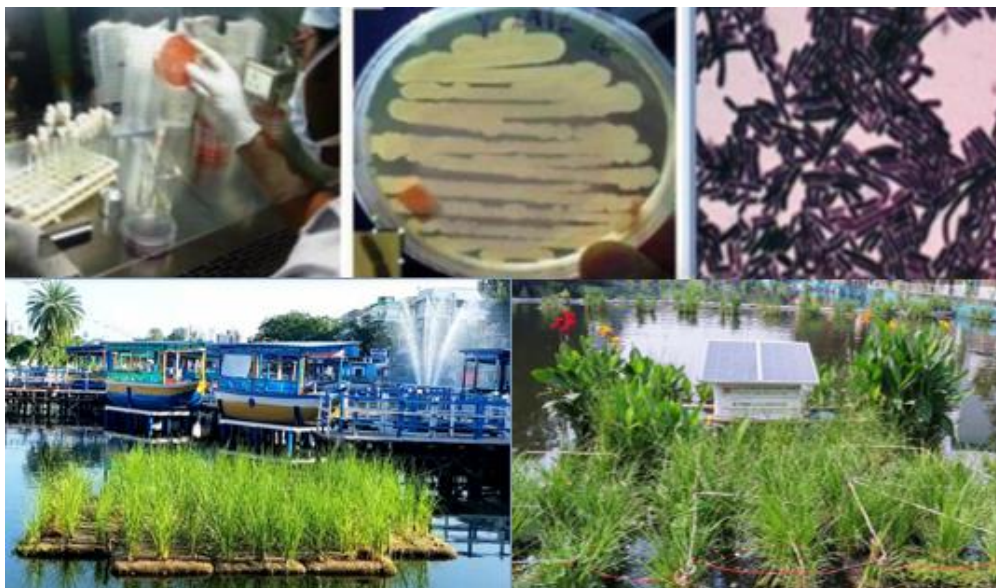




BIOSTARTS VENTURES



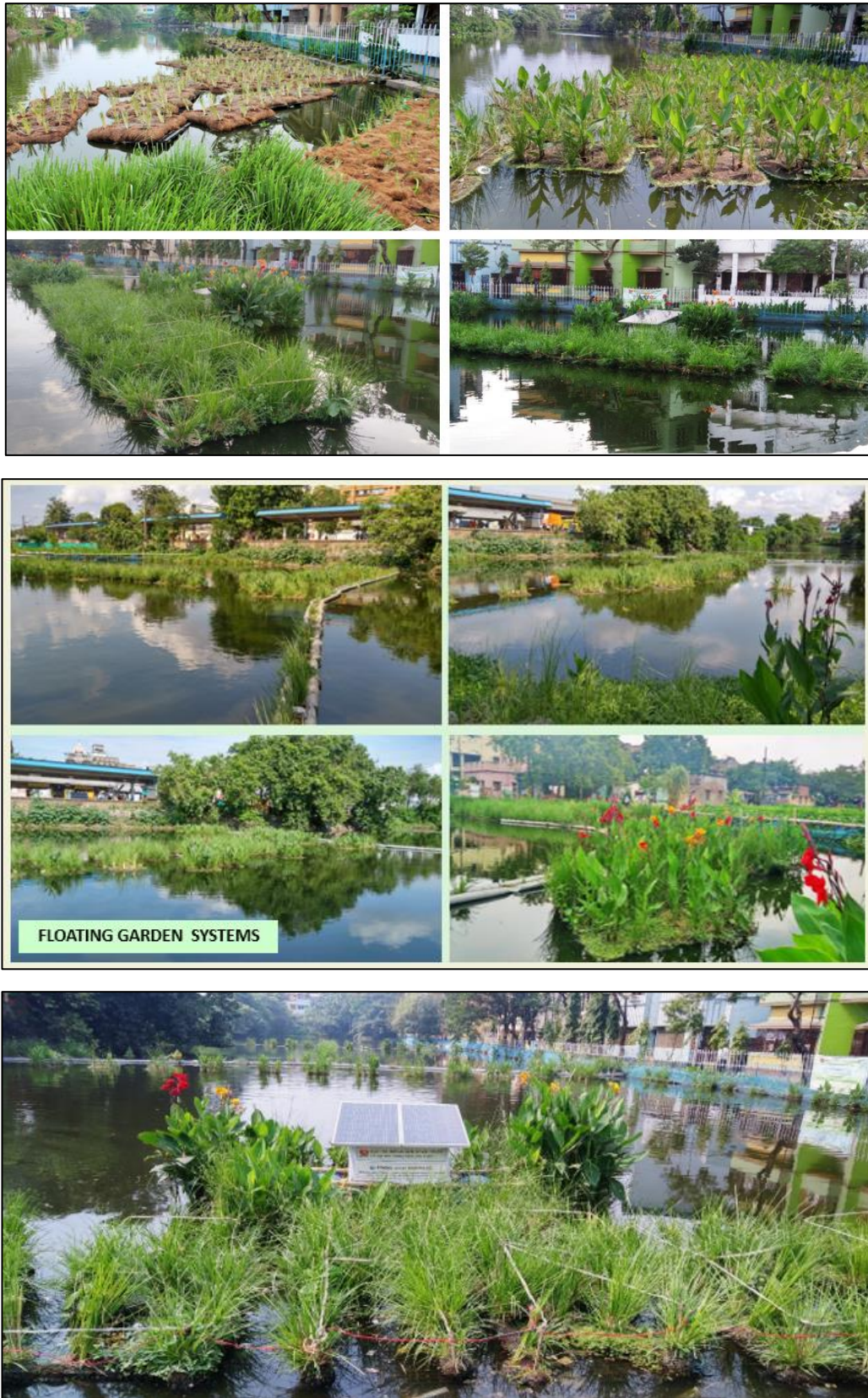
Atri Green View, 5 E, Kamalgazi,
Kolkata - 700 103,
West Bengal, India

