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Review Article

NOx Elimination and Drainage NP Elimination Should Be Stopped for The Production of Fish and for The Protection of Global Warming

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Abstract

NOx is promoting plankton growth and fish production. Much NOx is produced when fossil is burned. Many governments set up the law to eliminate NOx by the reason NOx is pollution gas and not good for health. And also Drainage NP are eliminated. Some other many governments are welcoming NOx as fertilizer for plant and encouraged the use of NOx and Drainage NP for plankton growth and getting many fish.

The balance of materials which concerned in burning of fossil and CO2 assimilation are summarized. It was found that NOx produced by burning and drainage NP are so much and effective use of NOx and drainage NP is a key to control of climate of earth and production of grain and fish production. NOx elimination and Drainage NP elimination should be stopped for the production of grain and fish and for the protection of global warming

Keywords: Carbon dioxide; Fish production CO_2 assimilation; Global warming; NOx

Introduction

The earth is warmed by the fossil fuel burning releasing CO_2 and heat. The plant is growing by CO_2 assimilation absorbing CO_2 producing carbohydrate and O_2. If we can compensate the generation of CO_2 and heart with the absorption of CO_2 and heart by CO_2 assimilation, global warming can be protected [1-12].

Plankton photosynthesis are studied by many investigators [13-38]. These studies indicate that CO_2 assimilation is playing very important role for the regulation of climate. Supply of nutrients are important factor for the promotion of CO_2 assimilation. When fossil fuel burned, much NOx is produced. Too much burning and too much CO_2 is produced and, CO_2 concentration is increasing. Protection of global warming is now one of biggest concern of the world. For the protection of global warming, CO_2 must be diminished. Promotion of CO_2 assimilation is most effective way. To promote CO_2 assimilation, Increase of nutrient N and P are most effective way. NOx is a major nitrogen source for the plant to grow. But NOx is hated as pollution gas and many governments like Japan, United State, Germany, England be fixed well. As the result, CO_2 concentration increasing. And global warming is observed.

On the contrary, many countries like China, India, Indonesia, Vietnam do not eliminate NOx and they are using NOx as fertilizer. Then much plankton is produced and much CO_2 are fixed and much fish is produced. I wish to describe these facts in detail.

Material Balance of CO_2 Assimilation Related Compounds

Amount of CO^2, NOx, plankton, Grain, Fish and Grass Tree and increase of CO_2 in the world are shown in (Table 1).

CO_2 300 Billion tone CO_2 was produced in the world in 2016 by the burning of 140 billion tone fossil. NOx 12 billion tone NOx is produced in the process of burning.

Plankton from 300 billion tone C O_2, 40 billion tone plankton, is estimated to be produced Grain from 300 million tone, 33 million tone grain are produced Grass, Tree from 300 million tone CO_2, 226 billion tone grass and tree are estimate to be produced. Fish from 40 billion tone plankton, 2 billion tone fish are produced. 1/3 tone fossil give 1 tone CO_2 1tone CO_2 produce 1/25 tone NOx as by product in the burning process, In the CO_2 assimilation process, 1 tone CO_2 react with 18/44 tone H20 using 1/25 tone NOx

CO_2, Grain and Fish production are obtained from statistic. Plankton weight is estimated from the fact that sardine eat 10 times plankton of his weight. And Tuna (Maguro) eat 10 times sardine of his weight. Then we estimated that fish eat 20 times plankton of his weight. In average. Grass Tree weight is obtained from CO_2 weight minus plankton and Grain weight.

	CO_2 Billion tone	NOx	plankton	Grain	Fish	Grass Tree	CO_2 increase
World	300	12	40	33	2	225	
China	100	4	5.5	5.5	0.794	78.6	0
India	24	1	2	2.9	0.1	19.1	0
USA	51	1	1.2	4.4	0.06	4 5.4	0
Russia	17	0.6	0.92	0.9	0.046	15.2	0
Japan	12	0.48	0.92	0.12	0.046	11	9
Germany	7.8	0.31	0.058	0.47	0.0029	7.3	0
Canada	5.8	0.23	0.055	0.66	0.0105	5.1	0
UK	4	0.16	0.018	0.2	0.0091	3.8	0.016
Italia	3.6	0.14	0.039	0.16	0.0024	3.4	0.003
France	3.3	0.13	0.013	0.67	0.0067	3.2	0

Table 1: Amount of CO_2, NOx, plankton, Grain, Fish Grass Tree and CO_2 increase of 10 counts.

