

“ ”

▪

1

가

2

가

▪

$$(Q_{out} \cdot C_{out} = Q_{in} \cdot C_{in} + S)$$

(S)

SOD

200m

4m

0.046~0.050 m/s .

COD 16~27 mg/L, BOD 11~15 mg/L, T-P 0.2~0.3
mg/L, T-N 1~5 mg/L, SS 4~15 mg/L, Chl-a 2~7mg/m³ .

2~10%, mud
COD, T-P, T-N . mud

SOD

가
가

가

가

가

가

SUMMARY

I. Title

“ An influence on the water quality by sediments of seoha weir ”

II. Objectives and Importance

Seoha weir is established final weir before Kyong An stream is inflow into Paldang Dam. Except for Kyongan wastewater treatment plant, waters that point source pollutant and non-point source pollutant is finally inflow. This area is the site wherein the goal is to improve the water quality, as the first step of the TPLMS program in Kwangju City in Kyeonggi Province. According to Changes in the environment, it is crop up that Pollutant involved in sediment can lead to water quality aggravation. So there is a need to have a dredging from time to time. If sediment is really a factor on water quality pollution, dredging can lead to the reduction of pollution. This in turn can serve as an input for the effective water quality measure. Also it can aid in the establishing of the pollutant load for TPLMS. If the sediments in the Seoha weir can be calculated, it can asses the influence on the water quality. This can serve as an input for the establishment of water quality measures and also for TPLMS which can lead to good implementation processes.

III. Research scope

This project selected an important study site which is in Seoha. This project investigates basic data such as width, depth, flow rate, etc. It also employs sediment distribution and specific character investigation, and water quality analysis. Concerning the pollutants, it made use of mass balance concept. There had been rough calculation on the influence of sediments. Using a reactor, analysis on the influence between sediment and water quality calculated the release rate and SOD.

IV. Results

At present basic data and water quality, sediment of Seoha weir had been analyzed. Through it, analysis on "the influence of the sediments on the water quality" had been made. Seoha weir a big stream having a maximum width of 200m and a depth of over 4m. The average flow rate is 0.046 to 0.05 m/s.

Through water quality analysis, the results showed that COD is 16 to 27mg/L, BOD is 11 to 15 mg/L, T-P is 0.2 to 0.3 mg/L, T-N is 1 to 5 mg/L, SS is 4 to 15 mg/L, and Chl-a is 2 to mg/m³.

Result from analysis of inflow and outflow, did not present any sharp difference. Through sediment analysis ignition loss is 2 to 10%. Granularity analysis presented a type of mud. COD, T-P, T-N, etc presents high value. SOD follows as it also presented high value.

V. Future plan

This study can serve give baseline data in assessing and selecting management site for TPLMS. The results could generate data that could help intensify the technical roots of TPLMS such as for the water quality reduction measures. Also, it can apply as basic data for a feasibility study on sediment dredging in order to have water quality improvement and load reduction measure.

CONTENTS

Summary (Korean)	
Summary (English)	
Contents	
Chapter 1. Introduction	2
1. Importance	2
2. Objectives	4
Chapter 2. Technology status	7
1. Domestic technology status	7
1.1 Domestic sediments management	7
1.2 During dredging applied standard status	8
2. International technology status	9
2.1 International sediments management	9
Chapter 3. Experiments	12
1. Selection of investigation site	12
2. Materials and Methods	14
2.1 Sediment distribution and specific character investigation	14
2.1.1 Sampling	14
2.1.2 Experimental items	14
2.1.3 Experimental method	14
2.2 Water quality analysis	16
2.2.1 Sampling	16
2.2.2 Experimental items and analysis method of sample	16
2.2.3 Experimental method	16
2.3 Influence analysis between sediment and water quality	17
2.3.1 Release rate	18

2.3.2 SOD	20
Chapter 4. Results	22
1. Baseline data analysis	22
2. Water quality analysis	24
3. sediment analysis	31
3.1 Ignition loss	31
3.2 Granularity analysis	32
3.3 Sediment analysis	34
4. Influence analysis between sediment and water quality	35
Chapter 5. Future plan of the research	51
1. Expectation	51
2. Future plan	51
3. Plan of practical use	51
Chapter 6. Reference	54

.....

SUMMARY 2

CONTENTS 2

1	.....	2
1.	.....	2
2.	.....	4
2	.....	7
1.	.....	7
1.1	.....	7
1.2	.....	8
2.	.....	9
2.1	.....	9
3	.....	12
1.	.....	12
2.	.....	14
2.1	.....	14
2.1.1	.....	14
2.1.2	.....	14
2.1.3	.....	14
2.2	.....	16
2.2.1	.....	16
2.2.2	.....	16
2.2.3	.....	16
2.3	.....	17
2.3.1	.....	18

2.3.2 SOD	20
4	22
1.	22
2.	24
3.	31
3.1	31
3.2	32
3.3	34
4.	35
5	51
1.	51
2.	51
3.	51
6	54