

Title : Water Quality Studies Phan Waterfall Palian District Palian, Trang Province
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Abstract

Environmental Science Study on Water Quality at Phan Waterfall,Palian District,the objectives are: to study the acidity and base of water around Phan Waterfall, Pa Lien District. According to the measurement, the pH value of the water is neutral, which is at an appropriate level for the use and livelihood of aquatic organisms. According to the measurement, the water is very transparent within the water quality standards. To study the temperature of Phan Waterfall, Pa Lien District. The measurement showed that the water temperature was at a level suitable for the environment of the natural water source. According to the water quality measurement study, the water quality is being measured, including acidity-base value, transparency, water temperature, and oxygen content in the water to analyze and evaluate the water quality of Phan Waterfall. at Palian District Palian, Trang Province

Keywords : Water Quality

Origin and significance

Phan Waterfall is located in the area of Pa Lien Subdistrict at Palian District, Trang Province and one of the important sources of the area. It has a source of water that flows all year round and part of the upstream ecosystem. Changes in human activities such as tourism, walking routes, Setting up a tent or using the surrounding area may affect the quality of the water and the natural environment. In addition, natural factors such as rainfall Soil erosion or the accumulation of organic matter can also cause changes in water quality. For this reason, monitoring the water quality of Waterfall Phan is essential. Measure water quality conditions and assess potential impacts on the ecosystem and health of local users.

Research Questions

1. Is the acidity-base of the waterfall in the area of Phan Waterfall suitable or not?
2. Is the transparency of the waterfall in the area of Phan Waterfall appropriate?
3. Is the temperature of the waterfall in the area of Phan Waterfall appropriate?
4. Is the oxygen value of the waterfall in the area of Phan Waterfall appropriate?

Research Hypothesis

1. The acidity-base of the water around Phan Waterfall is within the appropriate range for natural water sources.
2. The transparency of the water around Phan Waterfall is at an appropriate level and indicates good water quality.
3. The water temperature around Phan Waterfall is within the optimal range for the organisms in the water source.
4. The amount of oxygen in the water around Phan Waterfall is sufficient and suitable for the life of aquatic creatures.

Study Area



Phan Waterfall Area

This research was conducted at Pan Waterfall, Palian, District. Palian, Trang Province

It is located at latitude 7.237808 degrees north and longitude: 99.843142

Materials, equipment, research methods

1. Materials and equipment

1. DO meter
2. Transparency Meter
3. Litmus Paper
4. Thermometer

2. How to conduct the research

2.1 Water Quality Data Collection

Soil quality is measured according to the GLOBE methodology by studying the measurement of acid-base values in water. Measure oxygen in water, measure transparency in water. Measure the temperature of the water as follows:

1. The acidity-base measurement of water is taken from the area of Phan Waterfall and then used to measure the acidity-base of the water by using pH paper or a pH meter according to the GLOBE methodology and record the measured values.
2. Measurement of oxygen content in water, the amount of dissolved oxygen in the water around Phan Waterfall is measured using a water oxygen measurement device according to the methodology of the project GLOBE and record the measurement value.
3. Water Transparency Measurement the water transparency measurement is carried out in the area of Phan Waterfall using a transparency measuring tube or appropriate equipment according to the project's methodology for GLOBE and record the measurement result.
4. Water temperature measurement, the water temperature in the area of Phan Waterfall is measured by using a thermometer to measure the water temperature according to the GLOBE project methodology and record the temperature value.

2.2 Operation Procedures and Data Collection

Water Quality Data Collection

1. Study documents and information related to water quality measurement according to the GLOBE methodology.
2. Plan the area and determine the water sampling point around Phan Waterfall at Palian District Palian, Trang Province
3. Prepare equipment for water quality measurement, such as acidity-base litmus paper, water temperature thermometer for transparency measuring equipment and water oxygen measurement equipment.
4. The water quality is measured at the designated point by measuring the acidity-base of the water, the transparency of the water, the temperature of the water and the amount of oxygen in the water.
5. Systematically record the measurement values in the data log form.
6. The data obtained were used to create a table and analyze the data using the mean and standard deviation.
7. Summarize the results of the study and present the results in the form of tables and graphs.

