

Review Article

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

Shoichiro Ozaki*

The Institute of Physical and Chemical Research 2-1 Hirosawa, Japan

*Corresponding author: Shoichiro Ozaki, The Institute of Physical and Chemical Research 2-1 Hirosawa, Wakoshi Saitama 351-0198, Japan. Tel: +810467670991; Email: ozaki-0991@jcom.zaq.ne.jp

Citation: Ozaki S (2017) NO_x Elimination and Drainage NP Elimination Should Be Stopped for The Production of Fish and for The Protection of Global Warming. J Fish Aqua Dev: JFAD-125. DOI:10.29011/JFAD-125/100025

Received Date: 18 September, 2017; Accepted Date: 23 September, 2017; Published Date: 3 October, 2017

Abstract

NO_x is promoting plankton growth and fish production. Much NO_x is produced when fossil is burned. Many governments set up the law to eliminate NO_x by the reason NO_x is pollution gas and not good for health. And also Drainage NP are eliminated. Some other many governments are welcoming NO_x as fertilizer for plant and encouraged the use of NO_x 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 NO_x produced by burning and drainage NP are so much and effective use of NO_x and drainage NP is a key to control of climate of earth and production of grain and fish production. NO_x 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 CO₂ assimilation; Global warming; NO_x

Introduction

The earth is warmed by the fossil fuel burning releasing CO₂ and heat. The plant is growing by CO₂ assimilation absorbing CO₂ producing carbohydrate and O₂. If we can compensate the generation of CO₂ and heat with the absorption of CO₂ and heat by CO₂ assimilation, global warming can be protected [1-12].

Plankton photosynthesis are studied by many investigators [13-38]. These studies indicate that CO₂ assimilation is playing very important role for the regulation of climate. Supply of nutrients are important factor for the promotion of CO₂ assimilation. When fossil fuel burned, much NO_x is produced. Too much burning and too much CO₂ is produced and, CO₂ concentration is increasing. Protection of global warming is now one of biggest concern of the world. For the protection of global warming, CO₂ must be diminished. Promotion of CO₂ assimilation is most effective way. To promote CO₂ assimilation, Increase of nutrient N and P are most effective way. NO_x is a major nitrogen source for the plant to grow. But NO_x is hated as pollution gas and many governments like Japan, United State, Germany, England be fixed well. As the result, CO₂ concentration increasing. And global warming

is observed.

On the contrary, many countries like China, India, Indonesia, Vietnam do not eliminate NO_x and they are using NO_x as fertilizer. Then much plankton is produced and much CO₂ are fixed and much fish is produced. I wish to describe these facts in detail.

Material Balance of CO₂ Assimilation Related Compounds

Amount of CO₂, NO_x, plankton, Grain, Fish and Grass Tree and increase of CO₂ in the world are shown in (Table 1).

CO₂ 300 Billion tone CO₂ was produced in the world in 2016 by the burning of 140 billion tone fossil. NO_x 12 billion tone NO_x is produced in the process of burning.

Plankton from 300 billion tone C O₂, 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 CO₂, 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 CO₂ 1tone CO₂ produce 1/25 tone NO_x as by product in the burning process, In the CO₂ assimilation process, 1 tone CO₂ react with 18/44 tone H₂O using 1/25 tone NO_x

CO₂, 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 CO₂ 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	45.4	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 CO₂, NOx, plankton, Grain, Fish Grass Tree and CO₂ increase of 10 counts.

CO₂, NOx and Heat Balance in the World

Fossil fuel 1.4x10¹⁰ tone was burned at whole world in 2015 and about 4.4x 10¹⁰ tone CO₂ and 7.4 x10¹⁵ kcal were produced and 2.5x 10⁹ tone NOx is produced. If we use this 2.5x 10⁹ tone NOx for CO₂ assimilation, we can fix CO₂ 50x10⁹ tone (25x2.5 x 10⁹). The amount of NOx produced is around 2.5x 10⁹ tone in whole world. To eliminate NOx 2.5x 10⁹ tone, equimolar ammonia 11.3 billion ton is used. To make ammonia 11.3 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 CO₂ is released. If NOx elimination is stopped, 17.6 billion tone CO₂ release can be stopped. And 17.6x 25=440 billion tone CO₂ can be fixed.

CO₂, NOx and Heat Balance in Japan

Fossil fuel 1.4x10¹⁰ tone was burned at Japan in 2015 and about 4.4x 10¹⁰ tone CO₂ and 7.4 x10¹³ kcal were produced and

2 x 10⁶ tone NOx is produced. In Japan, 2.8x 10⁸ hector wood is present. 13.7 tone CO₂ is fixed at 1 hector wood in one year. 2.8x10⁸x13.7=3.8x10⁹ tone CO₂ can be fixed at wood. In Japan, 4.5x10⁷ hector cultivated land is present. 14.7 tone CO₂ is fixed at 1 hector in one year. 4.5x10⁷ x 14.7=6.3x 10⁸ tone CO₂ can be fixed in one year at cultivated land. Therefore 3.8x10⁹+6.3x 10⁸=4.4 x10⁹ tone CO₂ is fixed at land. This is far from production of CO₂. Therefore we must promote CO₂ 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 CO₂ emission, NOx emission and CO₂ fixed by plankton CO₂ 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, CO₂ 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, Indonesia 22.21, India 10.11, 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 CO₂ assimilation action, plankton formation, grain production and grass tree growth, fixed 100 billion tone CO₂ 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 3x10⁵ t, 2014 1.5x10⁵ t, Sardin (Iwashi) 1988 4.81 million tone 2014 0.5 million tone these 2 fishes 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 CO₂ fixed by CO₂ assimilation at sea, the country having high fish production is the country which have done high CO₂ fixing. 10 times of CO₂ of fish production are fixed by plankton CO₂ assimilation. China produced 79.38 million tone fish in 2016. This means that China fixed 8 billion tone CO₂ by plankton CO₂ assimilation. This is huge amount. This is 1/12 of 100 billion tone CO₂ produced at China. China is biggest CO₂ producing country.

This data indicates that plankton CO₂ assimilation is playing significant role for the fixing of CO₂ and protection of global warming. Decrease of 12 million tone fish at Japan means decrease of 120 million tone CO₂ fixing. If Japan stop elimination of 3 million tone N and P, Japan can fix 46 million tone CO₂ and can produce 12 million tone fish decrease of half million tone fish at Set inland sea means decrease of 5 million tone CO₂ fixing.

Japan is most CO₂ increasing country, because country is narrow and cannot fix produced CO₂ at land (11). Therefore, Japan must fix CO₂ by promotion of CO₂ assimilation at sea. Japan is producing 10 % CO₂ of total CO₂ production for the elimination of NOx and drainage treatment. Japan must diminish CO₂ emission by stopping NOx elimination, and promote CO₂ assimilation and fish production. If governments think CO₂ diminish is most important subject, they should consider sea as firm of fish, firm to fix CO₂. 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 CO₂ 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 CO₂ assimilation, for the production of foods,

for the promotion of health and long life [39-45]. for the protection of global warming.

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