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Ecotechnological relations between aquatic-microbes & turbidity with machine learning techniques

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Abstract
Ecotechnology may be a never-ending applied science to all mankind. Often applied and we all may know that in recent days Machine learning Techniques can be used in Ecotechnology for mankind in obtaining significant relations. Present research communication dealt with long-run fisheries research when we find that cation exchange capacity viz. CEC and total dissolved solids viz. TDS have roles in fisheries in controlling fish diseases hence also growth and fecundity. There can be no fish diseases often in waters may consisting a minimum to below 190 ppm of TDS or below 50 meq of colloidal CEC. The present communication dealt that water microbes have definite correlations with turbidity mentioned and this is controlled by other environmental measures TDS and CEC found with artificial intelligence viz.AI and Machine Learning Techniques.

Keywords: Describing AI and machine learning techniques, graphs with microbes, digital rules, ecotechnology to mankind

Introduction
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 can be measured with satellite remote sensing data by their grey-values. Turbidity may be controlled by other environmental parameters: temperature, Cation Exchange Capacity of colloids CEC, Total dissolved Solids TDS, aeration, etc. 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 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 during and after the Covid era. 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 are negatively correlated 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.

Materials and Method
Data science is used in communicating this article. Primary and secondary data on fisheries research studied during old previous data and analysed with modeling software SPSS, this may be an ideal tool of deriving AI and Machine learning Techniques in Fisheries and Mankind. Table 1 to Table 3 describe Ai and Machine Learning Techniques and Graphs (Fig. 1 to Fig. 8) with microbes, namely Coli-form Bacteria, Fecal Coli-form Bacteria, Entero-Bacteria, Platy-Bacteria in lower stretches Ganges water found dispersed and correlated with one of the environmental parameter Turbidity.

Results and Discussion

Table 1: Describing AI and Machine Learning Techniques with microbes namely Coli-form Bacteria, Fecal Coli-form Bacteria, Entero-Bacteria, Platy-Bacteria in lower stretches Ganges water found dispersed and correlated with one of the environmental parameter Turbidity.

Correlations						
Control Variables			**Total_CO**	**FECAL_CO**	**TPX109**	**Entero**
Turbidit	TOTAL_CO	Correlation	1.000	.959	.738	.880
		Significance (1-tailed)	.	.000	.000	.000
		df	0	380	380	380
	FECAL_CO	Correlation	.959	1.000	.783	.872
		Significance (1-tailed)	.000	.	.000	.000
		df	380	0	380	380
	TPX109	Correlation	.738	.783	1.000	.809
		Significance (1-tailed)	.000	.000	.	.000
		df	380	380	0	380
	ENTERO	Correlation	.880	.872	.809	1.000
		Significance (1-tailed)	.000	.000	.000	.
		df	380	380	380	0

Table 2. Describing AI and Machine Learning Techniques of microbes namely Coli-form Bacteria, Fecal Coli-form Bacteria, Entero-Bacteria, Platy-Bacteria in lower stretches Ganges water found dispersed and correlated with one of the environmental parameter Turbidity

Correlations						
Control Variables			**Total_CO**	**FECAL_CO**	**TPX109**	**Entero**
Turbidit	TOTAL_CO	Correlation	1.000	.959	.738	.880
		Significance (2-tailed)	.	.000	.000	.000
		df	0	380	380	380
	FECAL_CO	Correlation	.959	1.000	.783	.872
		Significance (2-tailed)	.000	.	.000	.000
		df	380	0	380	380
	TPX109	Correlation	.738	.783	1.000	.809
		Significance (2-tailed)	.000	.000	.	.000
		df	380	380	0	380
	ENTERO	Correlation	.880	.872	.809	1.000
		Significance (2-tailed)	.000	.000	.000	.
		df	380	380	380	0

Table 3: Describing AI and Machine Learning Techniques of Microbes, namely Coli-form Bacteria, Fecal Coli-form Bacteria, Entero-Bacteria, Platy-Bacteria in lower stretches Ganges water found dispersed and correlated with one of the environmental parameter Turbidity.