CO_2, NOx and Heat Balance in the World

Fossil fuel $1.4x10^{10}$ tone was burned at whole world in 2015 and about $4.4x\ 10^{10}$ tone CO_2 and $7.4\ x10^{15}$ kcal were produced and $2.5x\ 10^9$ tone NOx is produced. If we use this $2.5x\ 10^9$ tone NOx for CO_2 assimilation, we can fix CO_2 $50x10^9$ tone ($25x2.5\ x\ 10^9$). The amount of NOx produced is around $2.5x\ 10^9$ tone in whole world. To eliminate NOx $2.5x\ 10^9$ tone, equimolar ammonia 11.3 billion ton is used. To make ammonia11.3 billion tone, 2 billion tone hydrogen gasie used. To make 2 billion tone hydrogen, butane 6.4 billion tone is used. As the result,17.6 billion tone CO_2 is released. If NOx elimination is stopped, 17.6 billion tone CO_2 release can be stopped. And 17.6x 25=440 billion tone CO_2 can be fixed.

CO_2, NOx and Heat Balance in Japan

Fossil fuel $1.4x10^{10}$ tone was burned at Japan in 2015 and about $4.4x\ 10^{10}$ tone CO2 and $7.4\ x10^{13}$ kcal were produced and $2\ x\ 10^6$ tone NOx is produced. In Japan, $2.8x\ 10^8$ hector wood is present. 13.7 tone CO_2 is fixed at 1 hector wood in one year. $2.8x10^8x13.7=3.8x10^9$ tone CO_2 can be fixed at wood. In Japan, $4.5x10^7$ hector cultivated land is present. 14.7 tone CO_2 is fixed at 1 hector in one year. $4.5x10^7\ x\ 14.7=6{,}3x\ 10^8$ tone CO2 can be fixed in one year at cultivated land. Therefore $3.8x10^9+6{,}3x\ 10^8=4.4\ x10^9$ tone CO_2 is fixed at land. This is far from production of CO_2.Therefore we must promote CO_2 assimilation by the supply of nutrient N, NOx at sea.

Effective use of NOx and Drainage NP are Essential for Protection of Global Warming and Fish Production

Fish production along with CO_2 emission, NOx emission and CO_2 fixed by plankton CO_2 assimilation of the world are shown at (Table 2).

	Fish production (2016)	Million tone (1997)	CO_2 emission	NOx emission	Million tone (2002)	Population billion	CO_2 fixed by plankton
World	200	93.19	93.33	4400	100	76	2000
Top China	79.38	16.77	16.29	1064	50	13.5	794
2nd Indonesia	22.21	4.65	5.55	50		2.39	222
India	10.11	3.72	3.60	245		12.24	101
Vietnam	6.21			21		0.86	62
USA	6.05	4.65	5.41	517		3.10	60
Peru	4.92	8.38	7.87			0.28	49

Japan	4.64	4.65	5.88	125	2	1.27	46
Russia	4.61	3.72	4.66	176		1.43	46
Philippine	4.50			11		0.92	45
Norway	3.52		2.87	52		0.48	35
Bangladesh	3.68					1.62	37
Korea	3.33	6.1	58			0.4	33
Chile	3.19	4.65	5.87	8		0.17	32
Myanmar	2.95					0.53	30
Tai	2.59			28		0.63	26
Malaysia	2.00			26		0.28	20
Mexico	1.69			47		1.23	17
Egypt	1.51			23		0.94	15
Taiwan	1.30					0.27	13
Brazil	1.27			48		2.08	13
Spain	1.26			26		0.46	13
Canada	1.05			55		0.37	10
Nigeria	1.92			87		1.94	19
Iran	0.98			63		0.80	10
U kingdom	0.91			40		0.66	10
Argentine	0.81			19		0.44	8
France	0.71			32		0.67	7
Turkey	0.67			38		0.80	7
Pakistan	0.64			17		1.98	6
South Africa	0.57			42		0.33	6
Netherland	0.44			18		0.17	4
Italia	0.34			35		0.60	4
Germany	0.29			77		0.83	3
Australia	0.25			35		0.25	3

Table 2: Fish production, CO_2 emission and NOx emission of the world.

