body of Bidhannagar Municipality, ward No 22, 23 & 25 covering an area of nearly 14.5 Sq Km.



BENEFICIARIES OF THIS PROJECT

Nearly 520 families (2200 persons) from the fishermen's community of East Kolkata Wetlands, working in these five cooperatives were the direct beneficiaries. All are below poverty level people having a monthly income of INR 850 per family or less.

SALIENT FEATURES

The pilot project intends to transform nature-services like Productivity, Ecotourism and Species Conservation as a financial tool for poverty alleviation and sustainable environment development in peri-urban wetlands of East Kolkata through community participation and partnership. The salient features that made this endeavor a sustainable success are outlined here.

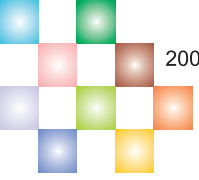


1. A community-ecosystem mitigation approach was adopted to establish environmental justice for commons through Biorights.
2. A successful model for negating the negative link of conservation and poverty was incorporated by a bottom up mitigation approach through partnership and participation.
3. Adaptive management over space and time was practiced for developing community attitude for conservation and resilience to ensuing environmental changes
4. Environmental awareness campaign has been used as a tool for marketing nature services and transforming it as an economic opportunity for the poor. Community adapted wise-use practices in wetlands for ensuring the revenue returns.
5. Blending Traditional Ecological Knowledge (TEK) and low cost green technology to sustain conservation efforts.

COMMUNITY BASED ACTIVITIES

A. ECOTOURISM IN SEWER FIELDS – The KUSP Initiative

The wetlands contour against the Kolkata urban skyline makes an amazingly beautiful place for recreation in EKW. The panoramic view of wetlands, traditional practices and social rituals of wetlanders along with boating and fishing in wetlands, makes a perfect ecotour package for city dwellers. SAFE installed two ecotourism hubs in Sukantanagar and Natarbheri to utilize this nature service in EKW. Thus, conservation became a community priority to increase the tourism potential of the place. Self help groups of



women workers in the fishers' cooperative were trained in hospitality and catering services while few male workers were trained for marketing the spot for ecotours using environmental awareness tools. The pavilions were decorated with ethnic huts and plantations were done extensively. Interestingly the tourism season hikes during the lean period of fishing and that supported the livelihood



of hundreds of fishers in winter. The endeavor directly marketed the unique features of EKW for accruing tourists and thus spread the awareness on conservation of EKW. The programme was supported by KUSP programme of Govt of west Bengal. Study tours from Chuo University Japan and Calgary University Canada were conducted in these spots to understand the community based conservation model.

B. CONSERVING ENDEMIC FISHES IN EKW – The NABARD Initiative

EKW is the home of 52 endemic fishes that are self recruiting species, though these are rapidly vanishing owing to intensive fish culture and habitat loss. SAFE took the initiative of rehabilitating few endemic indigenous species of fishes in these wetlands under the Rural Innovative programme of NABARD. 10 endemic self recruiting species that are priced in the local market were collected from rural villages of west Bengal and brought to EKW in oxy-packing. After acclimation in the EKW micro-climate they were released in the nursery pond. Seven species successfully survived the acclimation process and showed jubilant growth. These will be conserved as the gene bank and the seeds thereof will be shared to other fishers' cooperatives. The programme initiated capacity building in





fish breeding and cultivation of the local fishers. Lessons in conservation of wetland habitat, defining No Fishing Zone and recognizing habitat preference of endemic fish species were integral to the programme. SAFE installed a museum and study center for the local fishes of EKW and a large aquarium for reproductive studies to be carried out in captivity.



C. SOLAR ELECTRIFICATION – Environmental Promotional Activity in EKW

In developing resilience to climate change impacts in the community, SAFE carried out “No and Low Emission” campaigns in the wetlands amongst the community. As a part to this end, SAFE installed Solar Community Lighting and Solar Water Pumps in the fishers' cooperative replacing kerosene lamps and diesel pump sets. This solar electrification supported by Environmental Promotional Activity, EPA of NABARD brought new nightlife to the community. It also helped in developing awareness about emission and climate change implications. Community extended the 'No Emission' practices by using solar cookers, dryers and water heaters during winters.



