

A Study of Mosquito Larvae Occurrence and Water Quality in Urban and Rural Residential Areas of Krabi Province, Thailand

Presented by

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Overview

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Introduction



Fig.1 mosquito

<https://www.bbc.com>

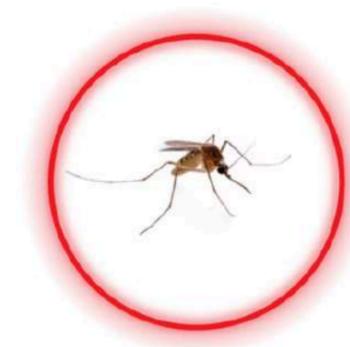


Fig.2 Dengue fever

<https://www.bless-clinic.com>

Mosquitoes are vectors of several diseases, and their breeding habitats are commonly associated with standing water in residential areas

Objectives

1. To compare mosquito larval occurrence between urban and rural residential areas in Krabi Province.
2. To compare water quality parameters (pH, dissolved oxygen, temperature, and salinity) between urban and rural residential areas.

Study Area



Fig.3 World map
<https://www.reddit.com>

- Urban residential area: Pak Nam Subdistrict, Krabi Province
- Rural residential area: Ban Khok Yang Community, Krabi Province



Fig.4 Map of Thailand
<https://www.google.com>



Fig.5 Urban residential area.

