

A Study of Mosquito Larvae Occurrence in Covered and Uncovered Containers and Water Quality in Koh Klang Community, Krabi Province, Thailand



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Introduction



Mosquitoes are important vectors of various diseases, such as dengue fever, Zika virus disease, and chikungunya. The Asian tiger mosquito (*Aedes albopictus*) commonly lays its eggs in clean or semi-clean stagnant water found in containers around residential areas. Community lifestyles, including water storage for daily use and the use of uncovered containers, contribute to the creation of mosquito breeding sites.





Objectives



1. To compare the presence of mosquito larvae between covered and uncovered containers.
2. To compare water quality parameters of breeding sites in covered and uncovered containers.





Study Site

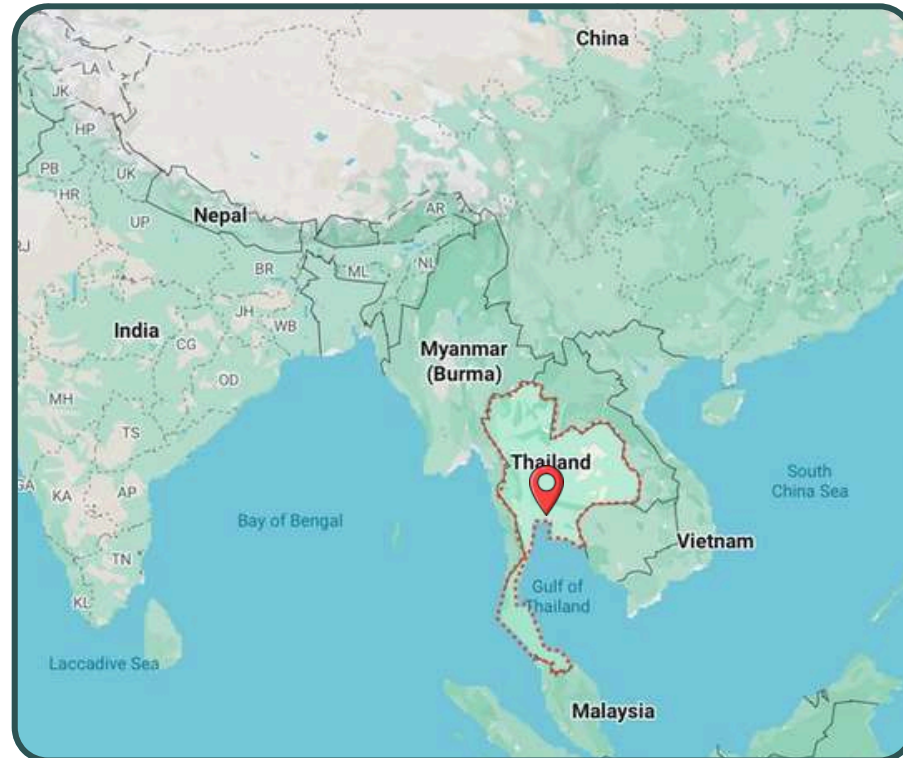


Fig.1 World Map



Fig.2 Map of Thailand

Study site: Krabi Province

- The study was conducted in the Ban Koh Klang Community, Krabi Province, Thailand