World fish production in 2016 increased to 200 million tone, about double of 93 million tone in 1997 and 2002. China 79.38 million tone, Indonesia22.21, India10.11, Vietnam 6.21 increasing fish production very much.

China, Indonesia, India, Vietnam do not eliminate NOx and do not do drainage treatment They use NOx and excreta as it is for production of plankton and fish. Therefore, fish production increased remarkably at the district where no N, P supply by counter current of nutrient rich deep sea water with nutrient poor shallow sea water.

China produced fish 16.77 million tone fish in 2002. And 79.38 million tone fish in 2016. This is huge Increase. China produced 4 billion tone NOx. This NOx is released to air and dissolved in rain and give enough nutrient nitrogen to sea, lake and river to grow 4.4 billion tone plankton and 79.38 million tone fish. This 4 billion tone NOx became enough fertilizer for the production of 4.4 billion tone grain. And also this 4 billion tone NOx contributed for the growth of grass and tree. These three CO_2 assimilation action, plankton formation, grain production and grass tree growth, fixed 100 billion tone CO_2 and are contributing for the protection of global warming.

Japan produced 16 million tone fish, top in the world in 1960 But fish production decreased to 4.64 million tone 7th place in 2016. This is huge decrease. Japan is eliminating 3 million tone N and P since 1980. Therefore, NP concentration of sea decreased remarkably. Plankton cannot grow at this low concentration. Therefore, fish decreased. 12 million tone fish was not produced in recent years. Especially, Pacific Saury (sanma)decreased, 2006 $3x10^5$ t, 2014 $1.5x10^5$ t, Sardin (Iwashi) 1988 4.81 million tone 2014 0.5 million tone these 2 fishs eat plankton. Tuna (maguro)

which eat Pacific Saury and Sardin decreased 1961 0.16 million tone 2014 0.017 million tone.

Bonit (Katsuo), Bream(Tai), Sea eel (Anago) decreased, Salmon(Sake), Mackerel (Saba), Octopus (Tako), Squid (Ika), Eel (Unagi), Sea eel (Anago), 0.16 million tone in 1969 to 0.017 million tone in 2014. Asari 0.1 million tone in 1980 to 0.001 million tone in 2016. Sea weed (Nori) 1 billion sheet to 0.01 billion sheet.

Fish production is proportional to population, amount of excreta. Shrimp production by excreta is popular in Vietnam, India and Indonesia and 31000, 30000 and 25000 tone shrimps are exported to Japan respectively in 2015. Peru, Norway and Chile produce much fish by N, P caused by counter current of nutrient rich deep sea water with nutrient poor shallow sea water.

Fish production is proportional to CO_2 fixed by CO_2 assimilation at sea, the country having high fish production is the country which have done high CO_2 fixing. 10 times of CO_2 of fish production are fixed by plankton CO_2 assimilation. China produced 79.38 million tone fish in 2016. This means that China fixed 8 billion tone CO_2 by plankton CO_2 assimilation. This is huge amount. This is 1/12 of 100 billion tone CO_2 produced at China. China is biggest CO_2 producing country.

This data indicates that plankton CO_2 assimilation is playing significant role for the fixing of CO_2 and protection of global warming. Decrease of 12 million tone fish at Japan means decrease of 120 million tone CO_2 fixing. If Japan stop elimination of 3 million tone N and P, Japan can fix 46 million tone CO_2 and can produce 12 million tone fish decrease of half million tone fish at Set inland sea means decrease of 5 million tone CO_2 fixing.