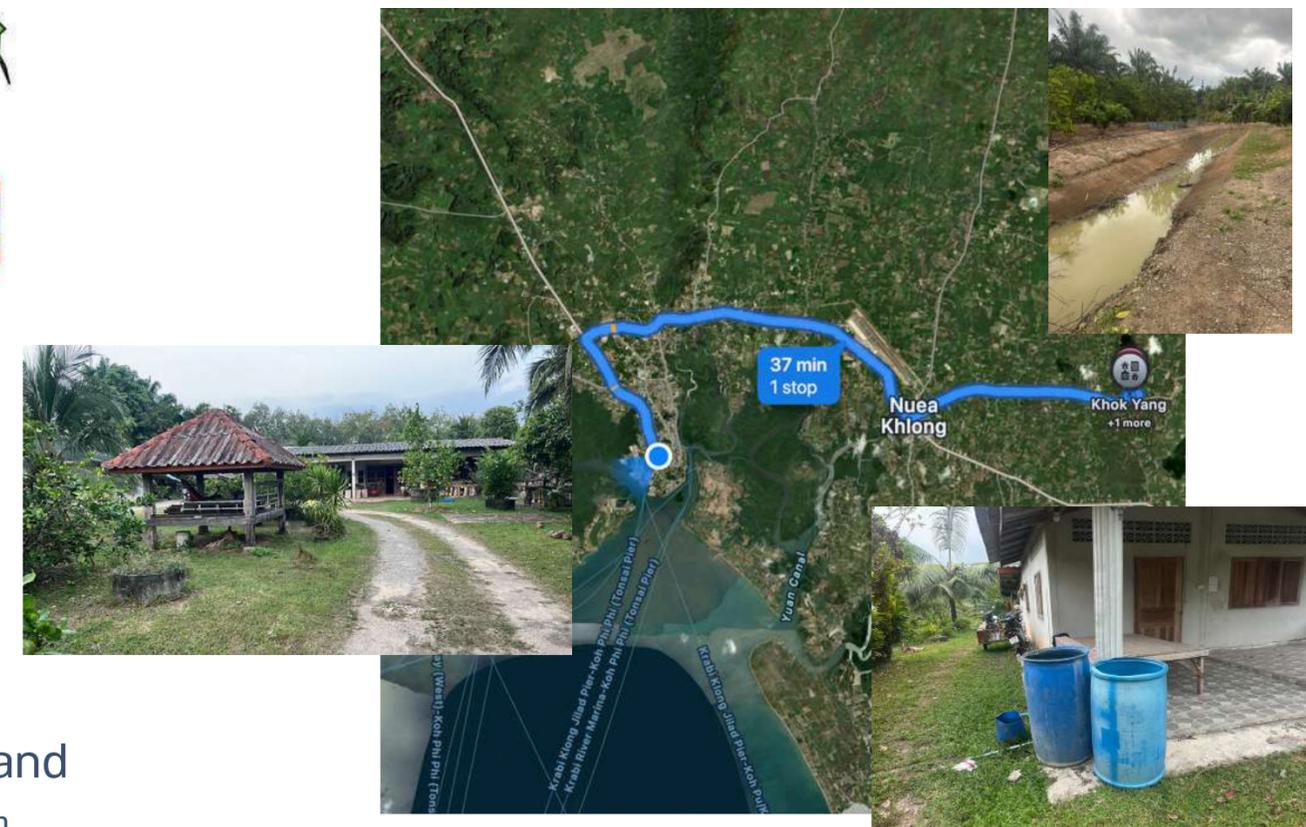


Fig.6 Rural residential areas

Materials and methods

- Clip-on 60x lens



- Telephone



- Dissolved Oxygen Test Kit



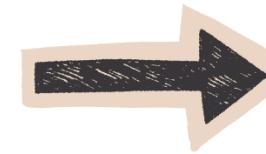
- UNIVERSAL INDICATOR



- Salinity Meter



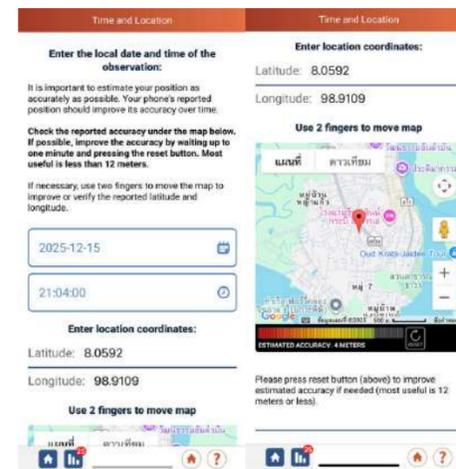
- Thermometer



Select a mosquito-related item.



Select new Mosquitoes observed, habitat.



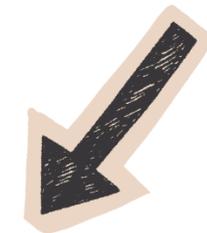
Note the date, time, and latitude and longitude coordinates of the location where it was found.



Choose a container or source. Where are the mosquitoes, and where are they found?



Take a picture of the mosquito larvae found in the container.



Geographic coordinates were recorded using the GLOBE Observer application.

Materials and methods

Man-made containers /
Natural containers



Man-made containers
(Water tank)

Natural containers
(Standing water)

Fig. 7. Man-made containers / Natural containers.

Type (metal/plastic/earthenware/other containers)



Metal containers
(Water tray)

Plastic containers
(Pet feeding dish)

Earthenware containers
(Flower pot saucer)

Other containers
(Stone roses)

Fig.8 Containers made of metal, plastic, earthenware/other materials.

Container with a lid / with out a lid



A container with a lid
(Water tank)

Container without a lid
(Paint bucket)