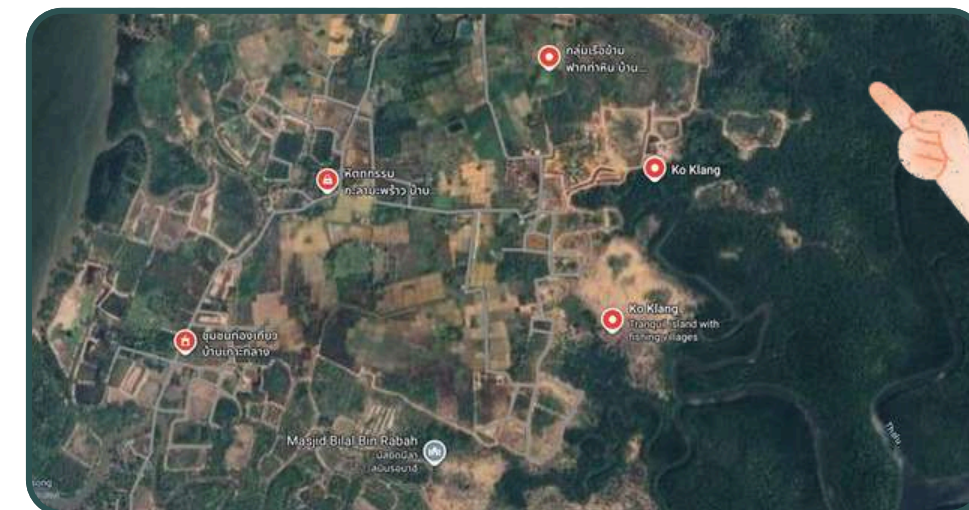


Fig.3 Ban Koh Klang Community





Materials and Methods



1. Water-holding containers in the community were surveyed.



2. Containers were classified as covered or uncovered.



3. Water quality parameters including temperature, pH, dissolved oxygen (D.O.), and salinity were measured.



4. Mosquito larvae were collected and identified using a clip-on microscope and reference guides.



5. Geographic coordinates were recorded using the GLOBE Observer application.

Use of GLOBE Observer: an application for mapping mosquito habitats



Data were collected during December and January (late rainy to early cool season).

Fig.4



Q Covered containers / Uncovered containers X



Covered containers



Uncovered containers

Fig.5

Types of mosquito larvae



Fig. 6 Asian tiger mosquito
(*Aedes albopictus*)





