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The Best of *Hilsa* Rearing in Marine-Cages, Else with the Global Rainfall Model Namely, "Hhhfarm" in a Very Long Runs to Coastal Zones as Well, Facilitating *Hilsa* and Every Other Marine Species

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Abstract

All we may know dillution is a new life. Every marine species has to migrate to fresh-water or estuary. Hilsa migrates to upstream fresh-waters while to breed naturally. By the way Hilsa species are being caught and hence no breeding is performed and hence we loss a huge amount of Hilsa Geneplasms, and here we stand Ecotechnology of Hilsa seed production with matured or semi matured Hilsa Ova and Sperm Cells under known water quality conditions, or else in Freshwaters. To get Hilsa seeds as per our needs. Hence Hilsa upstream migration to rivers owing to perform natural breeding may not be mandatory if there is adequate rainfall in costal environments.We describe HHHFARM a coastal or global rainfall model helping Hilsa fisheries as well. alternative rainfall model "HHHFARM" facilitating hilsa spp to breed well with ecotchnology Hilsa Seeds mere obtained in freshwaters here with adopting Ecotechnology or else naturally in Nadia Murshidabad and Culturally adjoining areas with known water qualitites and can be grown in marine-cages with the mentioned in a range Total Dissolved Solids TDS of principal water quality parameter whose value rangeing from 150 to 250 ppm (Table 1) with maximum tollerable TDS is 610 ppm. Beyond 610 ppm of TDS Hilsa species may get environmental stresses. Tenualosa ilisha migration may not be mandatory if there is HHHFARM be implemented, in a long centuries run. We propose this HHHFARM in Fisheries, a Global Coastal Rainfall model may establishing preferably in coastal zones, as well apart from terrestrials. This model specially in Fisheries says that OSP osmotic pressure can be minimized with rainfall. Every rainfall is attracted with 'Hydrogen to Hydrogen ion based Hydrophilic Farming Apical Rainfall Model' or i.e. HHHFARM of Plant canopies in Coastal-zones causing optimum osmotic pressure to Hilsa species as well and hence after many many years from now may be natural breeding may even possible without migrations to fresh waters.

Keywords: Ecotechnology, HHHFARM Rainfall Model, Natural Breeding of *Hilsa* and other Marine Species, *Hilsa* Spp with Machine Learning Technique.

1. Introduction

Although *Hilsa* spp. mainly *Tebnualosa ilisha* species migration performed is owing to avoid environmental stresses and to perform a natural life cycle. Migration may help no diseases in fisheries science. If there is rainfall as per the need of osmotic pressure or physiological needs the species may not requring any migrations specially among the species. This article represent tne ncessary Total Dissolved solids TDS or OSP osmotic pressures as synnonymous, required by the *Hilsa* species in annual life cyccle to avoid migrations and physiological stress.(Table1) Natural migration of

Hilsa owing to seed production in other parts of global importance may not possible in all marine environments since migration are extremely slow in marine environments and takes prolonged times before the species to the other part of the world since aging Hisla survives around 10 – 12 years prior to that species re-enter the well known fresh waters of certain qualities unlike marine routes. Hence *Hilsa* species remained confined in few marine pockets only and can be inducted elsewhere marine cages, Hilsa breed under fresh waters conditions when Hilsa seeds produced under controlled Ecotechnology and again can be recruited in marine cages worldwide. All fish migrates owing to physiological requirements. This migration is based on water qualities, food and light and temperature. Usually Juvenille Hilsa species prefer a high TDS marine environments. During the breeding seasons Hilsa migrates to the as low as low TDS (< 110ppm) of waters and whenever species get a suitable osmotic-pressure or optimum Total Dissolved Solids i.e. TDS then Hilsa to breed. According to all water qualities with ranges of different parameters, intensity of light and coolness temperature are the criteria in Ecotechnology of Hilsa Breeding.