Fig. 9 Container with a lid / without a lid

Color of the containers



black containers

green containers

blue containers

silver containers

white containers

red containers

brown containers

pink containers

Fig. 10 Color of the containers

Types of mosquito larvae

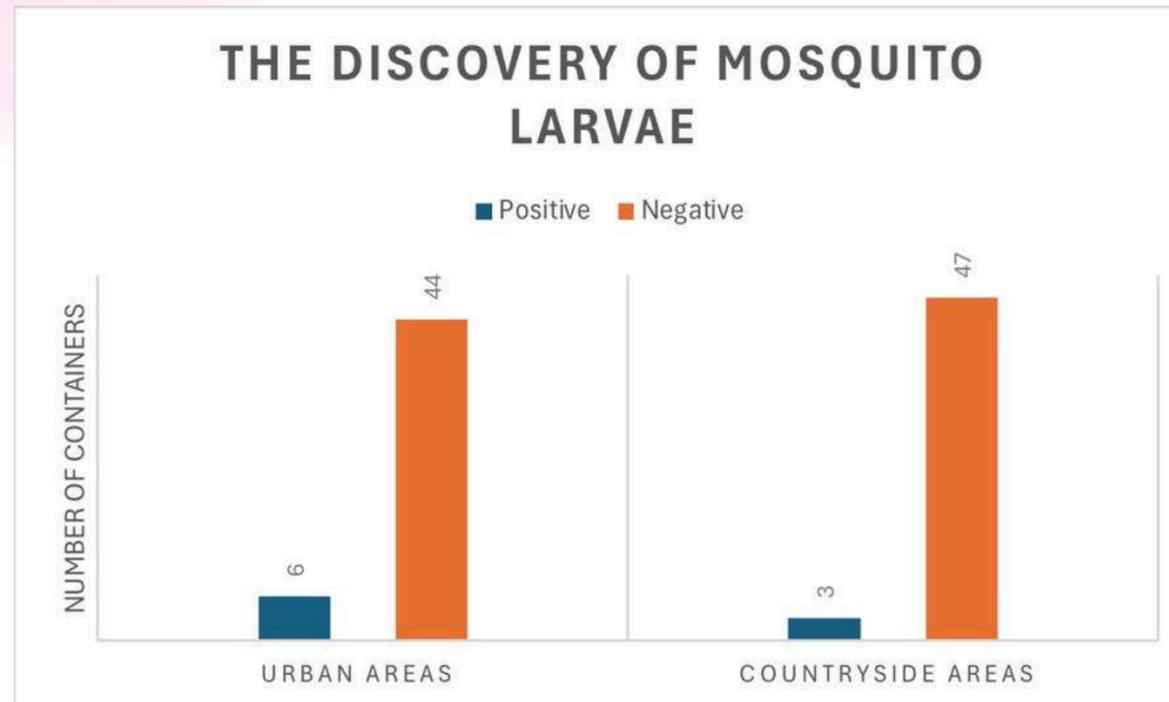


Fig.11 *Aedes albopictus*

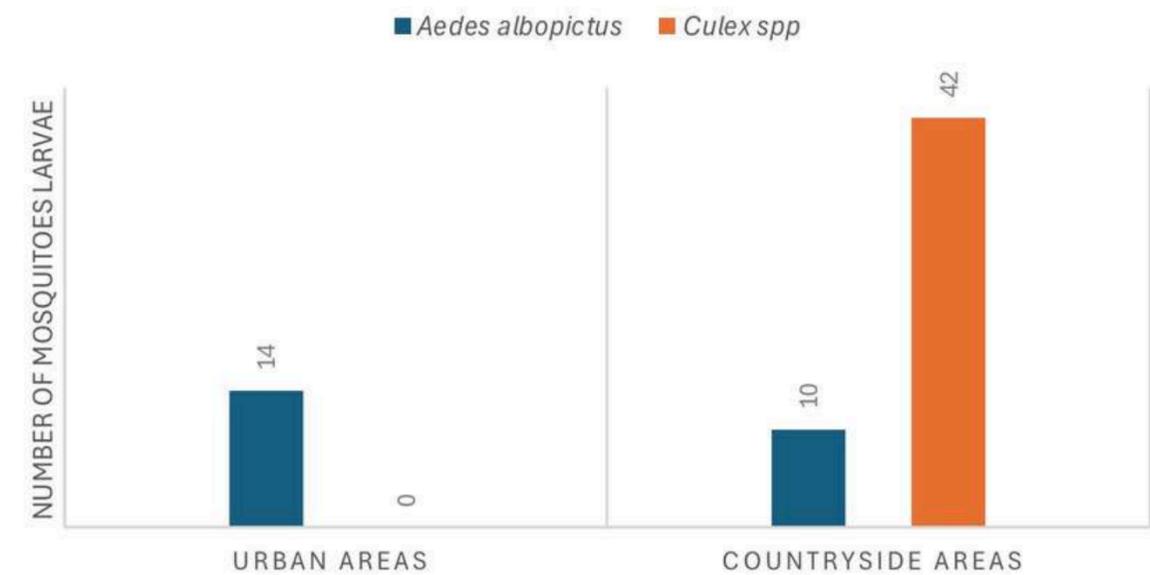
Fig.12 *Culex* spp

Results

Mosquito larval occurrence (Urban vs Rural)