2.3 Data analysis

- 1.) Analyze the water quality in the Phan Waterfall area, including the acidity-base value of the water, water transparency, water temperature, and oxygen content in the water using the average values and standard deviations.
- 2.) Compare the water quality around Phan Waterfall with the water quality benchmark by using the mean and standard deviation.
- 3.) Analyze the relationship between each water quality variable, including acidity-base value, transparency, water temperature, and oxygen content in the water, using mean values and standard deviations.

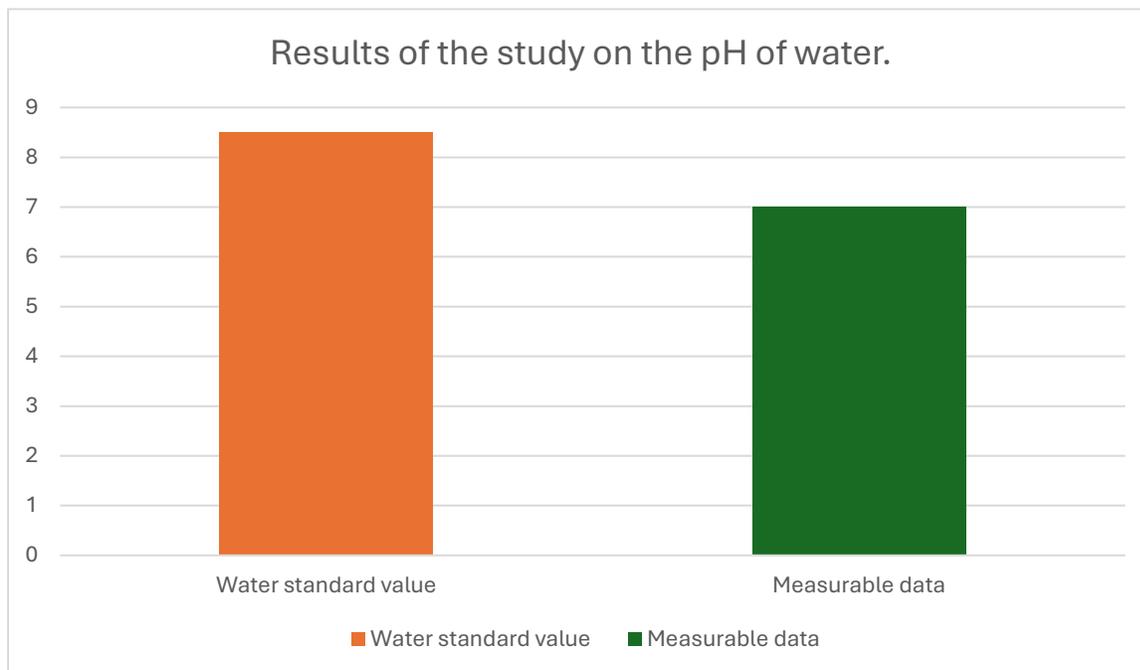
Findings

From the study of water quality in the area of Phan Waterfall. Palian District Palian, Trang Province The results of the study can be summarized as follows:

1. Acidity-base study of water

Table 1 shows the acidity-base value of the water around Phan Waterfall.

