E-ISSN: 2347-5129
P-ISSN: 2394-0506
(ICV-Poland) Impact Value: 5.62
(GIF) Impact Factor: 0.549
IJFAS 2022; 10(3): 119-123

www.fisheriesjournal.com
Received: 08-01-2022
Accepted: 16-02-2022

Debabrata Das
FRAI Division, ICAR-CIFRI, Barrackpore, Kolkata, West Bengal, India

Prakriti Das
Department of Biotechnology, Amity University, New Town, Kolkata, West Bengal, India

Aranya Das
Department of CSE, Chandigarh University, Mohali, Chandigarh, India

Santa Ana Das
AIMA Academy In Modern Ayurvedic, North Ghugia, Chakdaha, Nadia, West Bengal, India

Corresponding Author:
Debabrata Das
FRAI Division, ICAR-CIFRI, Barrackpore, Kolkata, West Bengal, India

Lets ecotechnology to find non-existence of aquatic-microbes with machine learning techniques

Debabrata Das, Prakriti Das, Aranya Das and Santa Ana Das

DOI: https://doi.org/10.22271/fish.2022.v10.i3b.2680

Abstract
In recent days ecotechnology is applied to find suitable growth specific to either plants or animals. All individual species biology remains confined certain specific range of pH. Either internally or externally cellular and ecological environment. This research communication also finds that aquatic microbes remain non-existence beyoynd the range of pH 6.5 to 8.5. Accordingly, microbial measures can be possible either any cell to grow or to make any evils become vanish.

Keywords: Modern eco technology Aquatic microbial relations with pH, Machine learning techniques

Introduction
Modern ecotechnology says lets be digital to minimise errors. In recent days demand of digital ecology may rising high to higher. Measurable ecological parameters that relates to animal or cell biology. Eco technology here, we find machine learning Techniques in obtaining relations among the ecological parameters of non-living to living perspective to environmental approaches. Ecotechnology in mankind may be a perpetual applied science in obtaining relations among the different parameters or objects in any Ecology. Detectable or measurable either digitally or computerised or satellite-based research studies. This may be a Holistic environmental editing process as well. Authors often found that if disease-less, then growth and fecundity are negatively correlated with TDS and CEC and controlled rationally with mentioned Digital environments and when non-diseases. As ecological microbes can be related with digital parameters.

Material and Method
In recent days data science is used for interpretations and prediction and decision making. A long-term data for five years period of lower stretches og the Ganges river is analysed with modeling software SPSS. Data comprising aquatic microbes which is linear negatively correlated water pH in the environments in a certain range (6.5 to 8.5) Beyond the mentioned range there may be nonexistence of aquatic microbes found in environments.

Table 1: Aquatic microbial relations with pH, Machine learning techniques

Correlations						
		Total_CO	**Fecal_CO**	**Tpx109**	**Entero**	**PH**
Total_CO	Pearson Correlation	1	.959**	.747**	.885**	-.195**
	Sig. (2-tailed)		.000	.000	.000	.000
	N	383	383	383	383	383
Fecal_CO	Pearson Correlation	.959**	1	.789**	.876**	-.189**
	Sig. (2-tailed)	.000		.000	.000	.000
	N	383	383	383	383	383
TPX109	Pearson Correlation	.747**	.789**	1	.815**	-.240**
	Sig. (2-tailed)	.000	.000		.000	.000
	N	383	383	383	383	383
ENTERO	Pearson Correlation	.885**	.876**	.815**	1	-.180**
	Sig. (2-tailed)	.000	.000	.000		.000
	N	383	383	383	383	383
PH	Pearson Correlation	-.195**	-.189**	-.240**	-.180**	1
	Sig. (2-tailed)	.000	.000	.000	.000	
	N	383	383	383	383	383

Table 2: Aquatic Microbial Coliform bacteria relations with pH with Machine learning techniques

ANOVA					
	Sum of Squares	**df**	**Mean Square**	**F**	**Sig.**
Regression	1.166E11	1	1.166E11	15.023	.000
Residual	2.958E12	381	7.764E9		
Total	3.075E12	382			

The independent variable is PH.

Table 3: Aquatic microbial Fecal coliform relations with pH with machine learning techniques

ANOVA					
	Sum of Squares	df	Mean Square	F	Sig.
Regression	5.156E10	1	5.156E10	14.038	.000
Residual	1.399E12	381	3.673E9		
Total	1.451E12	382			

The independent variable is PH.