Mob: +91 9903323469
E-mail: prabio@gmail.com

Climate friendly Bioinnovation

SUSTAINABLE ENVIRONMENT MANAGEMENT SOLUTIONS

WATER BODY / LAKE RESTORATION USING BIOENGINEERING TECHNIQUES



Water body restoration project at West Bengal, India

Floating Islands for Canal, Water body & River reclamation & Beautification



WATER BODY RESTORATION USING INTEGRATED BIO-ENGINEERING TECHNIQUES



Water Body / Lake Restoration using Solar Aeration system & LED Lighting



Floating trash boom for trash control & Water hyacinth spread control

WATER & SOIL RECLAMATION USING BIOENGINEERING TECHNIQUES



Lake Rejuvenation using Bioengineering Solutions – Kolkata, West Bengal



Lake Restoration Project, Patuli Floating Market Kolkata, India

Bio Phytoponic System “Cleaning Water Nature’s Way”

Lake Rejuvenation using Bioengineering Solutions, Trivandrum, Kerala



Lake Restoration Project (Area - 225 Acres) Akkulam Lake, Trivandrum, Kerala

CANAL ECO-RESTORATION

Biostarts Ventures is an empanelled as Project consultant for Irrigation & Waterways Department (I&WD) Govt. of West Bengal for restoration of canals, water bodies, Lakes & River embankment stabilization



Canal Restoration projects under Irrigation Dept. EM Bypass, Kolkata, West Bengal

Canal Restoration, Kolkata



Canal Restoration, Kolkata



Canal Restoration, Kolkata



Canal embankment protection & stabilization
- Kestopur, VIP Road Kolkata, west Bengal