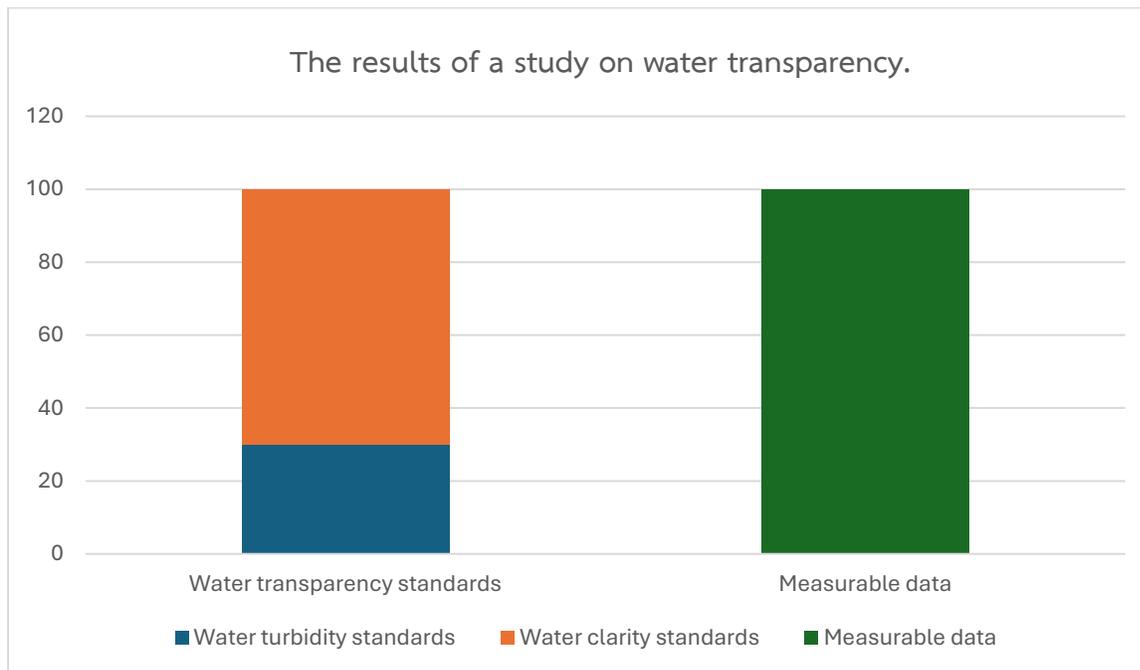
No.	Measured pH
1	7
2	7
3	7
Average	7



2. Water Transparency Studies

Table 2 shows the transparency value of the water around Phan Waterfall.

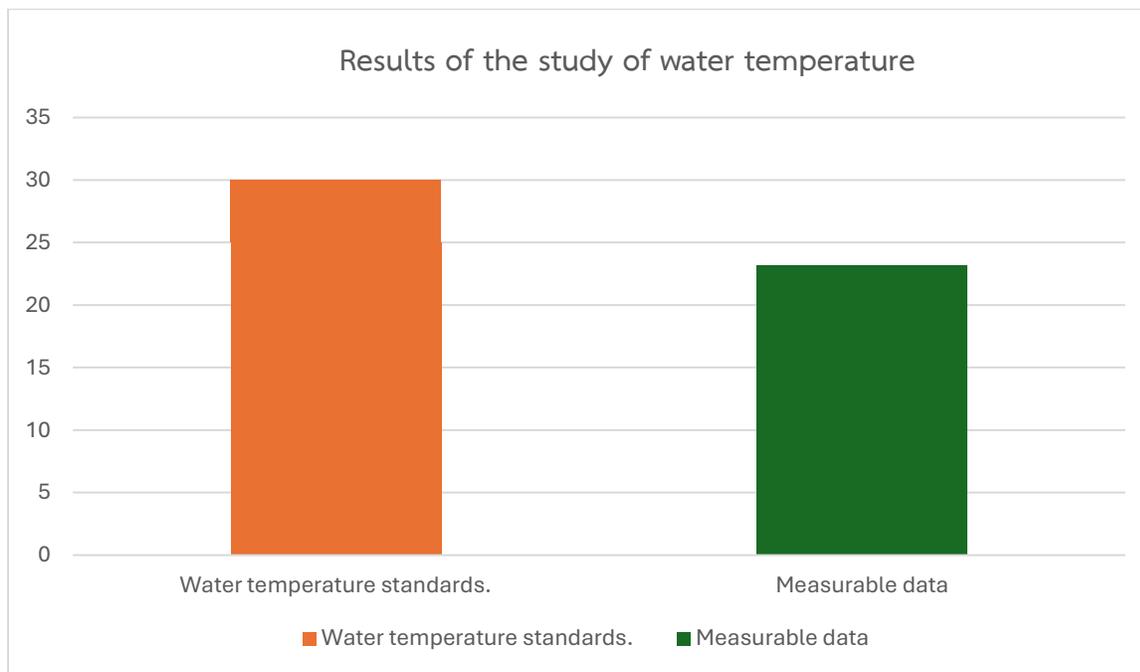
No.	Transparency
1	100
2	100
3	100
Average	100



3. Water temperature study

Table 3 shows the water temperature value in the area of Phan Waterfall.