2. Materials And Method

Most precious species *Hilsa* hypothetically can be reared or grown in marine-cages, globally, when hilsa seeds are available with Ecotechnology here powered by modern *Ayurveda*. Often find that unless most desired natural breeding of *Hilsa spp i.e*. here saying, *Tenualosa ilisha* migration may not be mandatory if there is HH-HFARM be implemented, in a long centuries run. We propose this HHHFARM in Fisheries, a Global Coastal Rainfall model may establishing preferably in coastal zones, as well apart from terrestrials. This model specially in Fisheries says that OSP osmotic pressure can be minimized with rainfall. Every rainfall is attracted with 'Hydrogen to Hydrogen ion based Hydrophilic Farming Apical Rainfall Model' or i.e. HHHFARM of Plant canopies in Coastal-zones causing optimum osmotic pressure to *Hilsa* species as well and hence after thousand of years from now may be natural breeding may even possible without migrations to fresh waters. Alternatively what we are d proposing holistically *Hilsa* seed productions with Ecotechnology under fresh waters

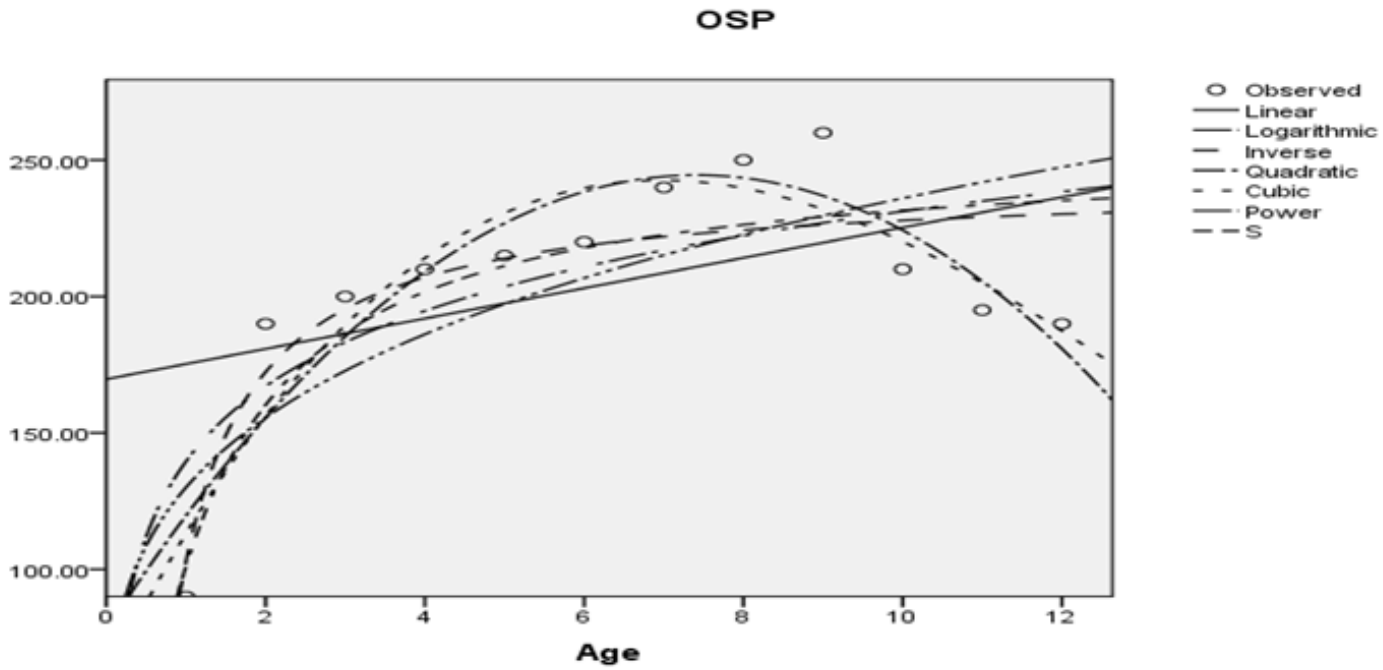

Figure 1: *Hilsa* spp here *Tenualosa ilisha* can be grown in Marine-cages, depicting mere with a TDS in Y axis range 150 to 250 ppm (maximally 610 ppm without stress) and X axis fish age or alternative rainfall model "HHHFARM" in coasts facilitating *Hilsa* spp with Machine learning technique.