TYPES OF MOSQUITO LARVAE



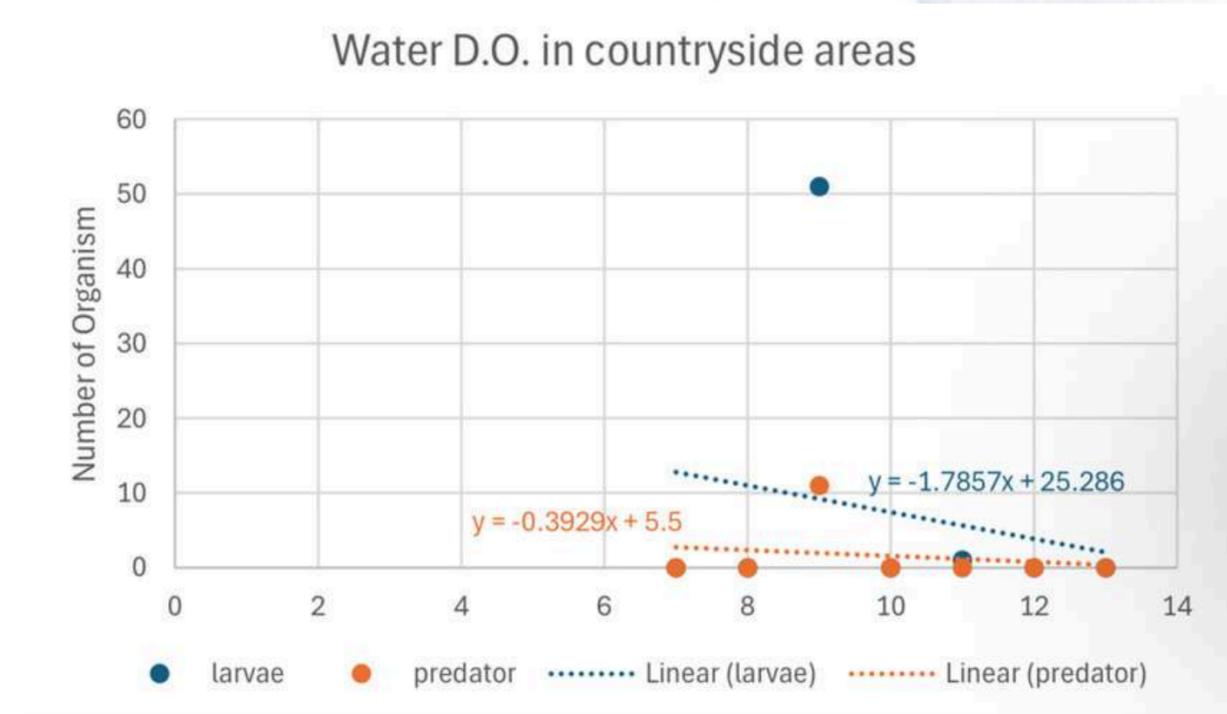
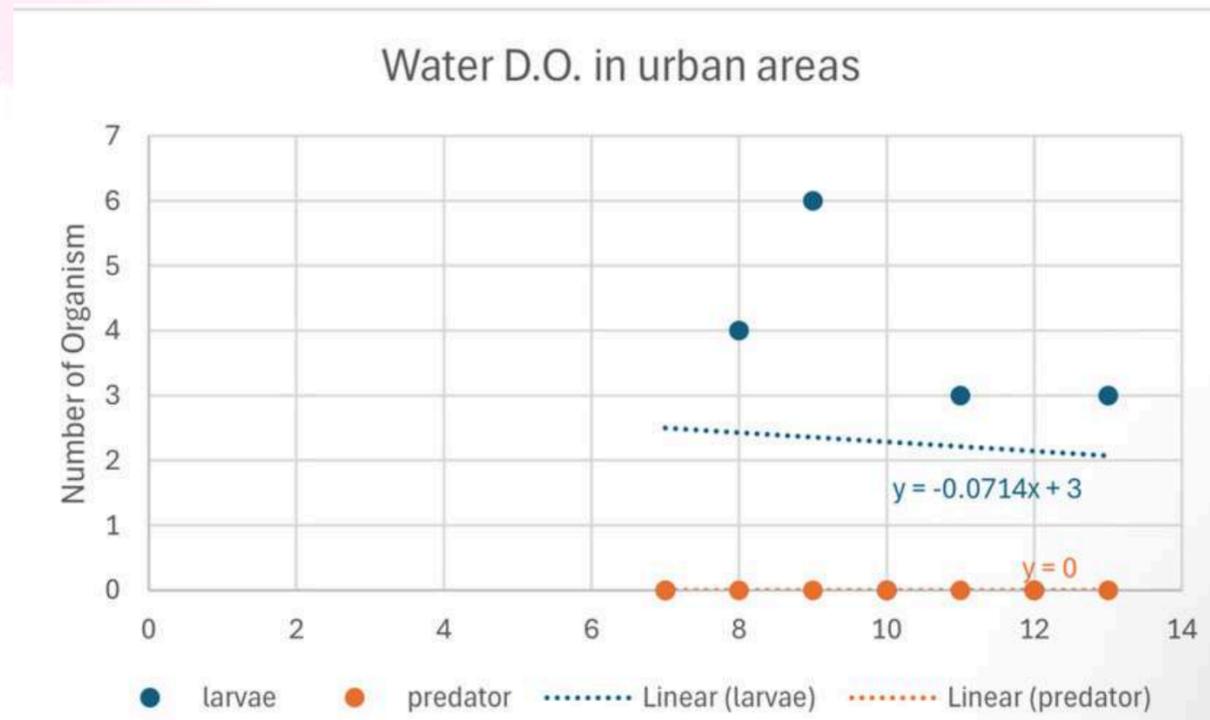
This graph shows data collected throughout the month of January.