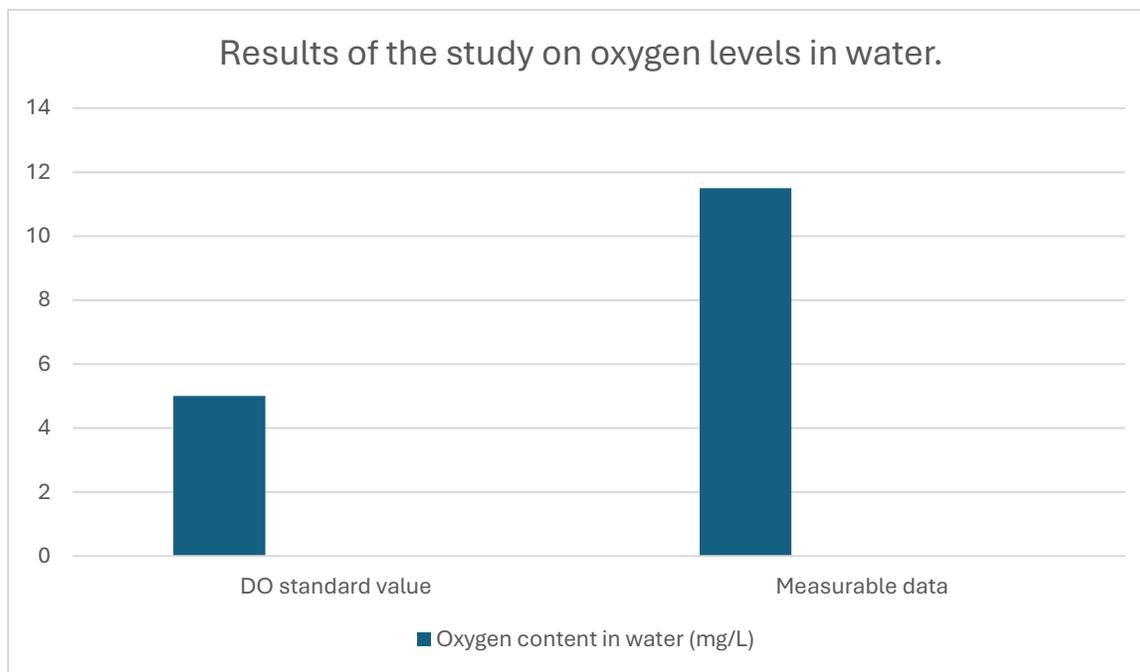
No.	Water Temperature Value(°C)
1	24
2	21
3	24.5
Average	23.2



4. Study of the amount of oxygen in the water.

Table 4 shows the oxygen content value in the water around Phan Waterfall.

No.	Oxygen Value(mg/L)
1	11.0
2	12.0
3	11.5
Average	11.5



Summary and discussion of the results of the study

From the study of water quality in the area of Phan Waterfall at Palian District by measuring the acidity-base value, water transparency, water temperature, and oxygen content in the water, it was found that most of the water quality values were within the water quality standards for natural water sources.

The results of the study showed that the water is very transparent. It can be clearly seen at a depth of more than 100 centimeters. The average oxygen content in the water is 11.5 ± 0.5 milligrams per liter. This is higher than the benchmark, indicating that the water is good quality. The average water temperature was 23.2 ± 1.9 degrees Celsius, which is at a level suitable for the environment of the waterfall site.

Therefore, it can be concluded that the water around Phan Waterfall is good quality and suitable for the life of aquatic creatures. However, water quality should be monitored continuously to maintain good water quality.

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References

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Basic Knowledge of Water Quality and Water Conservation.