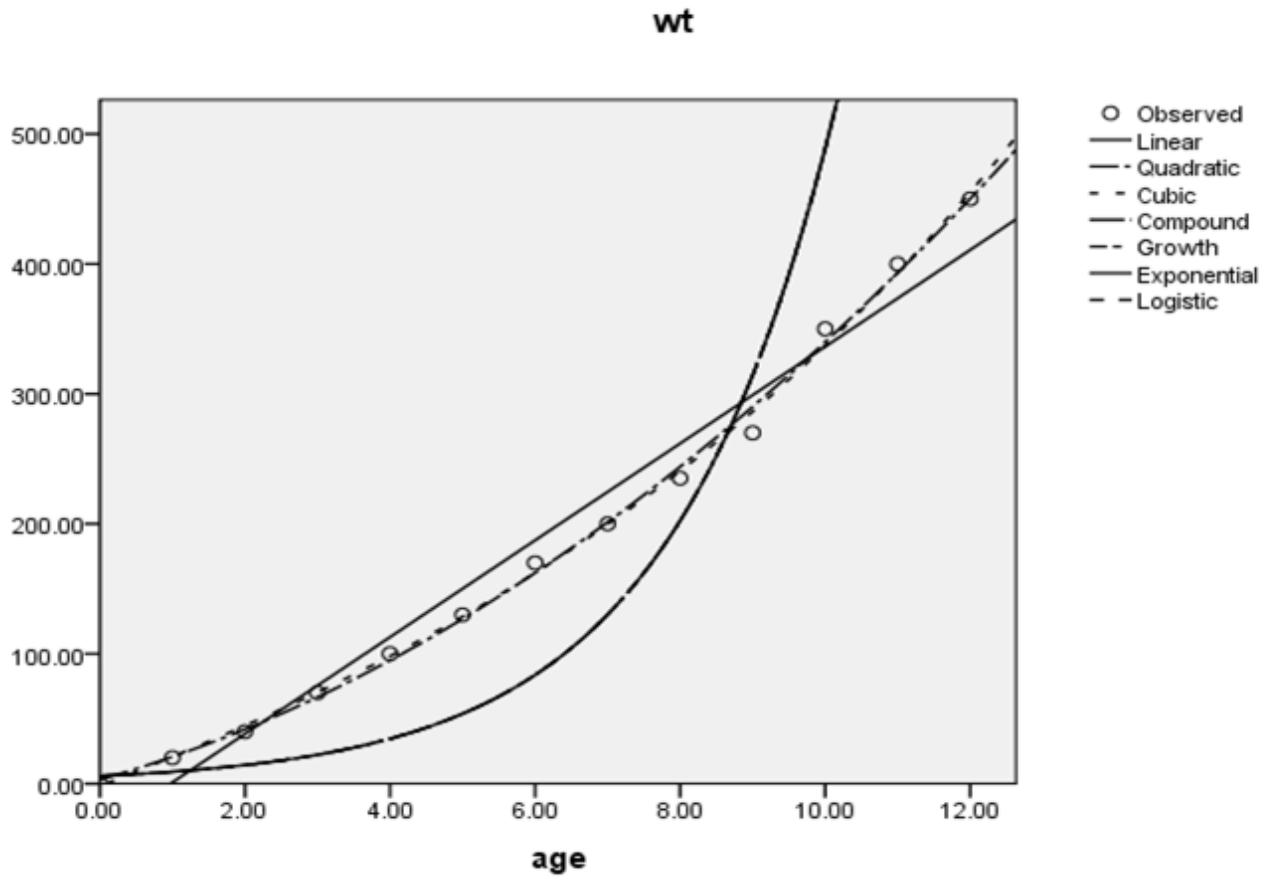

Figure 2: *Hilsa spp* here *Tenualosa ilisha* the annual growths as per natural data predicted when can be grown in marine-cages, depicting with a TDS in Y axis in gram weight and X axis fish age in months *Hilsa spp Hilsa spp* with Machine learning technique.

3. Results and Discussion

This sustaining HHHFARM may be applicable, no need may for natural migration of Hilsa owing to seed production in other parts of global importance may not possible in all marine environments since migration are extremely slow in marine environments and takes prolonged times before the species to the other part of the world since aging Hisla survives around 10 – 12 years prior to that species re-enter the well known fresh waters of certain qualities unlike marine routes. Hence Hilsa species remained confined in few marine pockets only and can be inducted elsewhere marine cages, Hilsa breed under fresh waters conditions when Hilsa seeds produced under controlled Ecotechnology and again can be recruited in marine cages worldwide. All fish migrates owing to physiological requirements. This migration is based on water qualities, food and light and temperature. Usually Juvenille Hilsa species prefer a high TDS marine environments. During the breeding seasons Hilsa migrates to the as low as low TDS (< 110ppm) of waters and whenever species get a suitable osmotic-pressure or optimum Total Dissolved Solids i.e. TDS then Hilsa to breed. According to all water qualities with ranges of different parameters, intensity of light and coolness temperature are the criteria in Ecotechnology of Hilsa Breeding. In earlier days attempts were made reversedly when adult Hilsa species were tried to grow in fresh-waters and all Hilsa could not survived and projects remained unsuccessful. Present communications with mere IT, Ecotechnology, and biotechnological concepts can popularize Hilsa. May Hilsa in marine cages of TDS in a range of 190 TO 610 ppm, beyond 610 there may persisting physiological stresses to HIlsa and retarded growth and models. Followings are the described significant models with OSP Osmotic pressure alternative to Total Dissolved Solids measured in ppm. of Hilsa spp with Machine Learning Technique.