Model Summary and Parameter Estimates									
Dependent Variable: Total_COLI									
Equation	**Model Summary**					**Parameter Estimates**			
	R Square	**F**	**df1**	**df2**	**Sig.**	**Constant**	**b1**	**b2**	**b3**
Linear	.047	18.680	1	381	.000	9.002E4	201.289		
Logarithmic	.163	74.167	1	381	.000	-5.880E4	4.218E4		
Inverse	.129	56.587	1	381	.000	1.363E5	-1.064E6		
Quadratic	.184	42.868	2	380	.000	4.332E4	1.209E3	-1.842	
Cubic	.189	29.376	3	379	.000	3.483E4	1.496E3	-3.650	.002
Compound	.034	13.531	1	381	.000	4.454E4	1.003		
Power	.160	72.645	1	381	.000	4.112E3	.666		
S	.162	73.537	1	381	.000	11.467	-18.967		
Growth	.034	13.531	1	381	.000	10.704	.003		
Exponential	.034	13.531	1	381	.000	4.454E4	.003		
Logistic	.034	13.531	1	381	.000	2.245E-5	.997		
The independent variable is Turbidity									

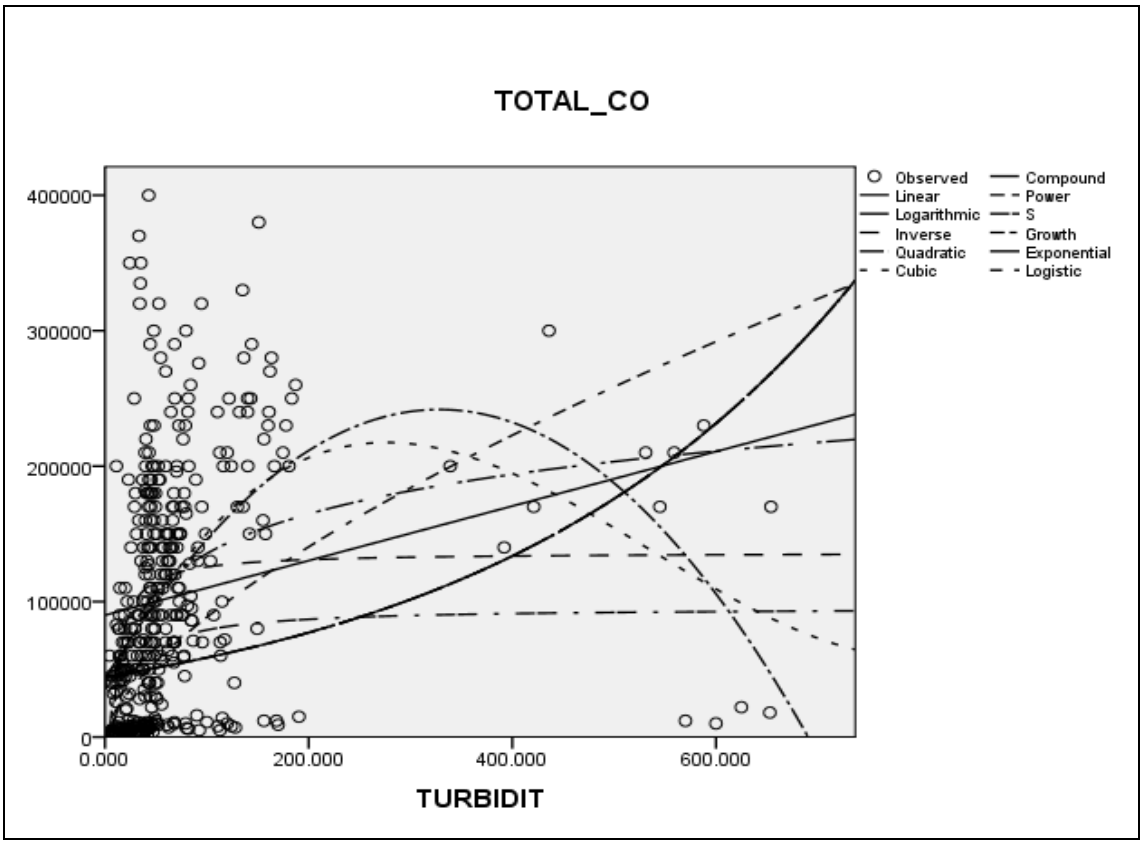

Fig 1: Graphs with microbes namely Coli-form Bacteria in lower stretches of Ganges water found dispersed and correlated with one of the environmental parameters Turbidity.