Table 4: Aquatic microbial Platy Bacteria relations with pH with machine learning techniques

ANOVA					
	Sum of Squares	**df**	**Mean Square**	**F**	**Sig.**
Regression	754537.979	1	754537.979	23.383	.000
Residual	1.229E7	381	32268.568		
Total	1.305E7	382			

The independent variable is PH.

Table 5: Aquatic microbial Entero Bactyeria relations with pH with Machine learning techniques

ANOVA					
	Sum of Squares	**df**	**Mean Square**	**F**	**Sig.**
Regression	3.088E7	1	3.088E7	12.724	.000
Residual	9.246E8	381	2426743.716		
Total	9.555E8	382			

The independent variable is PH.

Results and Discussions

Coliform, Fecal coliform, Enteroand Platy Bacteria are all found visible only within the range of pH 6.5 to 8.5 and all their trends are negatively correlated with aquatic pH.

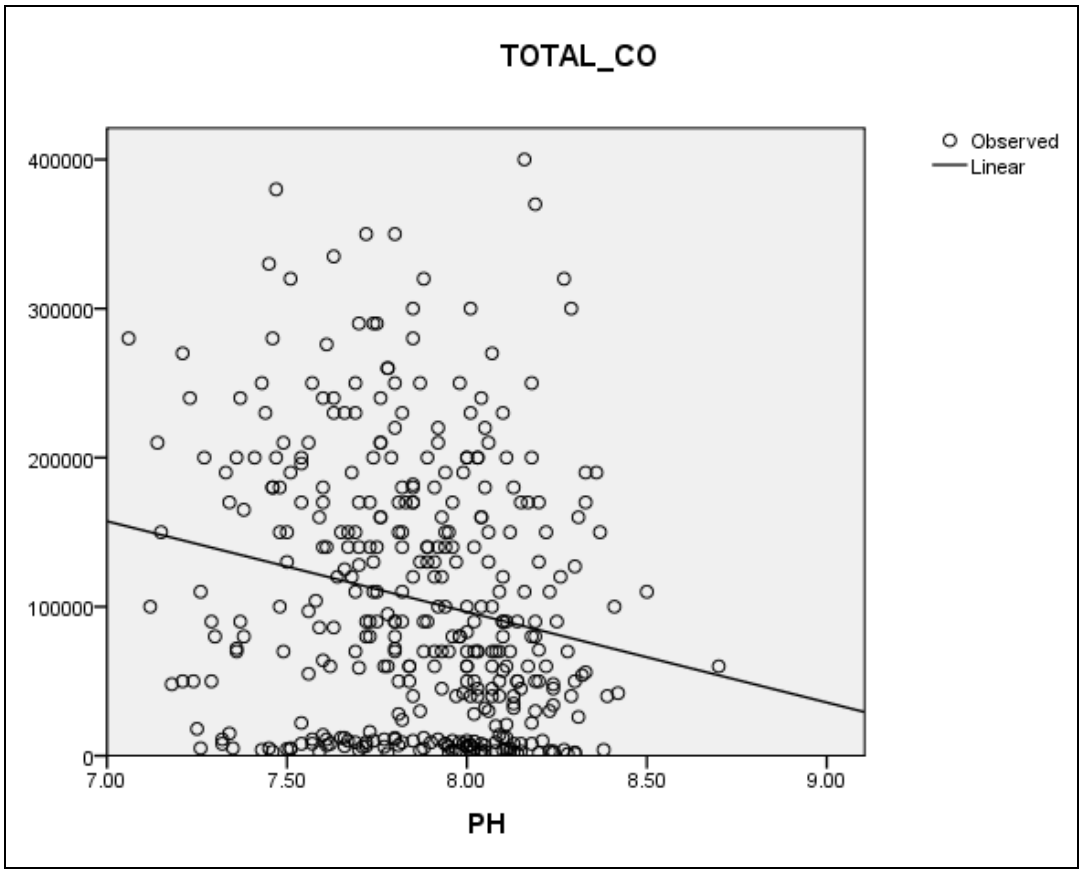

Fig 1: Aquatic microbial Coliform relations negatively correlated with pH with machine learning techniques