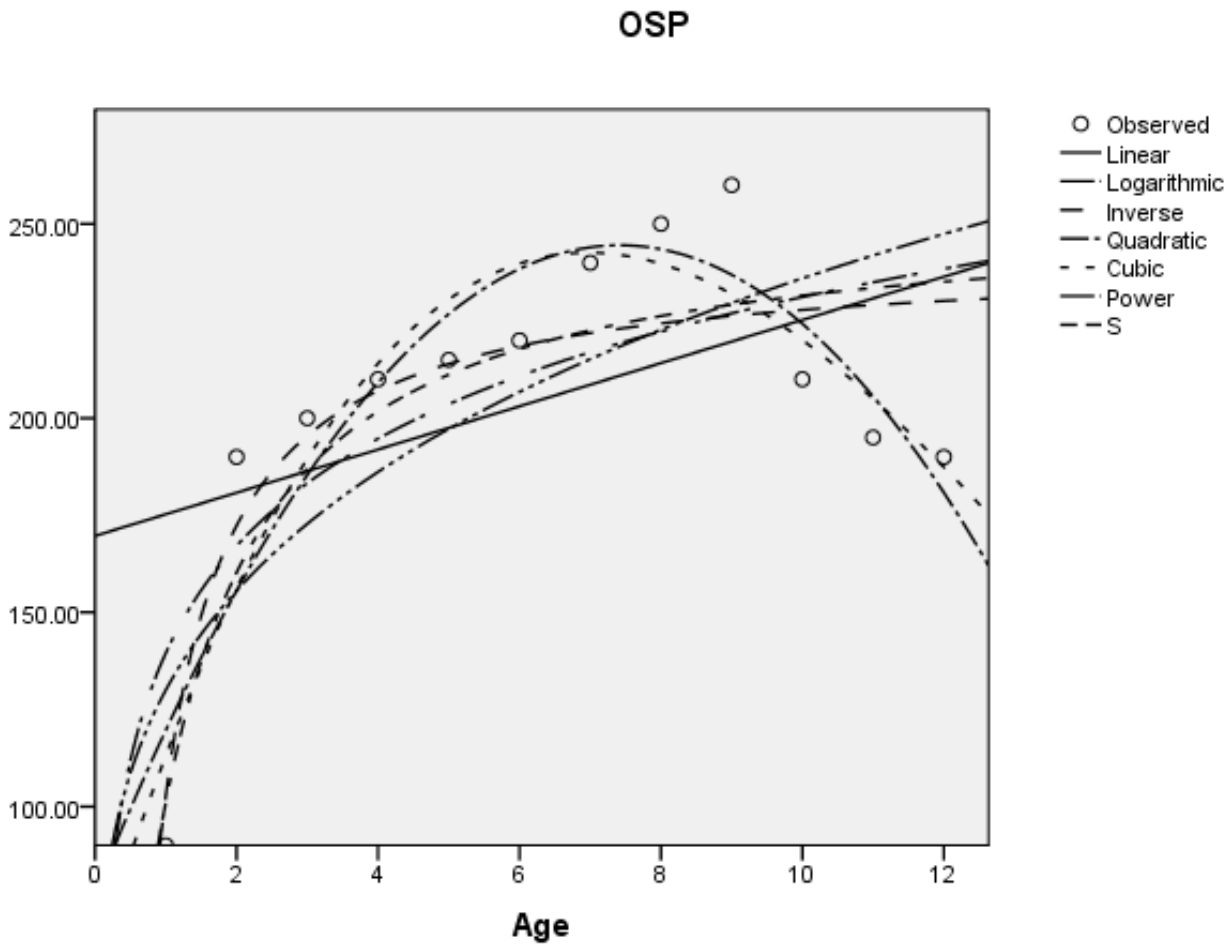

Figure 3: *Hilsa spp* here *Tenualosa ilisha* the annual growths as per natural data predicted when can be grown in marine-cages, depicting with a TDS in Y axis in OSP (alternatively Osmotic pressures is proportionate to TDS measuresin ppm) weight and X axis fish age in months *Hilsa spp Hilsa spp* with Machine learning technique.

