



QUARTERLY RESEARCH PROGRESS REPORT

QUARTER: (4th)

**Research Title: THE PHYSICOCHEMICAL CHARACTERIZATION OF THE
MAJOR RIVER SYSTEMS IN LEYTE ECH. 14-1420.15**

I. Project Objectives:

This project attempts to uncover the status of the major river systems in the Province of Leyte starting with Palhi River system in Baybay City in 2014 & 2018, Salog River system in Hilongos, Leyte in 2015, Pagbanganan River in Baybay City in 2016, Anilao River in Ormoc City in 2017, and Sibugay River in Albueria, Leyte in 2021-22, and for the year 2022-23 at Daguitan-Marabong River in Burauen, Julita, and Dulag.

Specifically, the project aims to (1) investigate the levels of organic matter and carbonates in sediments of the major river systems in Leyte, (2) determine the physicochemical properties of the water in the major river systems in Leyte, (3) evaluate the presence of heavy metals in water and in the sediments of major river systems in Leyte, (4) assess the levels of N, P, and K of the water and the sediments of the major river systems in Leyte, and (5) characterize the water quality of the major river systems in Leyte through pigmental analyses of the freshwater algae.

II. Relevance to VSU & College's Thrust and Priorities:

The research study is aligned with the university and college thrust and priorities on environmental health risk monitoring and evaluation.

III. Highlights of accomplishments within the quarter

A. Targets for the quarter

The target of the last quarter was to conduct the first sampling on the sampling sites. To make this possible, all the requirements of the university for students to conduct academe related activities were complied.

B. Highlights of accomplishments

1. First sampling was done on December 6, 2022.
2. Some physicochemical parameters of the river were collected on-site (temperature, pH, DO, turbidity, TDS), and the remaining samples were processed for further analysis in the lab such as, N, P, K, heavy metals and alkalinity.

IV. Physical Report of Operation

A. Research Program

	Particulars/Name and Brief Description of Utilized/ Commercialized Technologies	Number
Outcome Indicator		
1. Number of research outputs utilized by the industry or by other beneficiaries	NA	
Output Indicator		
1. Number of research outputs completed within the year	Physicochemical Analyses of the Water in the Sibugay River, Albueria, Leyte	
2. Percentage of research outputs published in internationally-referred or CHED recognized journal within the year	On-going	

B. Technologies/Information patented and commercialized

Technology Invention(s) New Information	Invention Patent Number	Date of Issue	Utilization of Invention		Name of Commercial Product
			Development	Service	
A. Technology Invention(s)	None				
B. New Information	None				

C. Research papers published (Identify if articles were for Research, Extension, Innovation or MSc/ PhD Studies)

	Title	Author (s)	Date/Year/Publication/ Publisher	Remarks (If Research, Extension, Innovation, Thesis, MSc/PhD)
a. Refereed Journal	None			
Institutional				
National				
International				
b. Semi-popular publ'n (newsletter, etc.)	None			
c. Popularized publ'n (technoguides, etc.)	None			
d. Book Chapter/s	None			
e. Books	None			

D. Citation

Research Output as Cited by Other Researcher(s) in Journal Activities				
Title of Research	Title of Journal	Keywords	Researcher (s)	Citation Details

Output/ Published Journal Articles/ Book	& Vol. Issue/ Year			Author(s) Who Cited the Research Output	Title of Article Where the Research Output Was Cited	Title of Journal	Vol. / Issue / Page No.	City/ Year Published	Publisher
			None	None	None	None	None	None	None

V. Issues, Problems, and Recommendations

Issues:

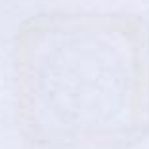
- There is no travel restriction anymore, however, the set of documents that are required by USSO took a while to be submitted and approved. As this was also affected by the weather, the date of the sampling period did not coincide with the consent of parents for their children notarized. The said document is highly specific on the date reflected on the papers and was changed only a day before the travel period.
- Slow procurement of lab supplies and chemical reagents.
- Worn-out instrument parts and equipment not functioning properly.

Problems:

- Some reagents are not found in the lab.
- The hood for digestion of samples is not functioning. Analyses delayed due to this
- Newly procured equipment for water analyses does not function well for DO parameter.

Recommendations:

- Papers to be submitted to USSO are furnished 20 days before the date of sampling.
- Since, this is a continuous monitoring of river systems, procurement of reagents and other needed equipment still be continued too.
- Equipment should be regularly monitored and calibrated especially the newly acquired multimeter. The old multimeter should be purchased with a new DO probe too.
- A new hood should be purchased specific for digesting of samples.
- Requesting of new set of supplies should also be done.
- Weather conditions should also be monitored prior to the date of travel for sampling and instead of specific dates, it will be changed into a weekly period. This is to avoid changing of entries on the forms to be submitted to USSO.



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Endorsed by : MA. THERESA P. LORETO
College Dean

Date Submitted : January 10, 2023

Received by OVPREI-RPO: _____

Date Received : _____

The project aims to (1) investigate the levels of organic matter and nutrients in sediments of the major river systems in Leyte, (2) determine the physicochemical properties of the water in the major river systems in Leyte, (3) evaluate the presence of heavy metals in water and in the sediments of major river systems in Leyte, (4) assess the levels of H_2O , P , and K in the water and the sediments of the major river systems in Leyte, and (5) establish the water quality of the major river systems in Leyte through elemental analysis of the freshwater algae.

I. Rationale to VSU's College's Thrust and Priorities:

The research study is aligned with the university and college thrust and priorities of environmental health risk monitoring and evaluation.

II. Highlights of accomplishments within the quarter

A. Targets for the quarter

The target of the first quarter was to conduct the first sampling or the monitoring sites. To make this possible, all the requirements of the university for students to conduct academic-related activities were complied.

B. Highlights of accomplishments

1. First sampling was done on December 5, 2022.
2. Some physicochemical parameters of the river water collected on-site (temperature, pH, DO, turbidity, TDS) and the sediment samples were processed for further analysis in the lab such as H , P , K , heavy metals and acidity.

III. Physical Report of Graduate

A. Research Program