D. BIOFERTILIZERS AND ORGANIC FARMING – In search of green alternatives

Going Green to reduce pressure of chemicals and non-biodegradable on the planet has ever been a prerogative for SAFE. In EKW also, production of vermicomposts and cultivation of Azolla has been initiated to substitute chemical and fertilizers and fish feeds. This developed as an alternative economic opportunity and earned significant revenue. Organic farming and hydroponics were promoted in all concerned cooperatives and this led to self sufficiency and community resilience.



E. COMMUNITY WATER GOVERNANCE – Setting an example in the State

Wetlands are natural harvesters of rainwater and recharges ground waters, though all waste water fisheries suffers from scarcity of safe drinking water owing to heavy metal and toxic contaminants in the waters of EKW. Biological contamination is also unexpectedly high owing to obvious



reasons. SAFE had promoted water harvesting by reconstruction of wetlands and wise-use of potable water. With the aide from an NRI, SAFE also installed a Green Technology Community Drinking water purification plant that uses surface water for purification and delivers WHO certified SAFE drinking waters to the rural communities of EKW at a price that the poorest of the poor can afford. The entire water distribution system is handled by the local Self Help Groups and the community water governance is installed to ensure wise-use and distributional equity assurance in the community through retail chain system. Such community water governance for slum dwellers is the first in the state.

F. ECOSANITATION & HEALTH FOR SEWER WORKERS – Partnership with Rotary



Compensating the opportunity cost is the principle string of Biorights. However, all compensations can't be financially institutionalized as non-tangible nature services are difficult to quantify and needs strong cost-benefit analysis logic. As an end towards this, SAFE took up a range of welfare activities for the community to motivate conservation will and efforts in the community. Construction of low cost eco-sanitation units are just one amongst them. This was supported by the Rotary international and facilitated the women workers especially in the waster water fisheries. Rotary

Clubs also helped SAFE in conducting free health camps, awareness campaigns towards hygiene and immunization, importance of micronutrients in child diet etc.



G. MICROINSURANCE – True financial inclusion and empowerment

The financial implications of Biorights could be visualized through micro-insurance programme in investment mode in the fishers' cooperatives. The increased return on revenues owing to alternative economic opportunity created through conservation efforts to compensate the opportunity cost of commons was partly distributed as a gratuity and partly invested towards micro-insurance coverage. The ratio was unilaterally decided by the cooperative members and all participated in this decision making. The micro-insurance venture, especially designed for the fishers allowed them the freedom for handling the premium as an investment and risk coverage as well. The financial inclusion through bank linkages extended further social assurance.



H. CAPACITY BUILDING – For an able tomorrow

Capacity building is a hardcore activity for community adaptation and resilience. In all climate initiatives SAFE prioritizes training and



workshop towards capacity building that enable the beneficiaries to adapt to changes and find for newer opportunities for livelihood. In EKW also, SAFE organized capacity building workshops

for communities and fishers. These included training in food processing, vermicomposting and organic farming, marketing and hospitality, medicinal plant cultivation, nursery preparation, packaging and paper mache from water hyacinth fiber etc. More than 300 beneficiaries were trained and many were credit linked with NABARD to encourage rural entrepreneurial ventures. This could stop migration from encroached wetlands area and augment social cohesiveness.

CONSERVATION EFFORTS & ACTIVITIES

A. ECOLOGICAL SURVEY AND SAMPLING

An extensive ecological survey and sampling was done in various parts of East Kolkata Wetlands to assess the habitat



health. Such investigations included limnological, pedological and biological

sampling along with meteorological data collection in pre monsoon, during monsoon and post monsoon period following standard methods. Shore line permanence indexing, mapping of land-use patterns and preparation of inventory was done using GPS and GIS. The primary data-base created the first updated scientific information on EKW.

B. BIODIVERSITY INDEXING

Wetland Biodiversity indexing was done following Shannon & Weiner alpha diversity index method (modified 2002). Quadrant analysis for species distribution and Raunkiaer's J-curve analysis was undertaken.

C. SETTING UP RESEARCH STATION AT EKW

A basic research station was established in Sardar Bheri Fishers Cooperative in collaboration with Central Inland Fisheries Research Institute, Barrackpore to understand and assess the habitat stress on organism specially fish. The station helps in sampling and processing of samples, collection and preservation. It also supports the community by attending to various fish diseases and soil or water testing facilities.





