

# Contents

<b>1</b>	<b>Water Quality in the Rivers and Coastal Areas.</b>	<b>1</b>
1.1	Chronological Water Quality Changes	2
1.2	Horizontal and Vertical Water Quality Profiles	4
1.2.1	Horizontal and Vertical Water Quality Profiles in the Estuary in Japan	4
1.2.2	Horizontal and Vertical Water Quality Profiles in the Rivers in Developing Countries	4
1.3	Groundwater Level and Subsidence	5
	References	6
<b>2</b>	<b>Pollutant Load and Water Quality</b>	<b>9</b>
2.1	Pollutant Load per Capita Flowing into Water Body ( $PLC_{wb}$ )	10
2.2	Roles of Fishery for Water Environment	13
2.3	Relationship Between Pollutant Discharge and Water Quality: Perturbation or Hysteresis	17
2.4	Natural Purification of BOD in the River Sections	19
2.5	Pollutant Runoff Yields in Sub-Catchments	21
	References	23
<b>3</b>	<b>Soft Measures in Households</b>	<b>25</b>
3.1	Soft Measures in Households and Their Dissemination: A Social Experiment Programme in the Yamato-gawa River Basin	26
3.2	Stakeholders on Water Environment	27
3.3	Dissemination to Ordinary Citizens: Water Pollutant Discharge and CO <sub>2</sub> Emission	30
3.4	Pollutant Discharge Calculators of Municipal Wastewater	31
	References	35
<b>4</b>	<b>Relationship Between Economic Development and Pollutant Discharge per Capita (PDC)</b>	<b>37</b>
4.1	Chronological Alterations of Income, Pollutant Discharge and Water Quality	37

4.2	Relationship Between Economic Development and PDC . . . . .	38
4.2.1	Relationship Between Economic Development and PDC in Japan . . . . .	38
4.2.2	Relationship Between Economic Development and PDC in Developing Countries . . . . .	43
	References . . . . .	44
<b>5</b>	<b>Pollutant Discharge Control of Municipal Wastewater . . . . .</b>	<b>45</b>
5.1	Municipal Wastewater Pollutant Discharge Control in the Urban and Peri-Urban Areas: A Comparison Between Thailand and Japan. . . . .	45
5.2	Centralised and On-site Municipal Wastewater Treatment in Japan . . . . .	47
5.3	Pollutant Removal Efficiencies of Centralised Wastewater Treatment Plants . . . . .	51
5.4	Areal Deployment Strategies of Centralized and On-site WWTPs: Zoning or Intermixed . . . . .	53
5.5	Quantitative Evaluation of Pollutant Discharge from Municipal Wastewater Under the Mixture Conditions of Centralised and On-site Wastewater Treatment Systems: A Case Study in Bangkok, Thailand. . . . .	54
5.6	Technological Alternatives in Consideration with Pollutant Discharge and Investment . . . . .	55
5.7	Alternative Municipal Wastewater Treatment Systems: Technological and Institutional Options in the World and Advanced Planning Schemes in Japan . . . . .	60
5.8	Institutional Structures and Regulations of Municipal Wastewater Treatment in Japan. . . . .	61
	References . . . . .	65
<b>6</b>	<b>Water and Sanitation in Developing Countries . . . . .</b>	<b>69</b>
6.1	Water and Sanitation in Developing Countries . . . . .	69
6.2	Conceptual Development in Sanitation Sector. . . . .	73
6.3	Resources and Profits of Sanitation Development . . . . .	82
6.4	Japanese ODA in Water and Sanitation Sectors. . . . .	83
6.5	Japanese Sanitation Sector Development with a New Initiative for Asia and Pacific Regions. . . . .	84
6.6	Further Reading Materials on Low-Cost Sanitation . . . . .	85
	References . . . . .	86
	<b>Index . . . . .</b>	<b>89</b>

Pollutant Discharge and Water Quality in Urbanisation

Tsuzuki, Y.

2014, XIV, 92 p. 40 illus., 12 illus. in color., Softcover

ISBN: 978-3-319-04755-3