Results and Discussion



Covered containers / Uncovered containers

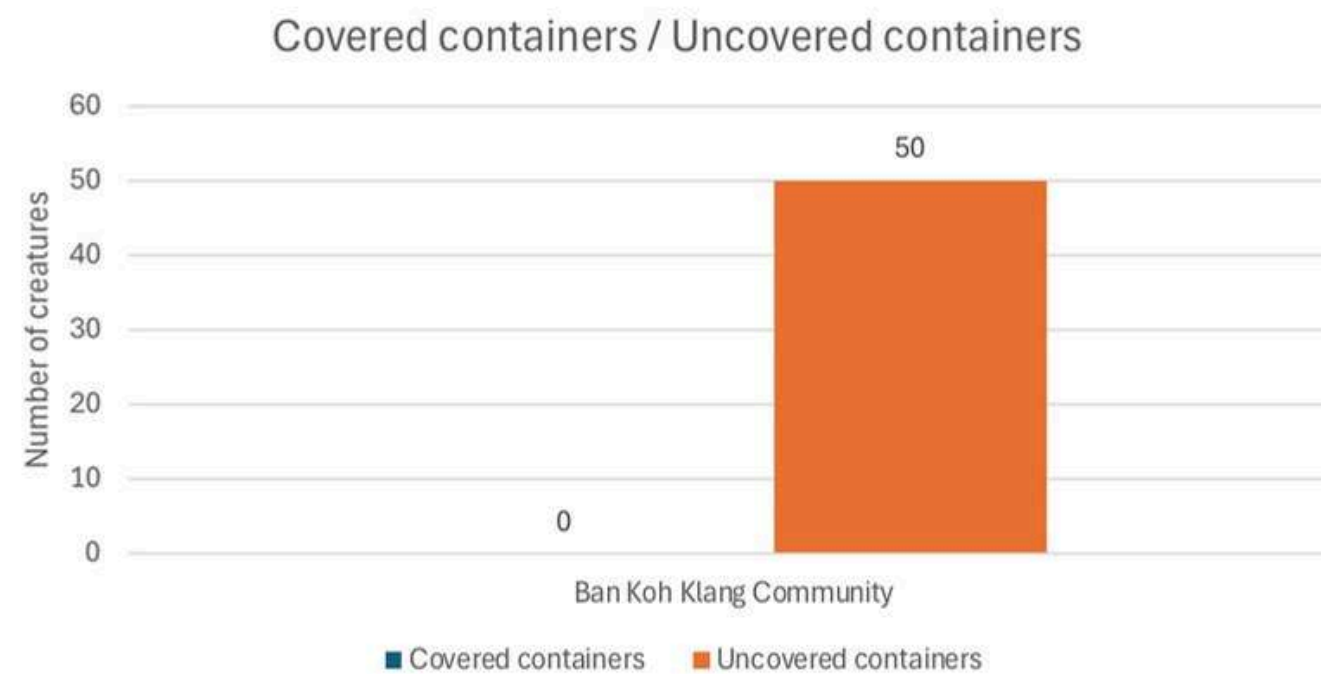


Fig.7 Graph of data collected during December

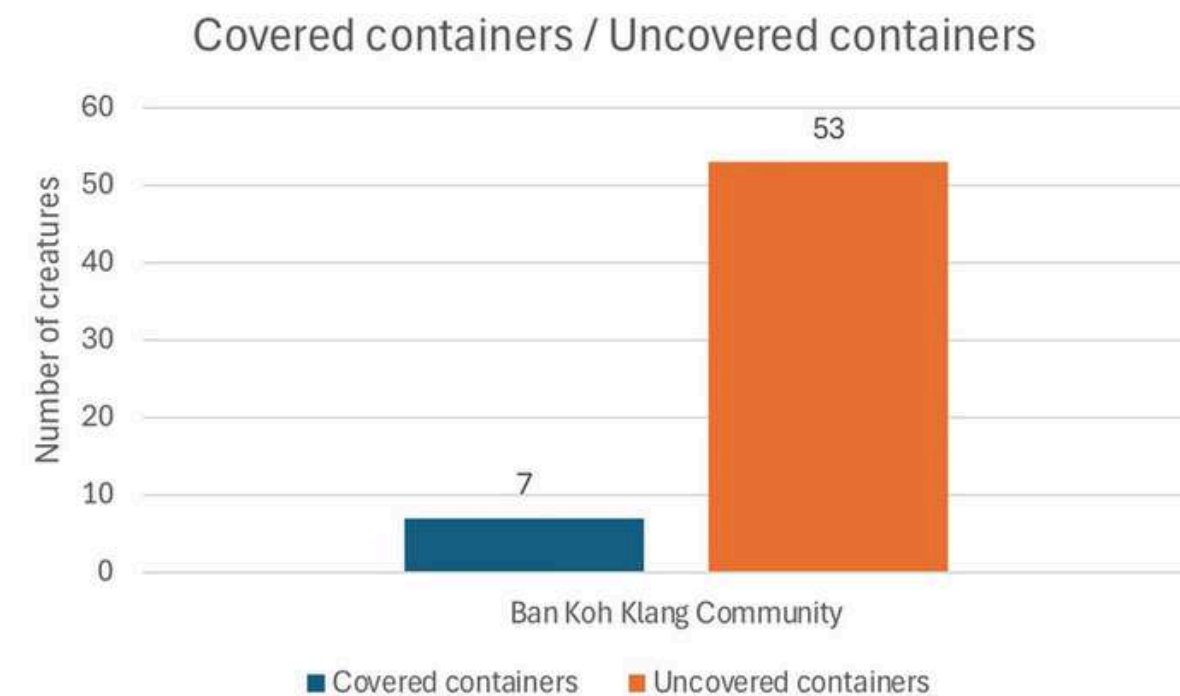


Fig.8 Graph of data collected during January

The results indicate differences in mosquito larval occurrence and water quality between covered and uncovered containers.



Results and Discussion



D.O. comparison (Covered vs Uncovered)