Mithi River Rejuvenation Project, Mumbai

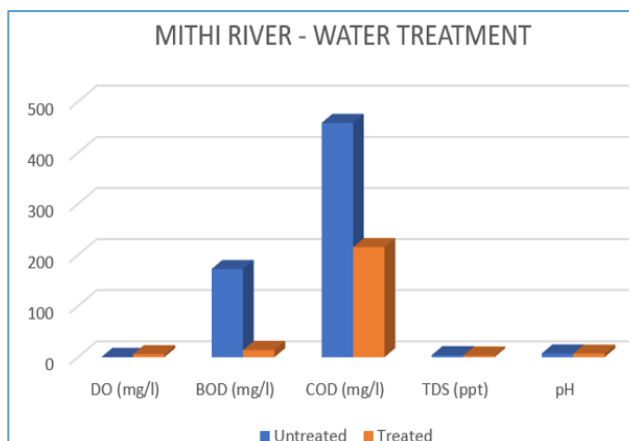
Client: Mumbai Metropolitan Region Development Authority (MMRDA) BKC,
Bandra (E) Mumbai

Project Partners –University Mumbai
Biotechnology Dept. Mumbai



Mithi River Treatment system for Sewage. Effluent, Saline and Tidal Impacted area by
In-situ Bio-phyto remediation

Sl.. No.	Parameter studied	Untreated	Treated
1	DO (mg/l)	0.5	5.8
2	BOD (mg/l)	172.5	14
3	COD (mg/l)	458.45	215.3
4	TDS (ppt)	4.00	3.18
5	pH	7.287	7.0



Results of the water treatment performed in the Mithi river in 25 days

In-situ Water treatment by Bioengineering & Microbial Consortium

Integrated Water Resource Management by Bio Engineering Solutions & IoT based Real Time Water quality monitoring system & Sustainability Index

Biostarts Ventures has developed an innovative eco-friendly, low carbon sustainable bioengineering solution for water reclamation & management by floating solar aeration system, Real-time IoT based monitoring module, Intelligent Data management & reporting system and Beneficial microbial application for water quality improvement Lakes, Waterbodies, Canals and Aqua culture pond in a systematic scientific approach to rebuild the aquatic ecosystem



Water Reclamation using Bioremediation, Online Data collection, Reporting through Web applications and Mobile App.

**Explosive Manufacturing Solid Waste dumpsites and Leachate
Pond Slope Stabilization & in-situ leachate Treatment by Vetiver
plantation & Bio-engineering components**



Explosive waste contaminated site management
ORICA - Indian Explosive Pvt. Ltd, Gomia, Jharkhand, India

**Bokaro Steel & Thermal Power plant – Bokaro, Jharkhand
Fly Ash Dumpsite stabilization & Green Capping**



Project Site slope Area - 100 mt. Height x 80 mt. width

River / Irrigation canal embankment stabilization using Bio-engineering techniques



Slope stabilization using bioengineering solutions

Project consultant to IRRIGATION & WATERWAYS DEPARTMENT (I&WD),
Govt. of West Bengal

Project Site - Irrigation canal slope, Bankura, West Bengal

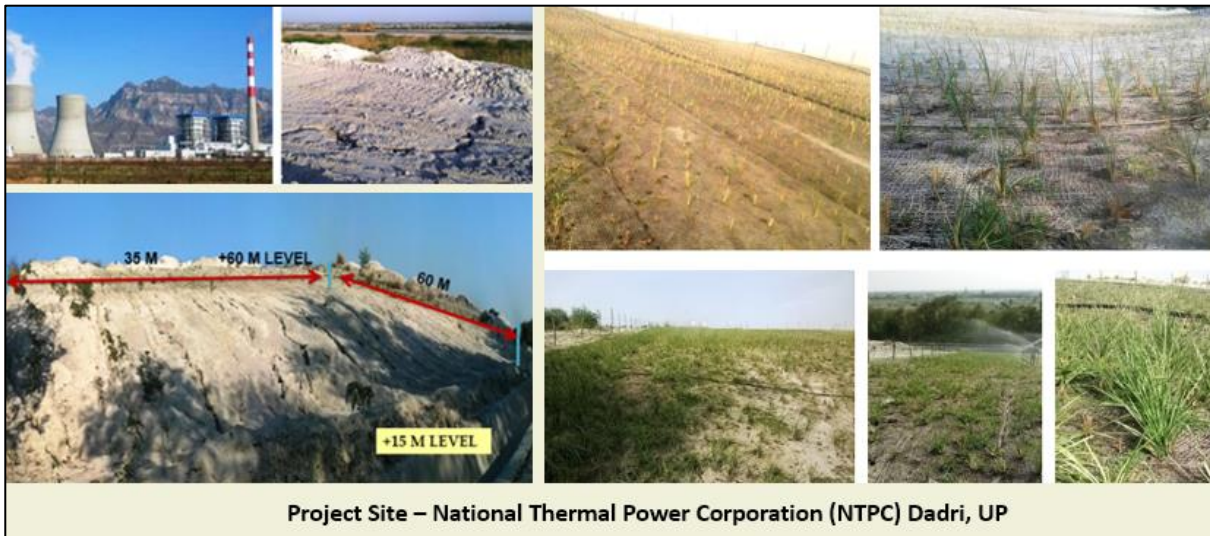
River / Irrigation canal embankment stabilization using Bio-engineering techniques