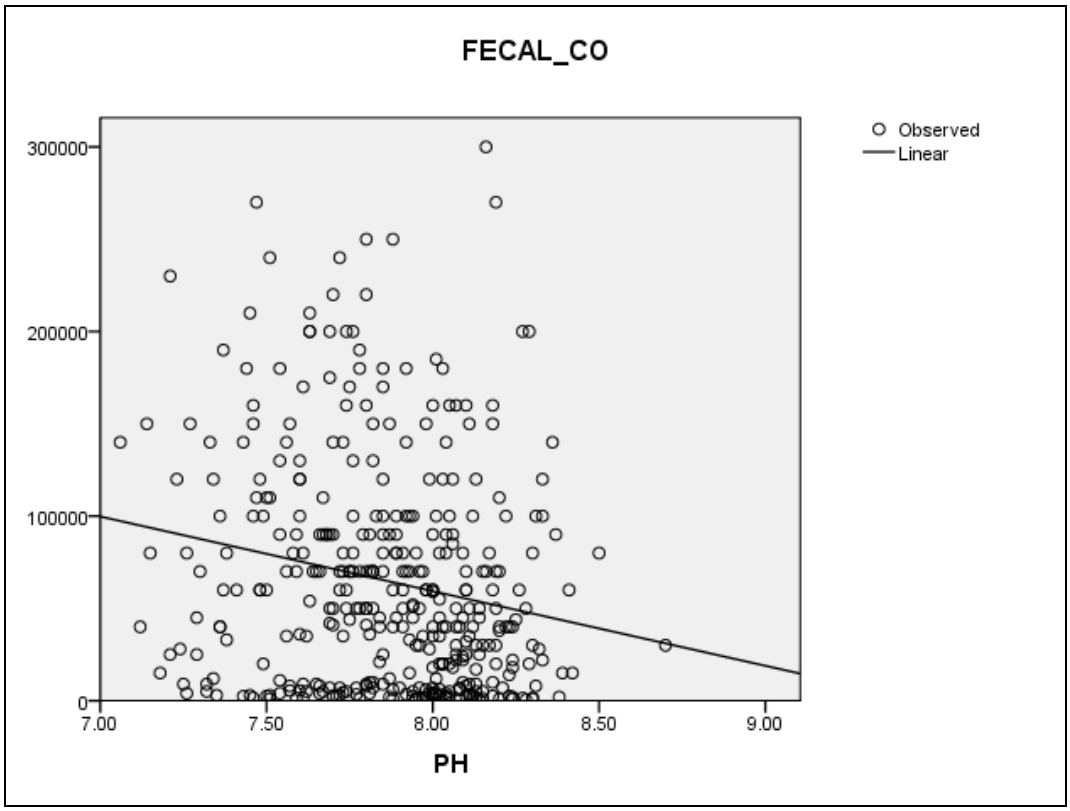

Fig 2: Aquatic microbial Fecalcoli-form Bacteria relations negatively correlated with pH with machine learning techniques