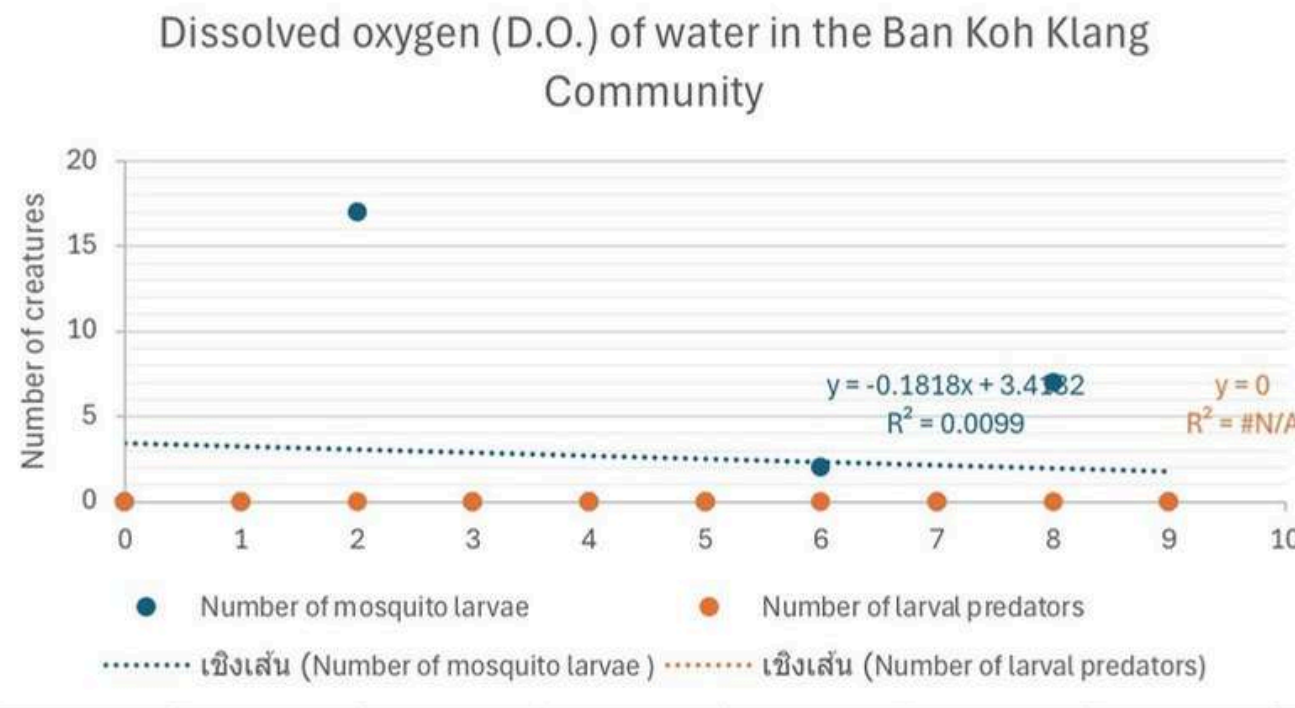


Fig.9 Graph of data collected during December

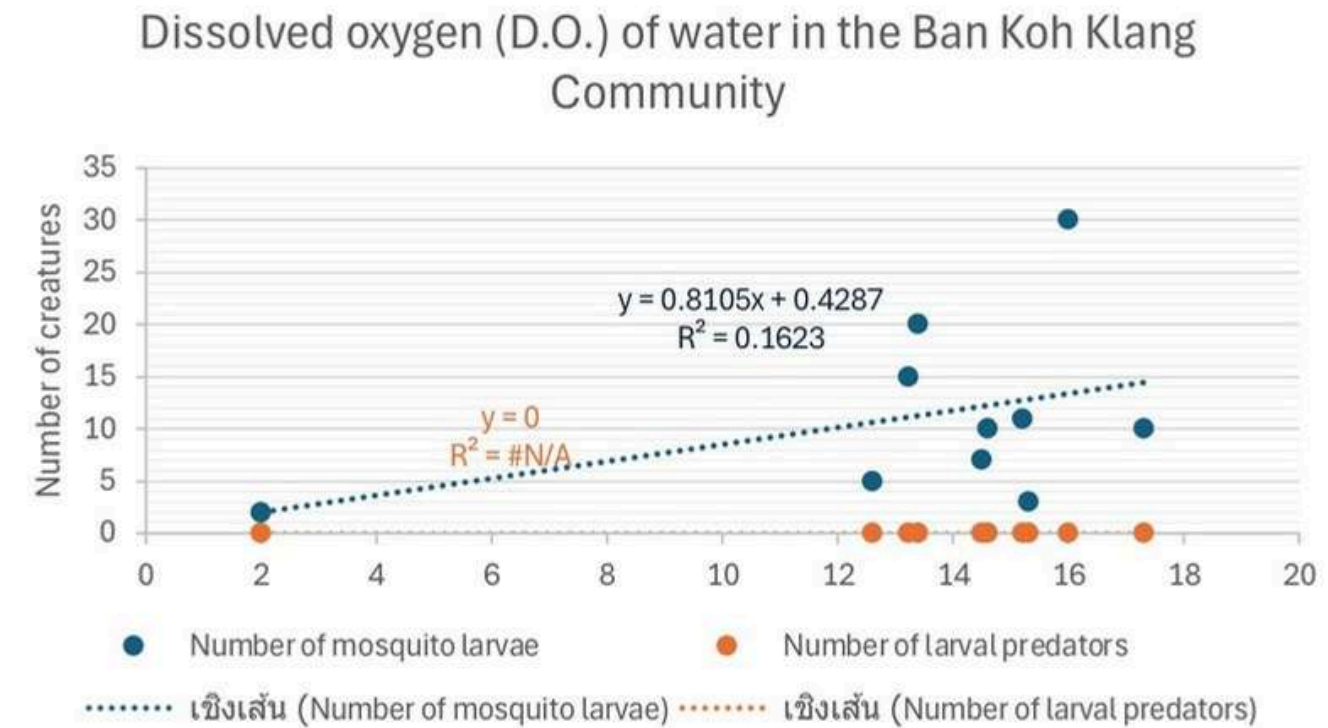


Fig.10 Graph of data collected during January

The results indicate differences in mosquito larval occurrence and water quality between covered and uncovered containers.



Results and Discussion



Larvae present vs absent (water quality)

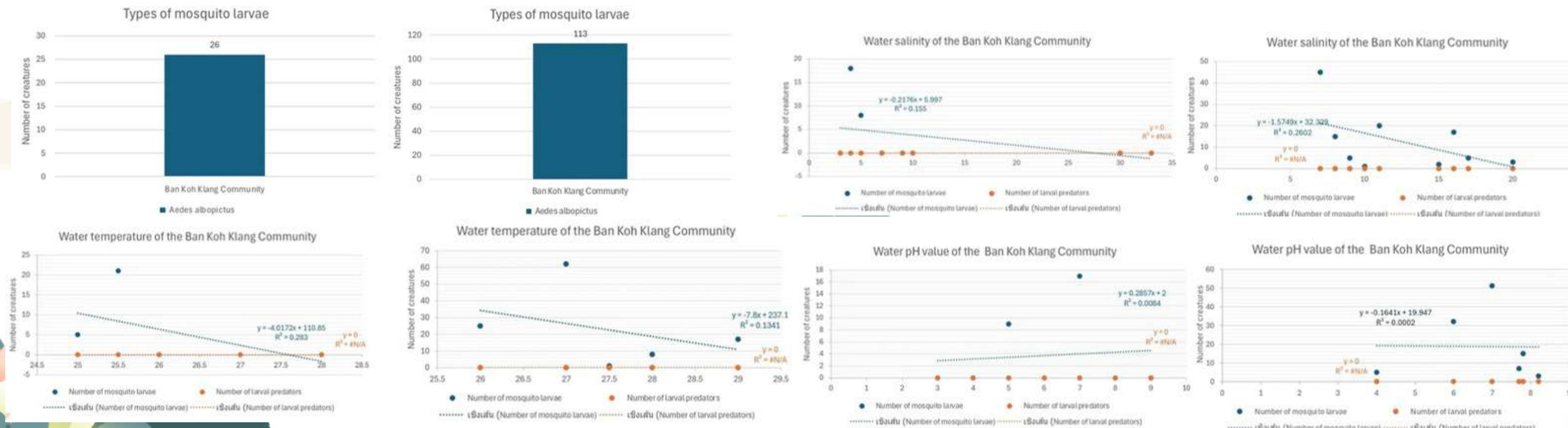


Fig. 11 Comparison graphs of mosquito larvae presence and absence under different water quality conditions in the Ban Koh Klang Community.

The results indicate differences in mosquito larval occurrence and water quality between covered and uncovered containers.



Conclusion



The study found that mosquito larvae, particularly *Aedes albopictus*, were more frequently observed in uncovered containers than in covered containers in the Ban Koh Klang Community. Differences in water quality parameters, including temperature, pH, salinity, and dissolved oxygen, were observed between covered and uncovered containers.

