

Discussion on Water Quality of Gaoping River and Fongshan River

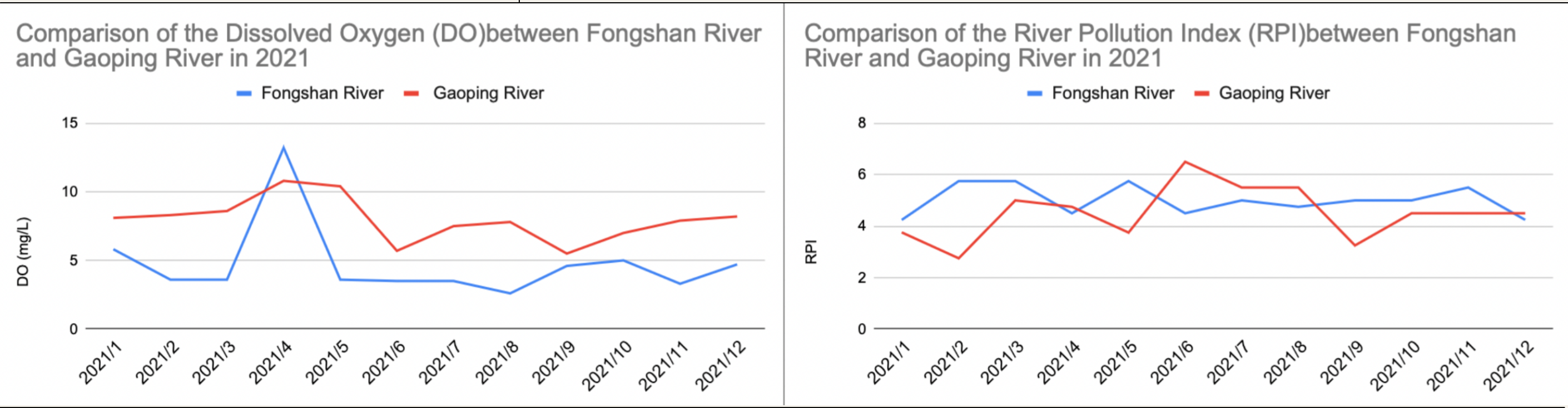
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<h2><u>Abstract</u></h2> <p>This report compares the quality of water of Fongshan River with the quality of water of Gaoping River in 2021, and it analyzes the correlation between the water temperature, rainfall, pH, dissolved oxygen (DO), chemical oxygen demand(COD), river pollution index (RPI), electrical conductivity and the industry around the two rivers.</p>	<h2><u>Introduction</u></h2> <p>1.Gaoping River is surrounded by vast fields, and near the fields are many factories around, such as the Dafa Industrial Park. And Gaoping River flows through the rural area so the population rate there is low.</p> <p>2.Fongshan River flows through the urban area, such as Fongshan District or Cianjhen District, so the population rate there is high. And the upstream of Fongshan River is filled with factories, too. Along the river are several wetlands, and the Fengshan Water Resources Center established by the government to treat sewage.</p>
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<h3>CHEMICAL OXYGEN DEMAND (COD)</h3> <p>CHEMICAL OXYGEN DEMAND (COD) STANDS FOR THE ORGANIC CONTENT OF CHEMICAL OXIDATION IN WATER, USING POTASSIUM DICHROMATE TO BE OXIDANT. HEATED IN STRONG ACID CONDITION, THE POTASSIUM DICHROMATE WOULD BE DEPLETED. THE WEIGHT OF THE POTASSIUM DICHROMATE DEPLETED CAN THEN BE CONVERTED TO THE SAME WEIGHT OF OXYGEN GAS, AND THAT IS COD.</p>	<h3>RIVER POLLUTION INDEX (RPI)</h3> <p>RPI CONSISTS OF FOUR WATER QUALITY PARAMETERS, WHICH ARE BIOCHEMICAL OXYGEN DEMAND, DISSOLVED OXYGEN, AMMONIA, AND SUSPENDED SOLIDS.</p>
	<h3>DISSOLVED OXYGEN(DO)</h3> <p>DO IS AFFECTED BY THE WATER TEMPERATURE OF THE RIVER. THE HIGHER THE WATER TEMPERATURE IS, THE LOWER DO IS.</p>
	<h3>ELECTRICAL CONDUCTIVITY(EC)</h3> <p>THE HIGHER THE EC, THE MORE ELECTROLYTE IS IN THE WATER. SO THE EC CAN INDICATE THE AMOUNT OF TOTAL SOLIDS THAT CAN BE DISSOLVED INTO THE WATER.</p>
	<h3>WATER TEMPERATURE</h3> <p>WATER TEMPERATURE INDICATES HOW HOT OR COLD WATER IS, AND IS AN IMPORTANT DATA FOR TESTING AND EVALUATING WATER QUALITY.</p>



Conclusion

The differences between the two rivers are mainly in the proportion of nearby farmland and whether there is an industrial area. From the above analysis, it can be found that the water quality is not necessarily equal to the amount of pollution. The water quality of Gaoping River is more stable than that of Fongshan River because of the need for irrigation, and it is more friendly to the creatures in the river. However, the pollution (RPI) of Gaoping is relatively unstable, presumably because the date of measurement is different and therefore the date of discharge of wastewater by the factory is different. In today's industrialized era, industrial development is inevitable, and the government should encourage enterprises to filter wastewater before discharging, so as to balance the environment and economy, and win-win between nature and human beings.