TRENDS OF RAINFALL IN SARAWAK & ITS IMPACT ON TOURISM

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1. Letter of Report Submission

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Dear Professor,

FINAL RESEARCH REPORT "TRENDS OF RAINFALL IN SARAWAK & ITS IMPACT ON TOURISM"

With reference to the above, I am pleased to submit two copies of the final research reports entitled "Trends of Rainfall in Sarawak & its Impact on Tourism".

Thank you.

Yours truly,

RAFIDAH HUSEN
Leader
Research Project

5. Report

5.1 Proposed Executive Summary

An abiotic factor such as weather can be disruptive to certain businesses. Weather sensitive businesses (WSB) such as agriculture, construction, retail, transportation and tourism (travel and leisure) are often the first to feel the financial impact of severe or changing weather. Many WSB do not regularly quantify weather impact on performance, and such few have developed comprehensive strategies for managing weather risk. The impact of extreme weather on WSB occurs all over the world including Sarawak. However, there are limited studies on weather impacts on businesses especially at a local level. Therefore, it is significant and necessary to conduct this study as a preliminary step to help businesses better understand local rainfall patterns/trends and volatility trends to ensure good planning and risk mitigation for the future.

As for this project, it accesses the daily rainfall data in Sarawak for the past ten years, starting from January 1998 until December 2007. All the eleven divisions in Sarawak will be covered, namely Kuching, Samarahan, Sri Aman, Sarikei, Sibu, Kapit, Mukah, Bintulu, Miri, Limbang and Lawas Divisions. This study will also gather informations from the tourism sector by distribution of questionnaires.

It is hoped that this project will provide concrete scientific data which can be used for future studies and references. The data provided can be used by various business sectors especially tourism to include weather risk in planning and managing their business activities.

The proposed methods of study are:

1) Collection of all Sarawak divisions' rainfall data in the past ten years (1998 to 2007) from Meteorological Department and Irrigation & Drainage Department.

2) Investigation of top dry and rainy areas using the average rainfall and rainy days parameters determined.

3) Investigation of volatility trends using Mann Kendall Test.

5.2 Enhanced Executive Summary

This research is aimed at the identification of precipitation trends in all divisions of Sarawak. Mann Kendall Test and time series plots were applied for this purpose. Rainfall data obtained from Drainage and Irrigation Department was the source of study. Prior to the above tests, regional and seasonal precipitations were determined using rainfall and rainy days. Any day with a collection of daily rain volume exceeding 6.35 mm is classified as rainy day. Wettest and driest divisions were sorted out after that based on these precipitations. Kapit was identified as the wettest division whereas Miri was the opposite.

Subsequently, Mann Kendall Test and time series plots were incorporated in order to detect the trend in every division. Results denote that only five divisions namely Miri, Limbang, Bintulu, Mukah and Kapit displayed positive significance precipitation trend which means either one or both of rainfall and rainy days are on the rise.

Finally, the association between weather factor and tourism business was also studied qualitatively. Although findings suggest that tourism business is without doubt affected by current weather in Sarawak, the influence is however not up to the level most would expect. A large amount of respondents selected moderate scale for the effect of weather on tourism business.