The results indicate differences in mosquito larval occurrence and water quality between urban and rural residential areas.



Results

D.O. comparison (Urban vs Rural)

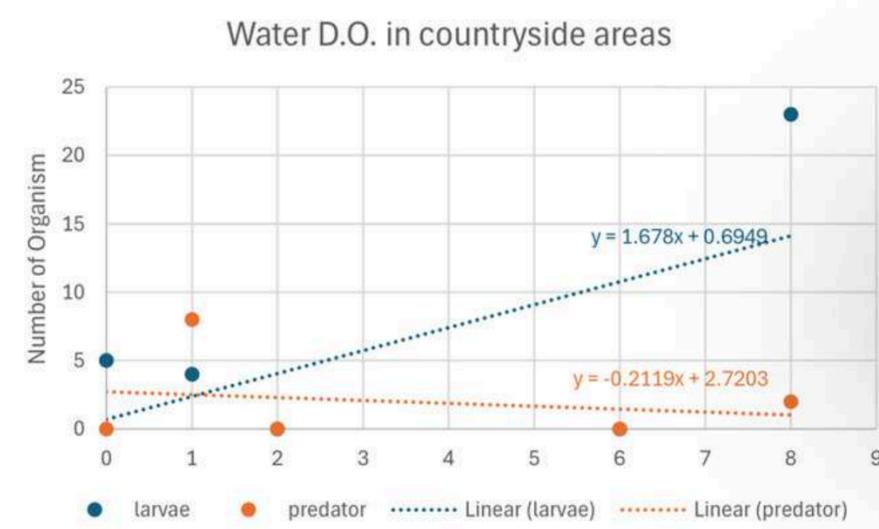
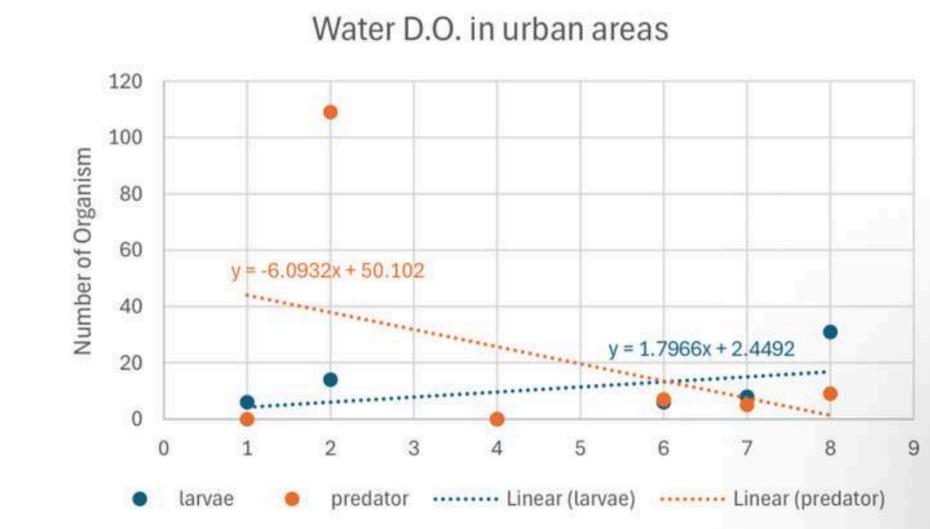
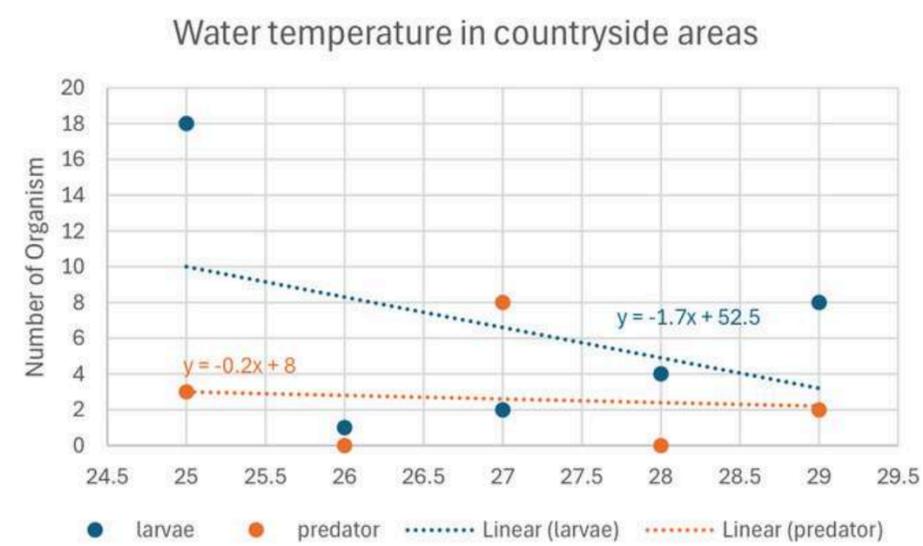
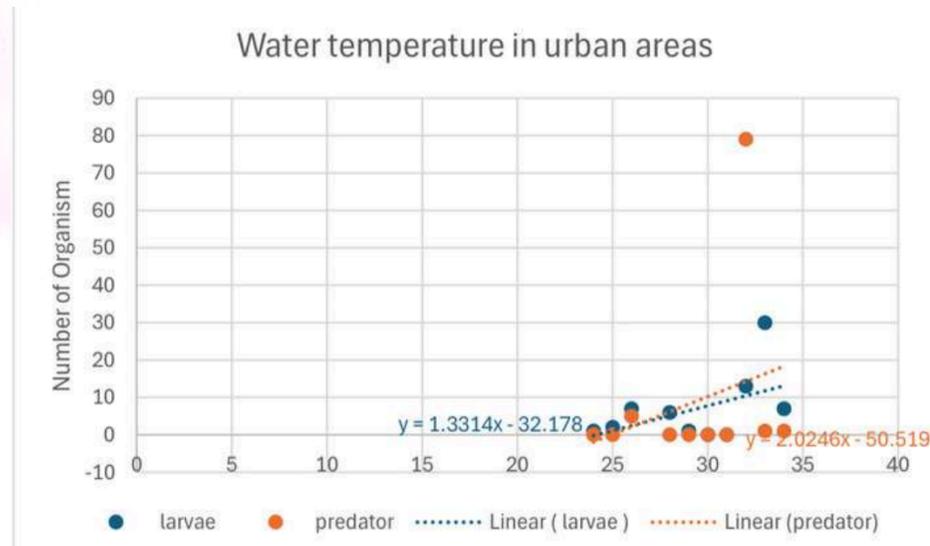


This graph shows data collected throughout the month of January.

The results indicate differences in mosquito larval occurrence and water quality between urban and rural residential areas.

Results

Water quality: sites with larvae vs without larvae



This graph shows data collected throughout the month of January.

The results indicate differences in mosquito larval occurrence and water quality between urban and rural residential areas.

Conclusion

The study found differences in mosquito larval occurrence between urban and rural residential areas in Krabi Province, with a higher occurrence observed in rural areas. Differences in water quality parameters, particularly dissolved oxygen, were also observed between the two areas.

These findings highlight variations in environmental conditions and water characteristics between urban and rural residential areas, based on the variables investigated in this study.



References

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Finally, the research team sincerely hopes that this research project will be beneficial to learning in the fields of science, environment, and health, and that it can serve as fundamental information for future studies and the management of mosquito breeding sites at the local level.

Project Team



Thank you