D. PLANTATION PROGRAMME

Obnoxious increase in pollution levels and soil erosion is a major issues in East Kolkata Wetlands, large area was deserted due to encroachment and needed extensive plantation as part of wetland restoration



measures... Cognizant and PricewaterhouseCoopers supported in this plantation programme that was aligned to UNEP's Billion Tree Plantation campaign. As a spin off effect it increased the green cover

which helped reduce carbon footprints and restore the wetland ecology greatly. Selections of plants were made following stringent conservation norms and wetland friendly plants were introduced from nurseries.

E. AWARENESS CAMPAIGN

SAFE in partnership with the Ministry of Environment and Forest launched a year long campaign on climate change in the East



Kolkata Wetlands. The campaign included workshops, street walk, cleaning and nurturing of water bodies with community participation, publication of information materials like posters and handouts etc. This drew the attention of all stakeholders and community members and helped to bring positive attitudinal changes towards conservation of wetland ecosystem.

MEASURABLE PROJECTED IMPACTS

Environmental

- a) Wetland habitat restoration led to an increase of Biodiversity Alpha Index (Shanon & Weiner) by +0.37 indicating increasing species richness and decrease in species migration.
- b) 8 species of self recruiting endemic fishes were brought back to their old habitat and rehabilitated through a rural innovative program in the project area.
- c) An estimated increase of 12- 18 percent in Green water harvesting was achieved in the following monsoon after reclamation of wetlands.
- d) A proportionate increase in carbon sequestering through wetland reclamation and compensation efforts could be achieved.
- e) An equivalent of 230 million litre of sewerage (grey water) could be removed from clogging and detention above 30 days helping in reducing emission from putrefication.
- f) Extensive plantation increased carbon sequestering capacity in the wetland carbon sink and benefited in recharging ground water proportionately. Further, it prevented top soil loss and excessive siltation in wetlands from unstable slope gradients in the embankments preventing habitat damage.
- g) Introduction of solar based appliances improved community life and reduced non point emissions largely.

Social

- h) Community initiative in participatory conservation program embarked disaster preparedness and resilience, social assurance and cohesive endeavors.
- i) Sense of empowerment and growing social assurance prevented migration, inculcated social ethics to combat disruptive behavior in the community.
- j) Raised level of awareness developed environmental leadership, promoting social values for culture, traditional ecological knowledge (tek) and climate conscious attitudes.
- k) Changes in lifestyle patterns were marked with change in health and sanitation habits, taking pride in their work related to wetlands and increased participation in conservation efforts.

Economic

- a) Biorights as a financial tool compensated the opportunity cost incurred by the community in enduring conservation efforts to restore the wetlands.
- b) Nature services of the wetlands could be transformed to alternative livelihood options like ecotourism through payment of environmental services.
- c) Increased competency through capacity building and augmented income from alternative



from alternative livelihood helped in developing entrepreneurial efforts, sharing joint financial liabilities, and venturing new economic enterprises.

- d) Micro-insurance inclusion helped in risk coverage and risk spreading at the same time. Enabled economic resilience to ecologically susceptible to agro environmental depreciations owing to changes in micro climate regime.
- e) Financial inclusion of fisherwomen led to social empowerment and their placement in low decision making bodies like cooperatives.

Infrastructure development

- a) Development of ecotourism hub catalyzed the urban local bodies to take initiatives in developing proper roads, water supply system, and health care assistance.
- b) Community water governance system enabled common axis to safe drinking water through community portals ensuring health.
- c) Plantation and landscaping helped to bring the wetlands in the main stream tourism without compromising with conservation thresholds.
- d) Eco sanitation units were symbols of infrastructural credibility, promoting and ensuring clean environment.

COMMUNITY INVOLVEMENT

The wetland dwellers have been involved through participatory partnership in the project, as the project operation has an integrated community-ecosystem approach. The community in entirety shares the responsibility of validating and evaluating the economic paradigm of Biorights as a financial scheme. Thus, they are a part of the decision-making system and participate in adaptive project management as well.

In sociometric studies, impact assessments and feedback processes that are necessarily continued even in post-ante period community members are involved in designing assessment and review tools along with their participation in survey machineries so that it reflects the community involvement which is obvious and altruistic.

SUATAINABLE REPLICATION

Replicability requires an integrated approach to clarify the trade-offs between economic, equity and environmental criteria that comprise the “bottom lines” of sustainable development. Strategic Impact Assessment already functions as sustainability mechanisms in this project and further adaptive management endorse it over space and time. That it is a low investment and high return assuring endeavor; it has a common acceptability feature. The project has further testified potentials of “Bio-Rights” in risk coverage through micro-insurance schemes, which would approve better adoption of the scheme by dwellers those who are cognizant.