Japan is most CO_2 increasing country, because country is narrow and cannot fix produced CO_2 at land (11). Therefore, Japan must fix CO_2 by promotion of CO_2 assimilation at sea. Japan is producing10 % CO_2 of total CO_2 production for the elimination of NOx and drainage treatment. Japan must diminish CO_2 emission by stopping NOx elimination, and promote CO_2 assimilation and fish production. If governments think CO_2 diminish is most important subject, they should consider sea as firm of fish, firm to fix CO_2. They should increase N, P concentration of sea by releasing NOx and drainage N, P as it is.

Summary

NOx is a gift from nature. We should not against nature. We should use NOx as it is. NOx is hated as pollution gas causing illness. Many governments set up very strict law to eliminate all NOx in burned gas and forced to eliminate NOx using ammonia. When NOx is released at no person district such as sea side, NOx do not give any harm. One molecule of NOx can fix 25 molecules of CO_2 and can protect global warming. I wish to insist that NOx elimination should be stopped. Because toxicity of NOx is not so serious compared with significant merit of NOx. NOx is essential for the promotion of CO_2 assimilation, for the production of foods, for the promotion of health and long life [39-45]. for the protection of global warming.

References

1. Ozaki Shoichiro (1993) Recycle of nitrogen and phosphorous for the increase of food production New Food Industry 10: 33-39.
2. Ozaki Shoichiro (2016) Methods to protect global warming. Adv Tech Biol Med 4: 181.
3. Ozaki Shoichiro (2016) Methods to protect global warming, Food production increase way. New Food Industry 8: 47-52.
4. Ozaki Shoichiro (2016) Global warming can be protected by promotion of CO_2 assimilation using NOx. Journal of Climatology & Weather Forecasting 4: 2.
5. Ozaki Shoichiro (2016) Global warming can be protected by promotion of plankton CO_2 assimilation. Journal of Marine Science: Research & Development 6: 6.
6. Ozaki Shoichiro (2017) Method to protect global warming by promotion of CO_2 assimilation and method to reactivate fish industry. New Food Industry 3: 61-70.
7. Ozaki Shoichiro (2017) NOx is Best Compound to Reduce CO_2. Eur J Exp Biol 7: 12.
8. Ozaki Shoichiro (2017) Protection of global warming and burn out of fossil fuel by promotion of CO_2 assimilation. J of Marine Biology & Oceanography 6: 2.
9. Ozaki Shoichiro (2017) Promotion of CO_2 assimilation supposed by NOx is best way to protect global warming and food production. Artiv of Pet-Envilron Biotechnol 2: 110.
10. Ozaki Shoichiro (2017) Promotion of CO_2 assimilation supported by NOx is best way to protect global warming. J Marine Biol Aquacult 3: 2.
11. Ozaki Shoichiro (2017) Stopping of NOx elimination is easy way to reduce CO_2 and protect global warming J Environ Sci Public Health 1: 24-34.
12. Ozaki Shoichiro (2017) Effective uses of NOx and drainage are clever way to protect global warming and to increase fish production. Oceanography 6 Fisheries 4: 4.
13. Falkowski PG (1994) "The role of phytoplankton photosynthesis in global biogeochemical cycles" (PDF). Photosyntheis Research 39: 235-258.
14. Falkowski PG, Ziemann D, Kolber Z, Bienfang PK (1991) Nutrient pumping and phytoplankton response in a subtropical mesoscale eddy. Nature 352: 52-58.
15. Falkowski PG, Wilson C (1992) Phytoplankton productivity in the North Pacific Ocean since 1900 and implications for absorption of anthropogenic CO2. Nature 358: 741-743.
16. Chisholm SW, Falkowski PG, Cullen JJ (2001) "Dis-crediting ocean fertilization". Science 5541: 309-310.
17. Aumont O, Bopp L (2006) "Globalizing results from ocean *in situ* iron fertilization studies". Global Biogeochemical Cycles 20: 2.
18. How much do oceans add toward oxygen? Earth & Sky.