Linear MODEL

Model Summary

R	R Square	Adjusted R Square	Std. Error of the Estimate
.465	.216	.138	40.027

The independent variable is Age.

ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Regression	4419.755	1	4419.755	2.759	.128
Residual	16021.911	10	1602.191		
Total	20441.667	11			

The independent variable is Age.

Coefficients

	Unstandardized Coefficients	Standardized Coefficients		t	Sig.
	B	Std. Error	Beta		
Age	5.559	3.347	.465	1.661	.128
(Constant)	169.697	24.635		6.888	.000

Logarithmic MODEL

ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Regression	9957.186	1	9957.186	9.497	.012
Residual	10484.481	10	1048.448		
Total	20441.667	11			

The independent variable is Age.

Coefficients

	Unstandardized Coefficients	Standardized Coefficients		t	Sig.
	B	Std. Error	Beta		
ln(Age)	39.806	12.917	.698	3.082	.012
(Constant)	139.533	23.457		5.949	.000

Inverse MODEL

ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Regression	14715.391	1	14715.391	25.698	.000
Residual	5726.275	10	572.628		
Total	20441.667	11			

The independent variable is Age.

Coefficients

	Unstandardized Coefficients	Standardized Coefficients		t	Sig.
	B	Std. Error	Beta		
1 / Age	-138.922	27.404	-.848	-5.069	.000
(Constant)	241.759	9.897		24.429	.000

Quadratic MODEL

ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Regression	16689.119	2	8344.560	20.013	.000
Residual	3752.547	9	416.950		
Total	20441.667	11			

The independent variable is Age.

Coefficients

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
Age	44.975	7.464	3.762	6.026	.000
Age ** 2	-3.032	.559	-3.386	-5.425	.000
(Constant)	77.727	21.104		3.683	.005

Cubic MODEL

ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Regression	16891.217	3	5630.406	12.687	.002
Residual	3550.450	8	443.806		
Total	20441.667	11			

The independent variable is Age.

Coefficients

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
Age	58.911	22.040	4.927	2.673	.028
Age ** 2	-5.608	3.860	-6.263	-1.453	.184
Age ** 3	.132	.196	1.765	.675	.519
(Constant)	59.697	34.467		1.732	.122

Power MODEL

ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Regression	.422	1	.422	10.730	.008
Residual	.393	10	.039		
Total	.814	11			

The independent variable is Age.

Coefficients

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
ln(Age)	.259	.079	.719	3.276	.008
(Constant)	129.991	18.665		6.964	.000

The dependent variable is ln(OSP).

S MODEL

ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
egression	.646	1	.646	38.400	.000
Residual	.168	10	.017		
Total	.814	11			

The independent variable is Age.

Coefficients

	Unstandardized Coefficients	Standardized Coefficients		t	Sig.
	B	Std. Error	Beta		
1 / Age	-.921	.149	-.891	-6.197	.000
(Constant)	5.537	.054		103.207	.000

The dependent variable is ln(OSP).

4. Conclusion

May this holly *Hilsa* rearing in marine-cages or alternatively the global rainfall-model, "HHHFARM" in very long runs to coastal zones as well, facilitating not only *Hilsa* but evry other marine species In earlier communications we suggest *Hilsa* can be reared or grown in marine-cages, globally, when hilsa seeds are available with Ecotechnology here powered by modern Ayurveda. Often find that unless most desired natural breeding of *Hilsa* spp i.e. here saying, *Tenualosa ilisha* migration may not be mandatory if there is HHHFARM be implemented, in a long centuries run. We propose this HHHFARM in Fisheries, a Global Coastal Rainfall model may establishing preferably in coastal zones, as well apart from terrestrials. This model specially in Fisheries says that OSP osmotic pressure can be minimized with rainfall. Every rainfall is attracted with 'Hydrogen to Hydrogen ion based Hydrophilic Farming Apical Rainfall Model' or i.e. HHHFARM of Plant canopies in Coastal-zones causing optimum osmotic pressure to Hilsa species as well and hence after thousand of years from now may be natural breeding may even possible without migrations to fresh waters. Alternatively what we are d proposing holistically *Hilsa* seed productions with Ecotechnology under fresh waters with *Hilsa spp* gene-plasms collected from Fraserganj, West Bengal, India at the mouth of the holly river Ganges.

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