Project Site - Irrigation canal, Bankura , West Bengal

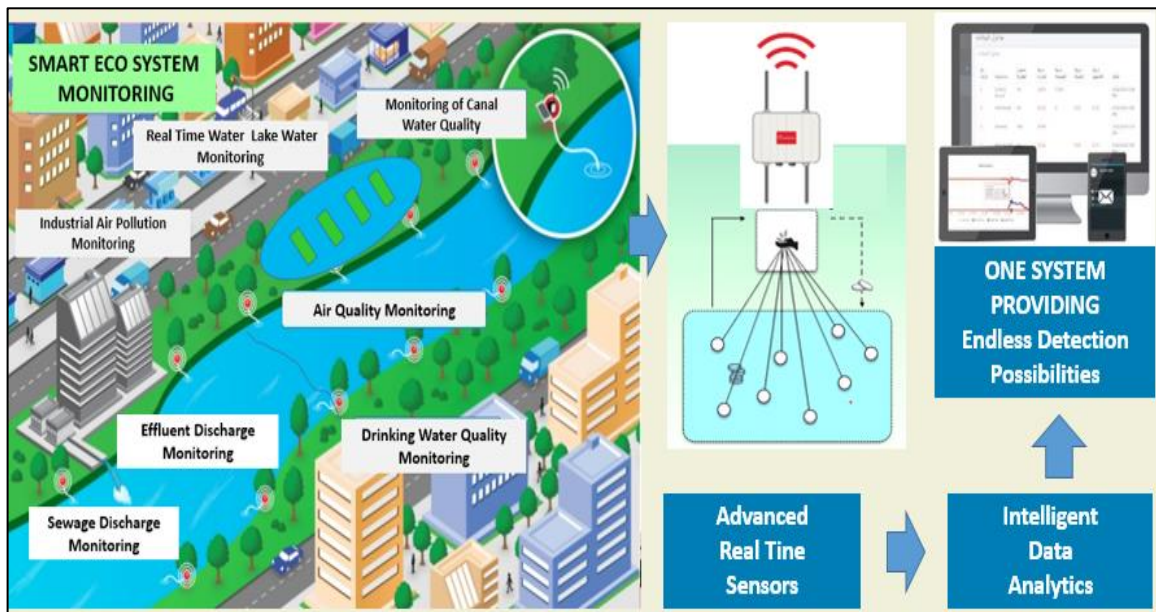
**Project consultant to IRRIGATION & WATERWAYS DEPARTMENT (I&WD),
Govt. of West Bengal, India**

FLY ASH & MINING AREA GREEN CAPPING & PHYTO STABILIZATION TO CONTROL SOIL, WATER & AIR POLLUTION



Applications – Eco Restoration of Fly Ash Dump Sites, Mining area, Closed Solid Waste dump site, Soil contaminated sites and Degraded land reclamation etc.

