

Pollutant Load Analysis for the Environmental Management of Enclosed Sea in Japan

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Abstract

Recent data shows that household, industry and other non-point sources contribute 43, 30 and 27 percent of TOD load respectively to representative enclosed sea areas in Japan. Most of the load relates to our dietary life.

The structural cause of eutrophication is that N, P cycle of food has changed to be largely opened by the input of imported food and feed and use of chemical fertilizer. The self-supply rate of food decreased from 48% 1970 to 32% 1990 as for N and from 46% to 29 % as for P in Japan. Dependence of chemical fertilizer was 45 % for N and 59% for P in 1990.

From the budget of N, P in farmland, 596×10^3 tones of N equivalent to 44% of input should be denitrified, and 391×10^3 tones of P equivalent to 77% of input should be accumulated in soil. Correspondingly, the contents of available P in farmland soil show clear increase. N contents are not changed remarkably, and the concentration of nitrate in groundwater has been already saturated in many cases.

To solve eutrophication problems, we should reconsider agriculture and our dietary life. The fundamental countermeasure is to reduce the input of N, P from outside, and keep our own farmland and agriculture so as to receive organic wastes soundly.