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# **ANALYZING WATER QUALITY IN BUI RIVER**

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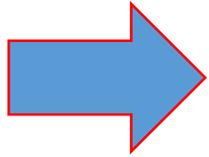
# I.INTRODUCTION

- \* **Water quality** describe the **condition of water** including **chemical, physical** and **biological** characteristic for suitability for a particular purpose.
- \* The most common standards used to assess water quality relate to **health of ecosystems, safety of human contact, and drinking water**



\* Water pollution is **any physical, chemical or biological change** in quality that make water **unsuitable for desired uses**.

\* Water quality is **mainly impacted by human activities** via hydrology process, at **different location** and **condition** water quality also different.



*We measure water quality indicators in Bui river at different location and time.*



**Our main goal is to analyse water quality indicators in Bui River.**

**We have 3 main objectives**

```
graph TD; A[We have 3 main objectives] --> B[Compare water quality indicators at different locations]; A --> C[Determine the change of indicators at 2 different times]; A --> D[Compare water quality indicators in Bui River to the standard of water quality.];
```

*Compare water quality indicators at different locations*

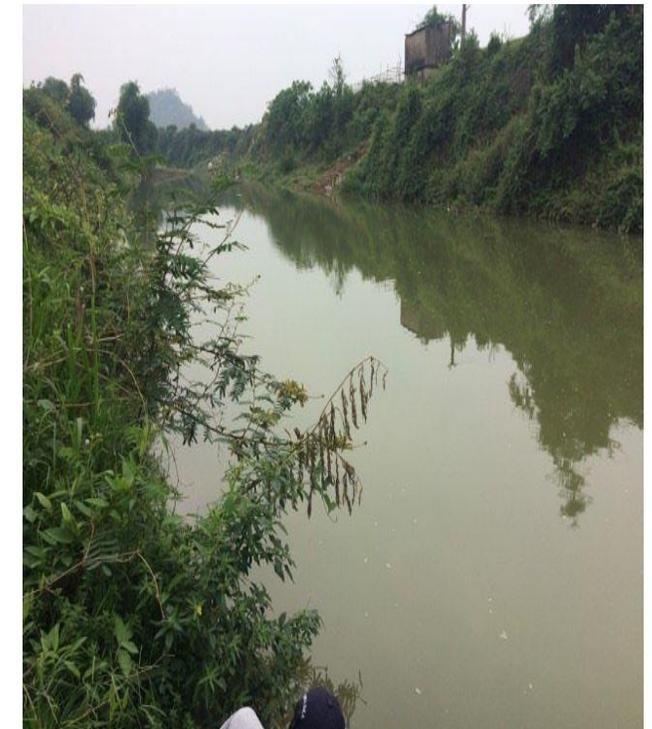
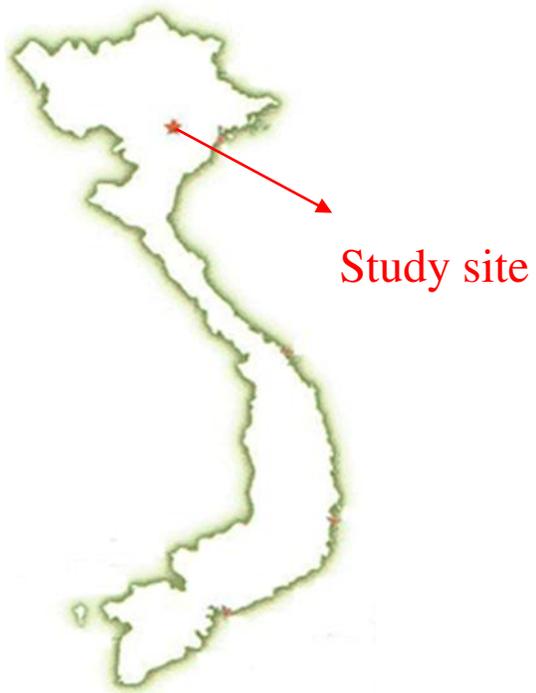
*Determine the change of indicators at 2 different times*

*Compare water quality indicators in Bui River to the standard of water quality.*

# II. STUDY SITE AND METHODS

## 2.1. Study site

- We conduct our group project at **Bui river** (area **around CP company** at **Tan Mai ward, Xuan Mai town, Ha Noi, Vietnam**)



## 2.2. Methods

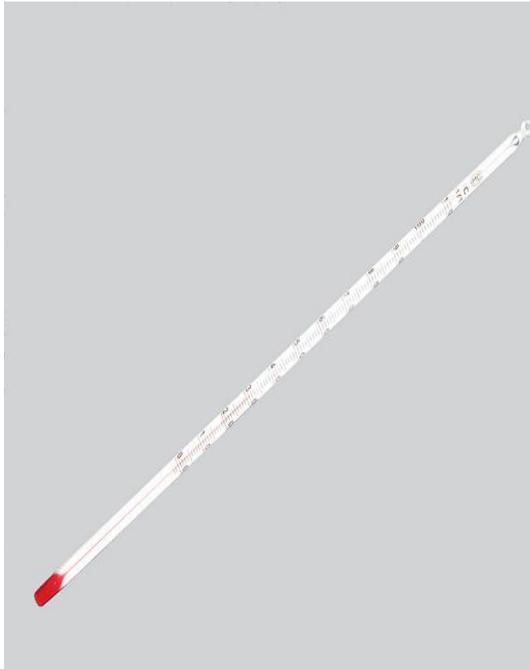
- Measure water quality indicators at **3 locations**: Nhuan Trach Bridge (**up**), Behind CP company (**middle**), Traffic Police Station (**down**)
- For each location we measure 2 times: At **mid-day** and at the **early morning**
- For comparison: National technical regulation on surface water quality – 2015 (QCVN). Standard A : Domestic use, Standard B: Non – domestic use.



Water indicators	Unit	Standard A	Standard B
pH		6 - 8.5	5.5 - 9
NH <sub>4</sub>	mg/L	0.3	0.9
Fe	mg/L	1	2
DO	mg/L	>=5	>=2
Nitrit	mg/L	0.05	0.05

- For **each indicator** we all **measure 3 times** to get more accurate results

(1) Temperature is measured by using **thermometer**, measure directly at the river



(2) Measure PH by using **PH paper**. Dip a PH paper into the water sample, then compare with the color chart to find out the PH level.



(3) Measure PH by using **PH meter**. Rinse the probe of PH meter with clean water. Turn on PH Meter, put it into the water sample wait until the number is stable then read the number.



(4) Measure DO by **DO meter**. Open two layer of lid of DO meter then turn it on and put it into to water sample, wait until the number stable then read the number.



(5) Electrical, Salinity and TDS is measure by **EC.Sal.TDS meter**. **Holding mode buten to change** from measuring one indicator to another. EC (Ms), Salinity( PPms), TDS (PPm)



(6) Measure Nitrit: Put 10ml water sample into the test-tube, add 10 drops of **Griss A**, shake it, add 10 drop of **Griss B**, shake the test-tube as well. Wait for 10 mins and then compare the color of water with the **color chart** to get the result.