Lake Restoration & Water reclamation using Floating Island Bio-Phytoponic Solar aeration system



Integrated IoT Smart Ecosystem Engineering & Monitoring System

Grey Water & RO Reject Water Recovery System



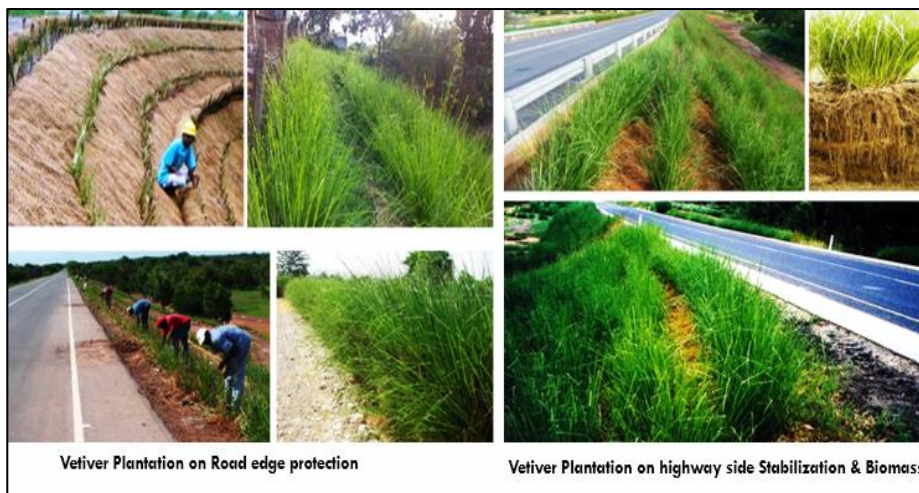
Project at CSIR - CGCRI housing Complex, Lake Road, Kolkata, West Bengal
(Inaugurated by CSIR – CGCRI Director on 15/06/2019)

Innovation approved by Central Glass & Ceramic Research Institute (CGCRI), CSIR, Govt. of India

Application Area

- Urban & Rural Grey Water Recovery & effective utilization (Re-use for flushing, Irrigation, Ground water recharging etc..)
- Industrial and Domestic RO Reject water discharge area
- Alternative solution for Reject Water Evaporation system to maintain Zero Liquid Discharge (ZLD)
- Arsenic & Chemical contamination pre-filter system

Roadside Slope Stabilization & Low Carbon Highways



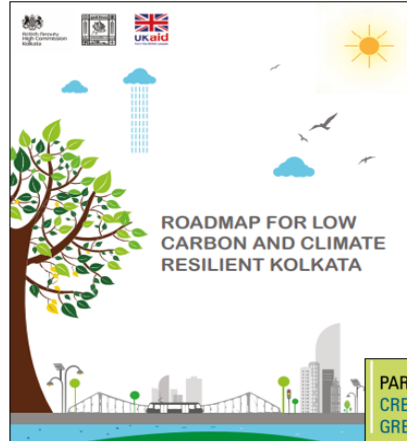
Vetiver Plantation on Road edge protection

Vetiver Plantation on highway side Stabilization & Biomass

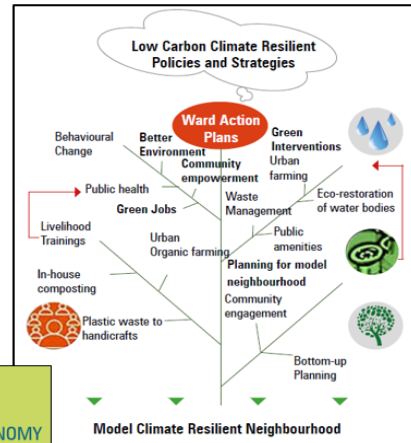
Climate Friendly Interventions, Policies, Capacity Building and Sustainable Governance Project under UK- KMC Road Map for Low Carbon and Climate Resilient Kolkata