In 22 other cooperatives the plan has been implemented and members are trying to design similar mechanism of alternate earning. NABARD has supported the second agro-development project in East Kolkata Wetlands on Conservation of Endemic Fishes which also has BIORIGHTS

component. More recently corporate giants like Hindustan Unilever, PricewaterhouseCoopers and Vodafone Essar has agreed to extend major support in such community based conservation efforts of SAFE in East Kolkata Wetlands. However, resources are still meager to cover a stretch of 140 Sq Km of wetlands area having nearly 120 thousand people as inhabitants.

THE PARTNERSHIP INITIATIVES

A seven point attitude scale survey on rural community partnership has revealed an amazing 93.7% positive response in favour of the project. The community accepts this as a major endeavor for the first time in East Kolkata Wetlands that takes care of their livelihood through spreading the financial risk of fisheries by recovering the loss with another economic opportunity.

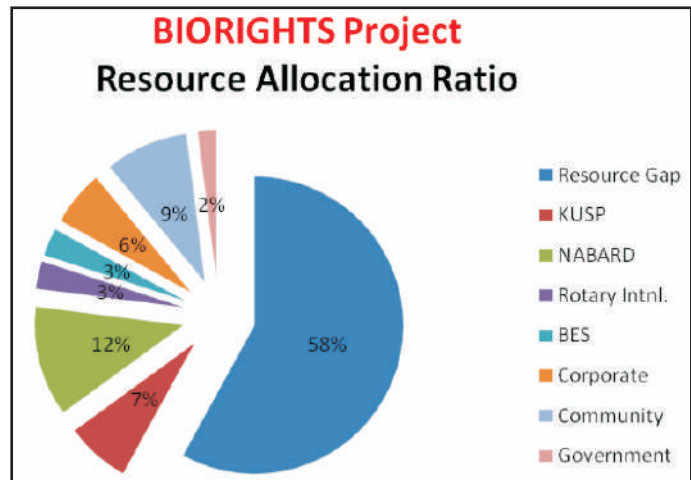
The urban response on Biorights is equally amazing. Survey results on low volume higher value tourism shows a general consensus in willingness of paying approximately 18% higher value than normal tourism in the wetlands. This excess revenue return has been utilized for **micro insurance** coverage of the wetlanders with a

premium as low as Rs.35.00 per month per family against health issues, externalities and accidents. TATA-AIG group has especially designed a micro-insurance scheme approved by IRDC for the people covered under Biorights so that the little contribution remains an investment and the premium money is returned with bonus of 20% on completion of the tenure of the insurance, in case even there is no claim for accidental benefits. Till date 380 families could be covered under micro insurance scheme for risk coverage.

It's important to note that SAFE has already got assistance from Rotary clubs for providing eco-sanitation facility and health camp services to the wetland dwellers. This is an important segment of the present project on Biorights, as it compensates the opportunity costs owing to the green endeavors of the fishermen community to save the wetlands.

The formation of Self Help Groups that SAFE could establish with the supports from NABARD has further strengthened this project. The fisherwomen have been exposed to training and visit programme, young men has been trained with marketing skills. This capacity building has brought confidence, resilience in the community and the feeling of empowerment. In the days ahead, **soft credit linking** for these groups, which is being assisted from nationalized banks like SBI and Indian Bank, will ensure more economic stability and empowerment. It is expected that all such endeavors will help in bringing attitude change and raise the livelihood status of the wetlanders to great extent, which would save the wetlands and assure prosperity.

On the ecological segment, the conservation efforts have brought changes in the ecosystem to the extent that in another effort to conserve endemic fishes of East Kolkata Wetlands, 8 endemic species of fishes could be rehabilitated in their original habitat of East Kolkata Wetlands, which clearly indicates the fruit of habitat restoration with the smallest effort of communities in the wetlands.



South Asian Forum for Environment



Reg. Office : B 43, Survey park, Kolkata : 700075.

Admin. Office : P 32, J. U. Emp. Housing Co-op Society, Panchasayar, Kolkata 700 094, Ph. : +91 33 24329699

• mail : safeinch@gmail.com • website : www.safeinch.org