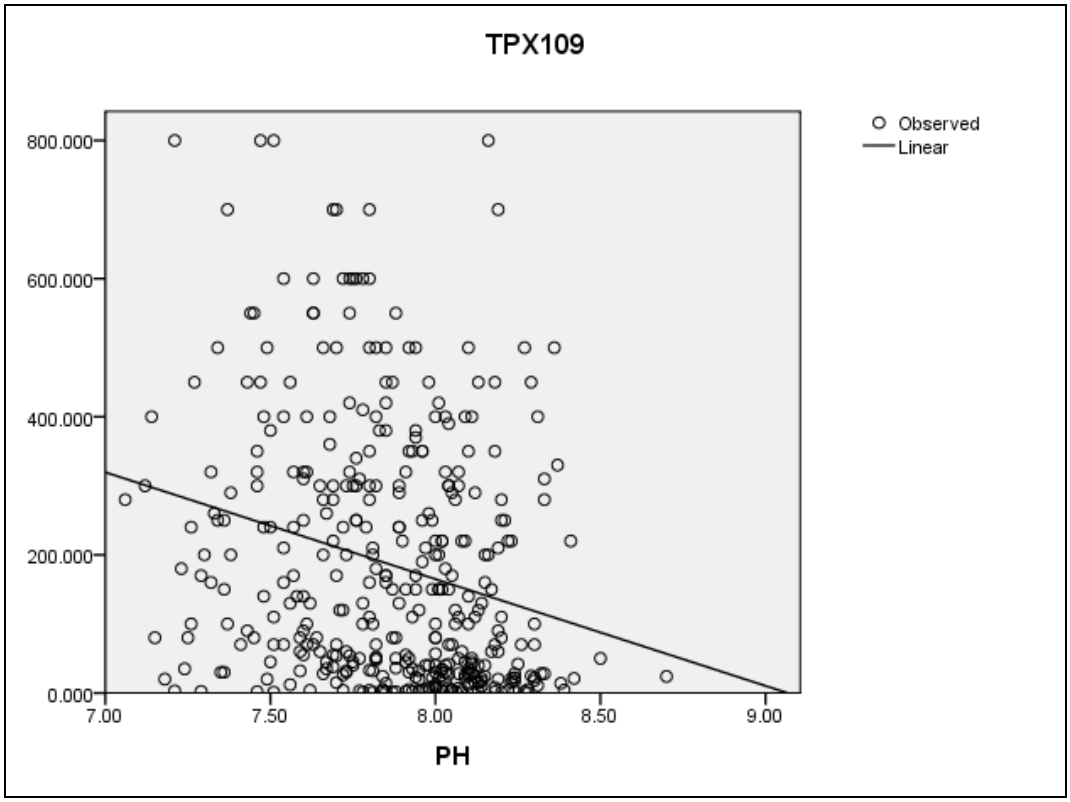

Fig 3: Aquatic microbial platy-Bacteria relations negatively correlated with pH with machine learning techniques

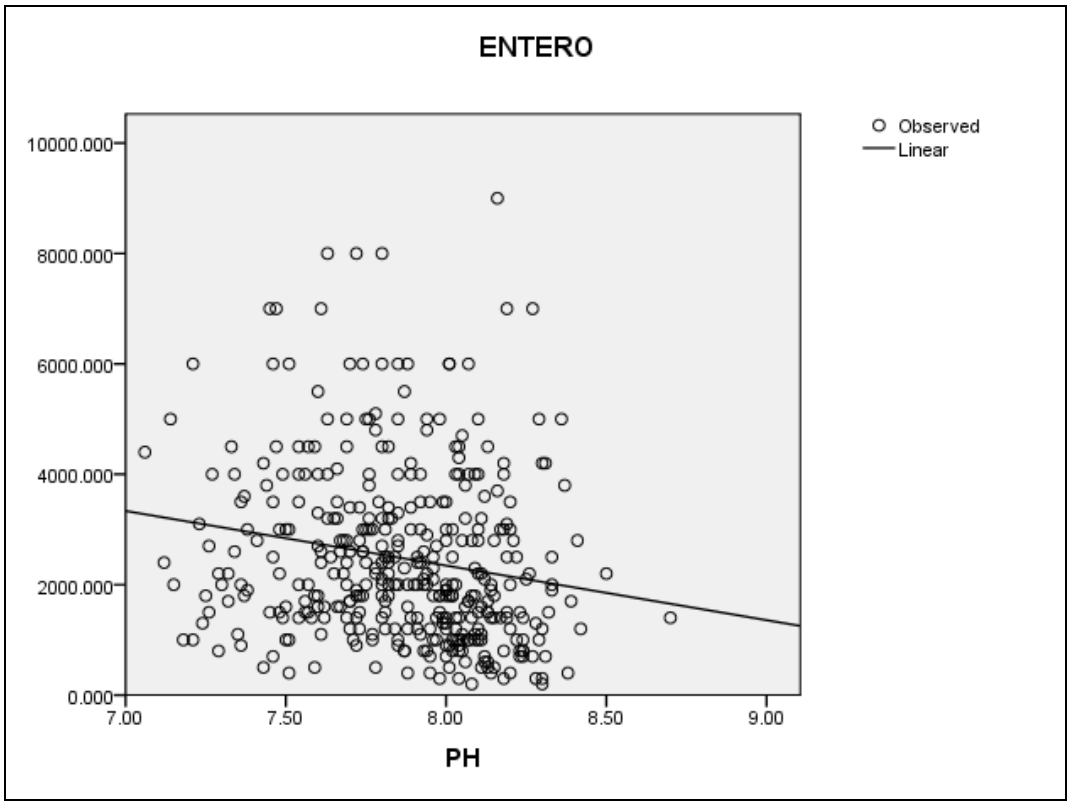

Fig 4: Aquatic Microbial Enter Bacteria relations negatively correlated with pH with machine learning techniques