19. John R (2004) “Source of Half Earth’s Oxygen Gets Little Credit”. National Geographic News.

20. Tappan, Helen (1968) “Primary production, isotopes, extinctions and the atmosphere”. Palaeogeography, Palaeoclimatology, Palaeoecology 4: 187-210.

21. Wang G, Wang X, Liu X, Li Q (2012) Diversity and biogeochemical function of planktonic fungi in the ocean. In: C. Raghu Kumar (ed.), Biology of marine fungi. Springer Berlin Heidelberg 53: 71-88.

22. Omori M, Ikeda T (1984) Methods in Marine Zooplankton Ecology. Malabar, USA: Krieger Publishing Company 2: 562.

23. NASA Satellite Detects Red Glow to Map Global Ocean Plant Health” (2009) NASA.

24. Satellite Sees Ocean Plants Increase, Coasts Greening” (2005) NASA.

25. Richtel M (2007) “Recruiting Plankton to Fight Global Warming”. New York Times.

26. Robert CJ, Lovelock JE, Andreae MO, Warren SG (1987) “Oceanic phytoplankton, atmospheric sulphur, cloud albedo and climate”. Nature 326: 655-561.

27. Quinn PK, Bates TS (2011) “The case against climate regulation via oceanic phytoplankton sulphur emissions”. Nature 480: 51-56.

28. Calbet A (2008) “The trophic roles of micro zooplankton in marine systems”. ICES Journal of Marine Science 65: 325-331.

29. Arrigo, Kevin R (2005) “Marine microorganisms and global nutrient cycles”. Nature 437: 349-355.

30. Fanning KA (1989) “Influence of atmospheric pollution on nutrient limitation in the ocean”. Nature 339: 460-463.

31. Sterner RW, Elser JJ (2002) Ecological Stoichiometry: The Biology of Elements from Molecules to the Biosphere. Princeton University Press: 464.

32. Klausmeier CA, Litchman E, Levin SA (2004) “Phytoplankton growth and stoichiometry under multiple nutrient limitation”. Limnology and Oceanography 49: 1463-1470.

33. Klausmeier CA, Litchman E, Daufresne T, Levin SA (2004) “Optimal nitrogen-to-phosphorus stoichiometry of phytoplankton”. Nature 429: 171-174.

34. Boyce DG, Lewis MR, Worm B (2010) “Global phytoplankton decline over the past century”. Nature 466: 591-596.

35. Schiermeier Q (2010) “Ocean greenery under warming stress”. Nature.

36. Mackas DL (2011) “Does blending of chlorophyll data bias temporal trend?”. Nature 472: E4-E5.

37. Rykaczewski RR, Dunne JP (2011) “A measured look at ocean chlorophyll trends”. Nature 472: E5-E6.

38. McQuatters-Gollop A, Reid PC, Edwards M, Burkill PH, Castellani C, Batten, et al. (2011) “Is there a decline in marine phytoplankton?”. Nature 472: E6-E7.

39. Shoichiro O (2015) Sulfo disaccharides co-working with Klotho. Studies on structure, structure activity relation and function World J of Pharmacy and Pharmaceutical Sciences 4: 152-175.

40. Shoichiro O (2016) Secret of Anti-aging: Anti-Aging Food Containing Glucosamine, Hyaluronic Acid and Chondroitin. Jacobs Journal of Physiology 2: 013.

41. Shoichiro O (2015) Glucosamine Derivatives. Sulfo disaccharides co-working with Klotho. Nutrition and Food Science 5: 416.

42. Shoichiro O (2015) Synthesis of Anti-Aging Reagent: Sulfo Disaccharide Co-working with Anti- Aging Gene. Archives of Medicine 6: 17.

43. Shoichiro O (2015) Nutrition for Good Health, Anti-aging and Long Life, Hyaluronic Acid. Glucosamine and Chondroitin. Maternal and Pediatric Nutrition Journal 1: E102.

44. Shoichiro O (2016) Food containing hyaluronic acid and chondroichin is essential for anti-aging. International Journal of aging & Clinical Research 1: 101.

45. Shoichiro O (2016) Toward Anti-Aging and Long Life. Jakobs Journal of Physiology 2: 13-17.