These findings indicate variations in container conditions and water characteristics based on the variables investigated in this study.





References



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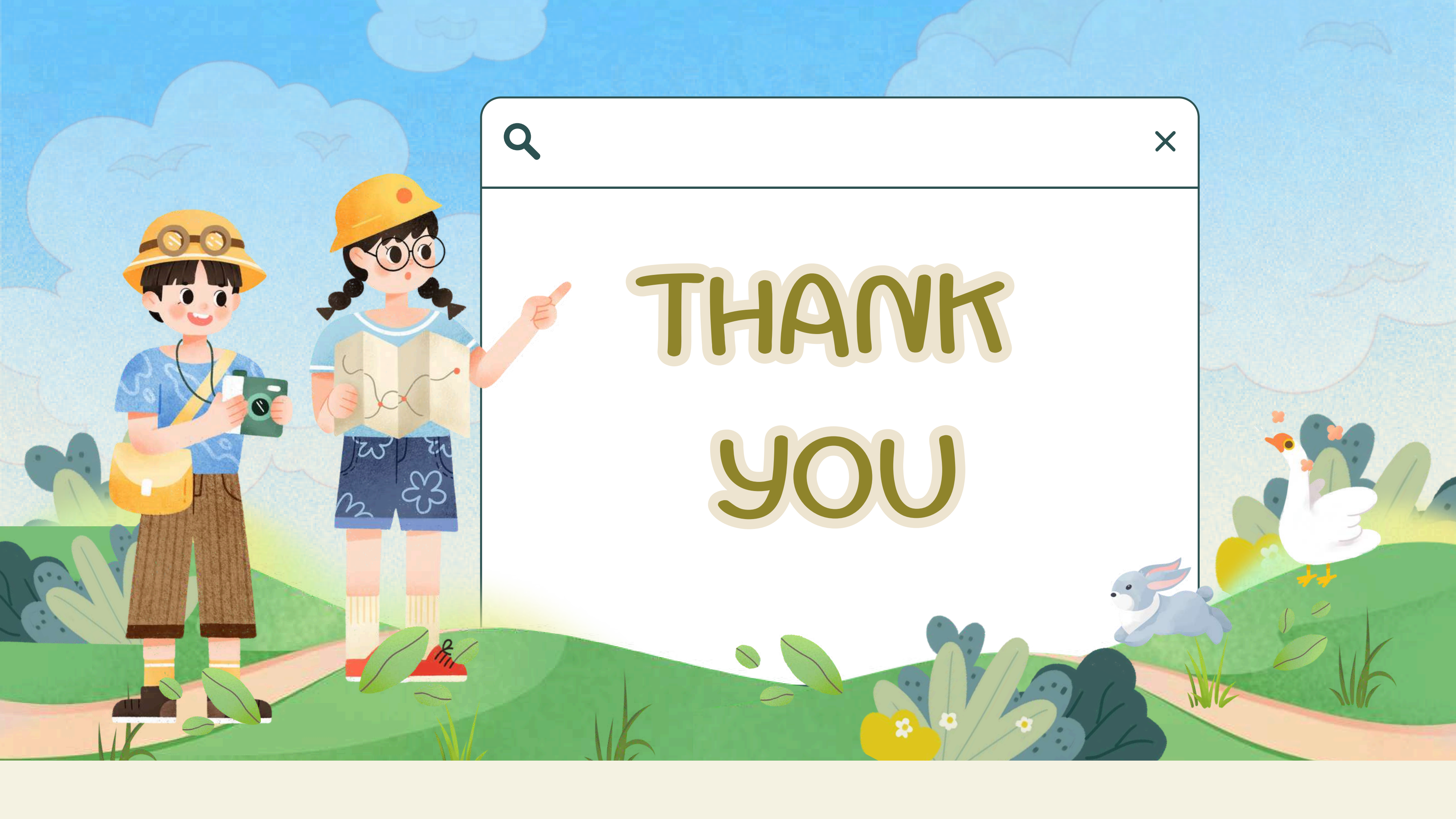


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THANK
YOU