Ecological Rejuvenation of Water - Punjab

PILOT USECASE - MUKTSAR WATER AND SOIL CRISIS

Muktsar district has no river and is covered extensively by the canal network of Sirhind feeder canal to meet the irrigation and drinking water needs of the people. There are some drains which flow during heavy rains and serve as natural drainage.

Muktsar is one of the worst-affected districts with cancer and hepatitis-C.

There are 234 villages in the district each having one or more ponds, in which local village wastewater gets accumulated and kept untreated. These ponds have become a source of vector borne disease and heaven for mosquitos colonies. Untreated pond water seeps into the underground aquifer and make the underground water also contaminated. And over a period of time , seepage also gets stopped and water starts to decay further.

The district has four blocks - Sri Muktsar Sahib, Malout, Lambi and Kot Bhai at Gidderbaha. The shallow ground water of the district is alkaline in nature and is moderate to highly saline. The three-fourth ground water of the district area is unsuitable for drinking as well as for domestic purposes and has salinity and sodium hazards for the irrigation purpose also. Other major reason of disease and contamination - Reportedly, farmers in this region use 15 different pesticide sprays and the unregulated and excessive use of chemical fertilizers and pesticides have resulted in farmers and their families living in a cesspool of toxicity.

Source:-https://www.businessinsider.in/the-shocking-tale-of-indias-cancer-train/articleshow/52690219.cms

Water, Soil and Air are the main 3 sources of life for all living beings (Human/Animal/Plants) to survive and to be healthy. If we drink/store contaminated water and have unhealthy irrigation practices, then it would result in one or the other disease in due course of time.

?? WHAT IS THE SOLUTION ??

ANSWER = RESUSICATION OF NATIVE AQUA ECOLOGY

The project is purely focused upon reinstating Water, the natural aquatic ecosystem and making the Water quality adequate to support life. Following are the key pointers on the line of actions:

1- SCOPE OF WORK
Ecological Resuscitation process through Proprietry© Technology, for

conditions shall be achieved - :

a) Entire foul smell in the vicinity due to anaerobic digestion will vanish.

b) The Water viscosity shall reduce to give it a natural flowing status.

c)   The entire mosquito colonies shall be abolished, finishing the threat of vector
     borne diseases in the vicinity.

d) Natural photosynthesis shall start in Water and emission of Oxygen in air
     shall start making the air quality better.

e) All the particulate matter shall get attracted to the Waterbody and will start
     to get consumed in aqua-ecology, ensuring air pollution mitigation.

f)   Ecological dredging shall start that would eventually ensure the
     increase in Water holding capacity minimizing the threat of flooding

The same status of the Waterbody shall be maintained and kept rejuvenated till the end of the contract period.

2. IMPORTANT ASPECTS & COMMITMENTS OF THE PROJECT –

Following conditions will remain valid for the entire process of Ecological Rejuvenation of wastewater (Pond/Drain):

I. The entire process will be done ecologically using Proprietry© Technology only and no other technology will be used in the Rejuvenation work.

II. ***No water shall be wasted in decantation/dewatering & refilling***, and the Rejuvenation will be conducted fully in-situ condition.

III. Ecological desludging/desilting work shall be done without any wet excavation. ***No DeSilting / DeSludging required.***

IV. The process of Rejuvenation has to be 100% ecological and in harmony with the natural biodiversity of the said agro-climatic zone. ***NO CHEMICAL/BIO-NUTRIENTS/BIO-ENZYMES*** required.

V. ***No permanent civil construction is required*** at the project site.

3. WATER QUALITY MEASURE

Following Water problems remains resolved throughout the contract period:

a) Water will be completely free from bad odor.

b) There will be no emergence of aquatic insects, algae and weeds.

c) There will be no mosquito population in the Water.

d) There will be no itching at the touch of water.

e) Water will be light and will come to its natural color.

4. PROGRESS AND BENEFITS OF THE REJUVENATION PROJECT

The project progress can be monitored by the administration according to the following benchmarks (based on the level of pollution and contamination in the waterbody, or according to the soil and water characteristics) and get following benefits:

*The embankment area will be completely odor-free.

*Any water weeds, hyacinth or algae on the aquatic surface will dry up and die its own natural death.

*The bottom of the waterbody will **begin** to get free from smelly & decaying sludge.

*Water can be used for irrigation and animal husbandry purpose.

*Aquaculture(fisheries) in our treated ponds is possible.

*Water Stress De-escalation / Underground Water Recharge

*Low Input, High Yield & Multiplied income from farming (Antibiotic Free Animal Husbandry)

*Disease free farms (Chemical & Biological intervention free farming)

*Air Pollution Mitigation

*Solving Water & Food Scarcity

*Water Overflow / Flood / Draught Mitigation

5. SUPPORT DESIRED FROM ADMINISTRATION/PANCHYAT FOR PROJECT PERIOD

Following support shall be required in the course of in-situ treatment of the Pond/Drain wastewater–

a) Fresh borewell water provision shall be required for the treatment/ dosing process.

b) Plastic and Municipal Solid Waste have to be removed physically, as the in-situ treatment is being done only for the liquid / wastewater.

c) If required, authority may get the water quality tested at its own expense from their approved lab.

Those who would like to contribute to the cause by providing there expert, technical knowledge or financial assistance to under take such water bodies treatments can register and contribute in taking care of **one of the biggest & critical problems Punjab Faces today.**