Medical and Research Publications
International Open Access

Research Article **Journal of MAR Microbiology (Volume 4 Issue 5)**

Project 4 - Clean Jaipur - Kartarpura Drain (Waste Water Management) -Pilot Study

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Received Date: June 28, 2022

Published Date: August 01, 2022

Mr R Prakash is an IIT Delhi Mechanical Engineering Graduate having passed out in the Year 1972.

He is running his Foundry Industry at Industrial Area at Bhiwadi-301019(Rajasthan)

Inspired by Hon. Prime Minister Mr Narendra Modi in 2014 during his clarion call for Swatchh Bharat, he thought of

contributing his time and energy towards this National Cause. He initially worked on Home Composting models for Individual Homes and then extended the same to

Higher Quantity which can be used by Individual Homes, Residential Community Living gated Societies and Municipalities across the country.

He is a Resource Person for National Center For Organic Farming,Ghaziabad.

After having developed the Composting Models, he then moved to Higher Value Addition to the Garbage and started working on Bio Enzymes.

He strongly believes and advocates that Bio Enzymes and Composting can be adopted as livelihood careers.

He has also been teaching School and College Students the details of Composting and Bio Enzymes.

Contact Details of Mr R Praksh are as under:-

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Extract

COD reduced by 84%

BOD reduced by 87%

within a short span of 12 days.

Both the levels achieved are within the acceptable limits as specified by Ministry Of Environment and Forest and CPCB

National Smart City Mission

National Smart Cities Mission is an urban renewal and retrofitting program by the Government of India with the mission to develop smart cities across the country, making them citizen friendly and sustainable.[3] The Union Ministry of Urban Development is responsible for implementing the mission in collaboration with the state governments of the respective cities. The mission initially included 100 cities, with the deadline for completion of the projects set between 2019 and 2023. The effective combined completion of all projects is now at 11%. [4]

Smart Cities Mission envisions developing an area within the cities in the country as model areas based on an area development plan, which is expected to have a rub-off effect on other parts of the city,[5] and nearby cities and towns.[6] Cities will be selected based on the Smart Cities challenge, where cities will compete in a countrywide competition to obtain the benefits from this mission. As of January 2018, 99 cities have been selected to be upgraded as part of the Smart Cities Mission after they defeated other cities in the challenge.[7]

It is a five-year program in which, except for West Bengal,[8] all of the Indian states and Union territories are participating by nominating at least one city for the Smart Cities challenge. Financial aid will be given by the central and state governments between 2017–2022 to the cities, and the mission will start showing results from 2022 onwards.

Each city will create a Special Purpose Vehicle (SPV), headed by a full-time CEO, to implement the Smart Cities Mission.[9] Centre and state government will provide ₹1,000 crore (US$140 million) funding to the company, as equal contribution of ₹500 crore (US$70 million) each. The company has to raise additional funds from the financial marity.

JAIPUR CITY HAS EMERGED AS A STRONG CONTENDER OF THE TOP RANK IN THE LAST ROUNDS HELD SO FAR.

One of the important parameters for the Smart City is the Management of Wasterwater of the City.

Pilot Project

(Project Initiated by OSA Enviro (P) Ltd .., Bhiwadi)

Jaipur has been included in the list of 100 Smart Cities planned for the entire country.

As per reports of JMC and the Jaipur Smart City Limited, Kartarpura Drain in Jaipur require Wastewater treatment before it merges with Drayavati River of Jaipur.

On the spot survey was done on the 7th April,2021 and the whole length of the Drain was scanned and Water Sample was collected as advised by the Officials of the Local Body from Rani Sati Nagar, Jaipur and later on a visit was also made to the Point of Control, where all the water is being Chanellised thru a Closed Conduit Pipe before being taken to an STP and it was advised that the Outlet of the STP was allowed to be merging in Dravyavati River.

Pilot Project

Accordingly, a pilot project was drawn up to Pick up sample of water from the Kartarpura Drain and treat this in the Laboratory to decide on the Dosage required and also to study the effect of Bio Remediation regarding improvements in COD and BOD of the wastewater.

Accordingly, samples of water were picked up in the presence of the officials and the same was given to CETP at Bhiwadi to carry out the Laboratory Trials with Samples of AQUAZYME to submit their findings.

COD and BOD values are an indicator of Water Quality. As per CPCB Norms the following parameters must be met before the wastewater can be discharged in River/Sea, Surface,To be used for Irrigation.

	Inland Surface Discharge	Irrigation	Marine Water Discharge
BOD [3days at 27 °C]	30	100	100
COD	250	250	250

GPS Coordinates: -

375 https://maps.app.goo.gl/XANy9rYCon4fH3WP8

https://maps.app.goo.gl/XANy9rYCon4fH3WP8

Google Maps Picture was taken from Google maps showing the location of the Dirty water Collection point in Kartarpura Drain in Jaipur.

The Waste water as collected from the drain was analysed at CETP, Bhiwadi with results as under:-

COD:- 655

BOD:- 163

A dosing of 5 PPM was made on the sample and the results are as under after 2 days,12 days and 30 days from the date of Dosing:-

Date:					
	8th April	10th April	20th April	6th May	Remarks (for results within 12 Days)
COD	655	576	118	104	Reduction by 82%
BOD	163	161	22	21	Reduction by 87%

This is just 30 days data and single dosing with max reduction within 12 days.

The treated wastewater now is fit for Discharge as per Norms

it is expected that results will improve with following: -

- Regular Dosing
- Giving some more time--say 51 Days

With regular dosing, the treatment is very effective since the Bacterias form their Colonies and keep on multiplying.

Regular dosing is required to keep the Quality of Effluent Discharge Water under control

The above results are astounding results and encouraging to take up the cleaning of the Nalla further.

A dosing Station will have to be erected at the point about 500 Metres before the nalla merges in Dravyawati River..

Regular Monitoring of the Dosing being carried out and Testing of water can be decided in consultation with the Authorities or the Normas already prescribed under National Mission on Clean Ganga, or any other Norms being followed/Prescribed by the State Government.

Concluding Remarks

Having done the dosing and testing the water after an interval of 2 ,20 and Thirty Days has proven the efficacy of the system as well as the Product AQUAZYME.

Whenever there is a will of the concerned department, a comprehensive project can be taken up to clean the entire Nalla and thereafter dispose off the water in any of the following manner: -

- Convert an area near by this area in a nice-looking lake with other entertainment and making this a picnic area for the vicinity
- Pump this water near any spot and create an Artificial Lake with other Picnic spot amenities. This will help create a new Ecosystem and give birth to Tourism in Jaipur. This will also create a Water Body for the City--so very necessary especially in the Water Deficit area.
- This model can be replicated in other Areas of Rajasthan and will serve a dual purpose of treatment of WasteWater and Creating Water Bodies All Over Rajasthan
- Gradually this will also not only arrest further depletion of Ground water but also rejuvenate the Ground water and maintain the Groundwater level.
- Dispose off in a River
- Use for Irrigation Purpose
- Use by the Industrial Units for their Cooling water requirements
- Further treat to make it potable.