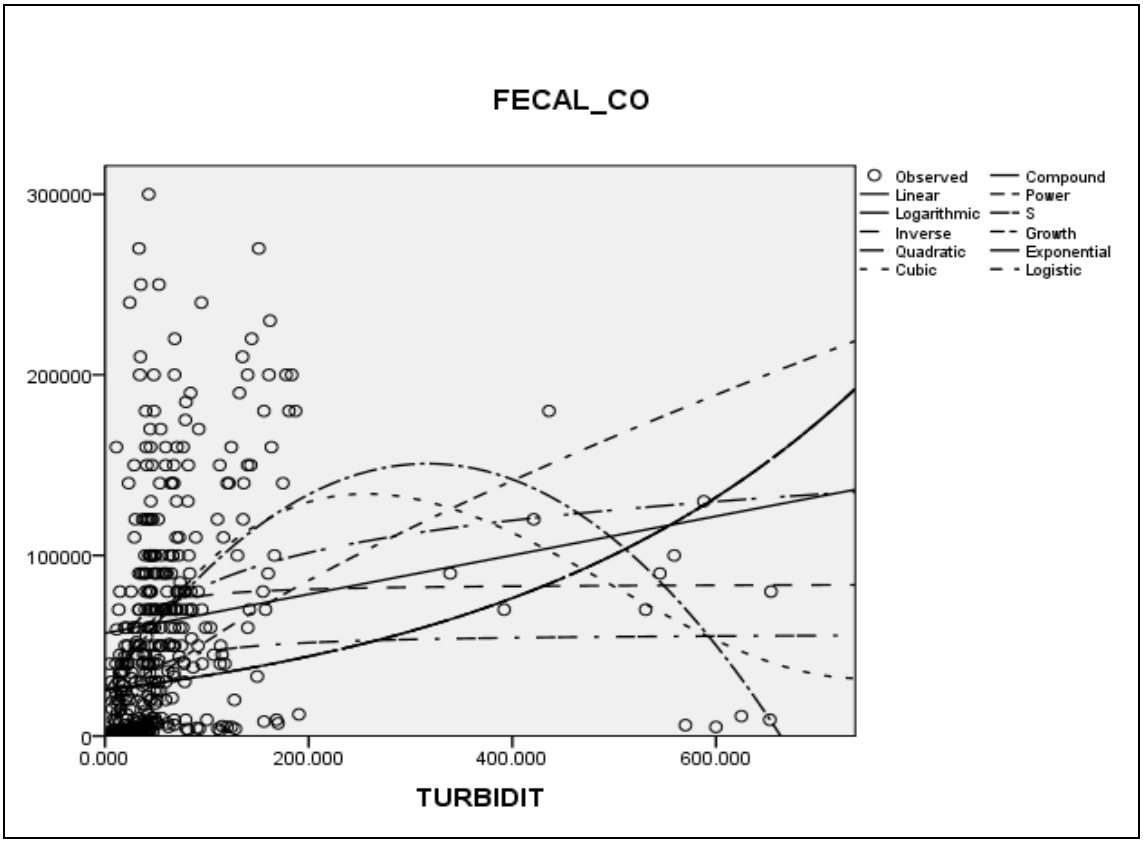

Fig 2: Graphs with microbes, namely Coli-form Bacteria in lower stretches of Ganges water found dispersed and correlated with one of the environmental parameters Turbidity.