Conclusions

This research communication shows that microbes occurrence are pH-sensitive. In realties to fish diseases author found that fisheries may remain diseases free in many herbal ecology where there is plenty of organic acids existed. Also humic acid and Fulvic acids causing a lowering in pH found fisheries diseases free. A higher pH in marine environment, fisheries often remain diseases free. Other digital parameters like CEC and TDS often control growth and fecundity in fisheries and mankind may also be regulated by aquatic pH. The study also found that only Isoprene nanoparticle synthesised by aquatic plankton biomass can take preventive and controlling measures by cellular diffusion and environmental purification in such a range of pH and beyond, if any. We also recently concluded that Turbidity may be a very important environmental parameter out of many water-quality parameters, and can be studied digitally while on ground-truth collection or measured with satellite remote sensing data by their grey-values. Turbidity may be controlled by other environmental parameters namely, temperature, Cation Exchange Capacity of colloids CEC, Total dissolved Solids TDS, aeration and a few others. Recently AI and Machine learning Techniques can be an error-less approach than old-aged manual processes. Recent studies a few Digital rules as follows that in Isoprene Biochemistry in preventing, curing diseases caused by unicellular pathogens in Agriculture of resource conservation and ecology stability also. The digital theories of isoprene nano-particle and other related in curing, preventing diseases caused by unicellular pathogens even in fisheries and allied sciences. Digital rules also said that the Growth & Fecundity of any Fish are negatively correlated with TDS and CEC. The fecundity of any Fish may be environmentally controlled and values are negatively correlated with the TDS and CEC. May the rules in Digital fisheries *viz*. growth and fecundity negatively correlate with TDS and CEC and approximated Linier Models. Preventing and curing diseases with Hydrocarbon, Isoprene, and Chlorine nano-particles destroy unicellular pathogens of inland, marine environments and mankind Modern ecotechnology may benefit to every mankind.

Acknowledgements

The first Author is grateful to due publication to the scientific communities and all concerned. First author are immensely thankful to the HODs of Fisheries Research Assessment and Informatics Division and the Director of ICAR-CIFRI, Barrackpore, Kolkata 700120, West Bengal, India for accomplishments. Necessary data supports are due to the Research-scholars of the Institute.

.

References

1. Debabrata Das, Prakriti Das. The Digital rules of Isoprene Biochemistry in preventing, curing diseases caused by unicellular pathogens. In 2nd International Web Conference on smart Agriculture for resource conservation and ecology stability, 2021.
2. Debabrata Das, Aranya Das, Prakriti Das and Santa Ana Das. The digital theories of isoprene nano-particle and other related in curing, preventing diseases caused by unicellular pathogens even in fisheries and allieds sciences during and after the Covid era. Int J Fisheries and Aquatic Studies. 2021;9(6):227-229.
3. Debabrata Das. Digital Rules say Growth & Fecundity of any Fish are negatively correlated with TDS and CEC. Proc. E-Book Abstract of SCSI India National Web Conference. Sustainable Soil and Water management for Biodiversity Conversation, food security & Climate Resilience 29-30 Dec 2020.
4. Debabrata Das. 2021 Fecundity of any Fish may environmentally controlled and values are negatively correlated with the TDS and CEC. ISCA Webinar Book of Abstract. International Symposium on Coastal

Agriculture: Transforming Coastal Zone for Sustainable Food become security 16-19th March 2021 Organized by ISCAR, Canning Town, West Bengal India.
5. Debabrata Das, Rajendranath Das. May the rules in Digital fisheries *viz*. growth and fecundity are negatively correlated with TDS and CEC and approximated Linier Models. ISCA Webinar Book of Abstract International Symposium on Coastal Agriculture: Transforming Coastal Zone for sustainable food and become security 16-19th March 2021 Organized by ISCAR, Canning Town, West Bengal. India 2021.
6. Debabrata Das, Aranya Das, Prakriti Das, Santa Ana Das. Prventing and curing diseases with Hydrocarbon, Isoprene, and Chlorine nano particles destroy unicellular pathogens of inland, marine environments and mankind. Int. J. of Fisheries and Aquatic Studies. 2022;10(3):26-33.