Project Consultant



PART C
CREATING A
GREEN ECONOMY

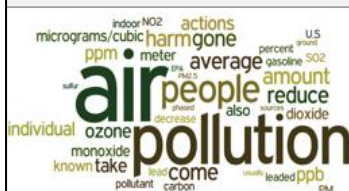


<https://cdkn.org/wp-content/uploads/2017/07/Up-Low-Carbon-Roadmap-Kolkata-1.pdf>



PricewaterhouseCoopers (PwC), Kolkata

Urban area Dust control Management to reduce Particulate Matter (PM) through Green Mulching of road side and open area



As per the statistics 35% of the urban area from dust spreading from road sides to increase the Particulate Matter (PM)

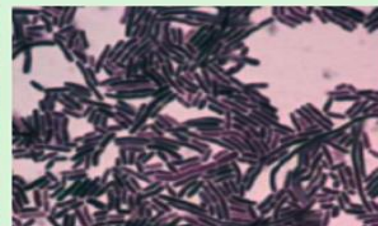
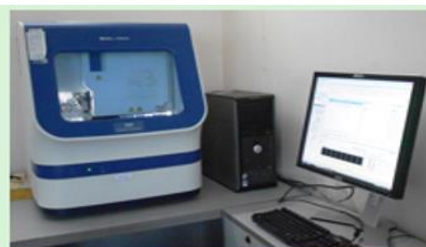


OPEN AREA DUST IS ONE OF THE MAIN CAUSE OF PARTICULATE MATTER (PM) CREATING AIR POLLUTION

GREEN MULCHING OF OPEN SPACE VETIVER IS THE BEST SOLUTION

- ☐ IT CONTROLS THE DUST
- ☐ HIGH ABSORPTION OF CO₂ & OTHER GHG GASES
- ☐ NOISE REDUCTION
- ☐ SOIL STABILIZATION
- ☐ WATER RECHARGING DURING RAINY SEASON

Lab Facility



Microbiology R&D & Quality Control Lab supported by Dept. of Science & Technology, Govt. of India , Kolkata, West Bengal

KEY OPERATIONAL AREAS

- ☐ Technology Development
- ☐ JV Projects
- ☐ Consultancy Services
- ☐ Corporate Social Responsibility (CSR) Project Management
 - Site Studies, Site Specific Designing, Material Resource Mgmt. Execution Support, Evaluation & Environmental Impact Assessment
- ☐ Material Resource Management

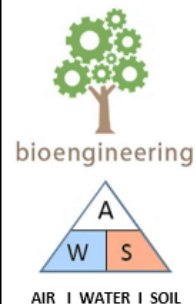
Integrated site-specific Design & Bioengineering solutions

- Treatment system is all natural & non-chemical process
- Bio-remediation
- Phyto-remediation
- Phyto-soil Stabilization
- Low Carbon Green Engineering
- Real time IOT based Monitoring and Alerts
- Data Analytics & Sustainability Index



Significant Applications

- Restoration & beautification of Contaminated Lakes, Waterbodies & Canals
- Urban Solid Waste dump site & Land fill Soil & Water pollution
- Fly Ash Dump & Solid Waste dump site green capping & stabilization
- Slope Protection & Stabilization
- Integrated River pollution management
- Grey Water Management
- Coastal Restoration
- Wet Land Conservation



Our clients





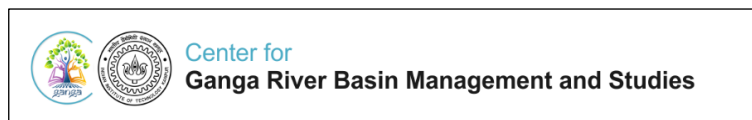
Presentation on Bio-engineering Solutions for Water Management at INDIA – EU Water Partnership at WSDS - 2019, New Delhi, India.

Delegate & Speaker at World Sustainable Development Summit (WSDS -2019) India – EU Water Forum organized by The Energy & Resources Institute (TERI) , India Habitat Centre ,New Delhi, India



Presentation at India Water Impact Summit (IWIS) 2019 at New Delhi

<http://cganga.org/cg-events/iwis/>



Contact us



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