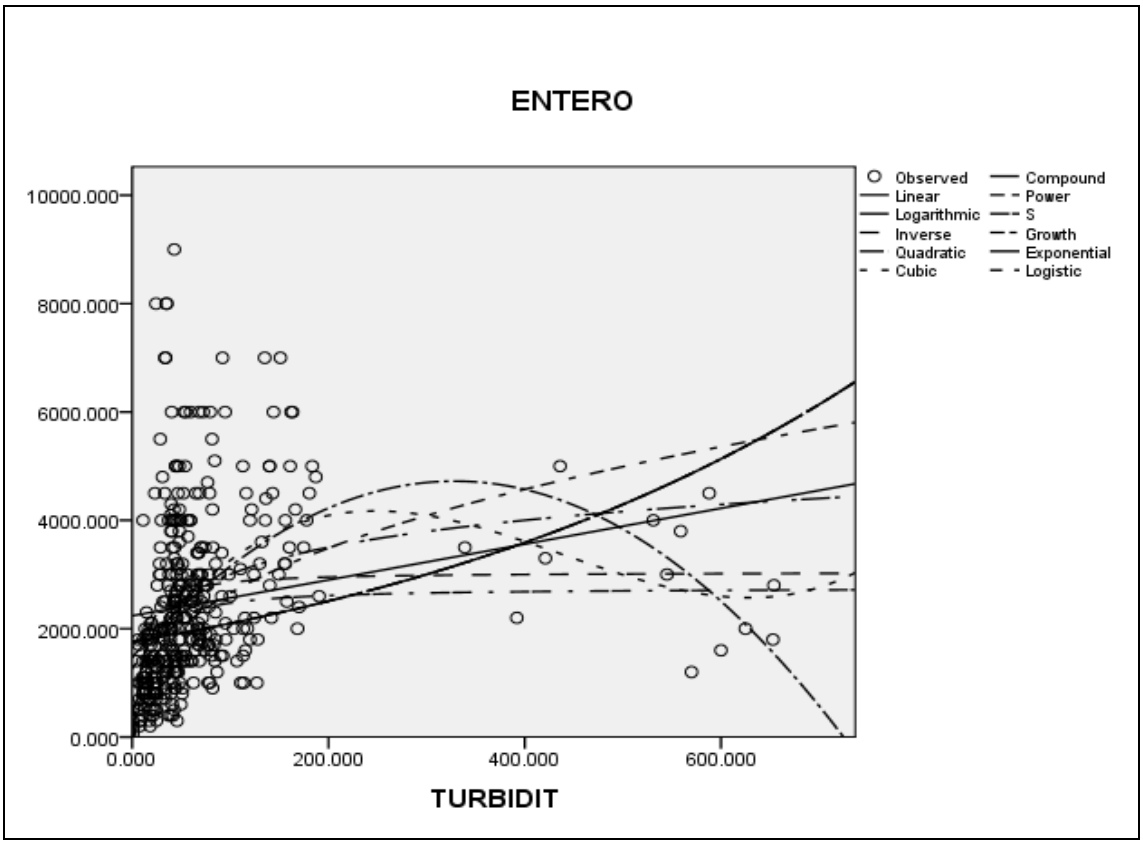

Fig 3: Graphs describing with Microbes namely Entero-Bacteria in lower stretches Ganges water found dispersed and correlated with one of the environmental parameter Turbidity.

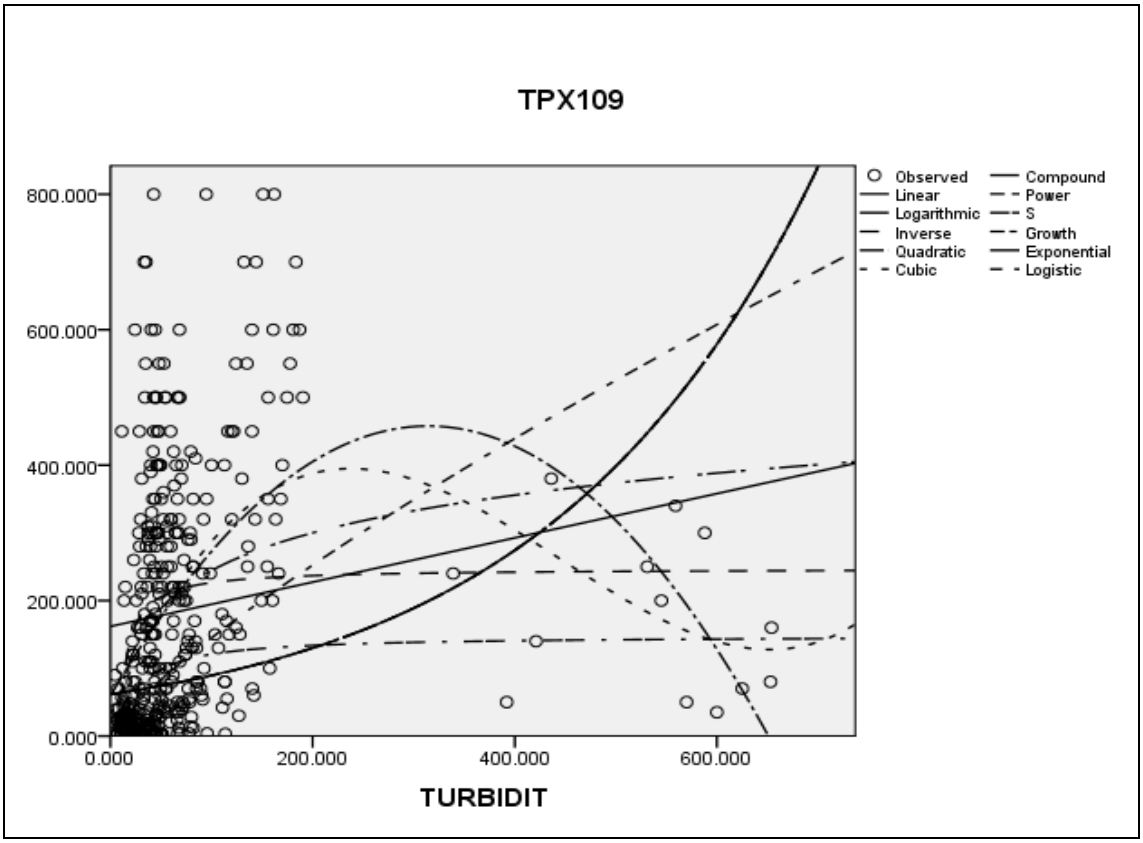

Fig 4: Graph describing with microbes namely Platy-Bacteria in lower stretches Ganges water found dispersed and correlated with one of the environmental parameter Turbidity.

Conclusions

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.

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