

# Flood Risk Assessment using Analytical Hierarchy Process and Geographic Information Systems

Phaisarn Jeefoo <sup>1\*</sup> Watcharaporn Preedapirom <sup>2</sup> and Chatchadawan Chinkeeree <sup>3</sup>

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## Abstract

Floods are natural disasters that damage lives and properties. This academic paper aims to review the literature on geospatial technology, introduction to geographical quantitative methods for analysis of factors affecting flooding in Pua Subdistrict, Pua District, Nan province. The research method was based on factor analysis using an analytical hierarchy process (AHP) model which the flood disaster experts rate the factor weight and land and building information survey. The results of the study revealed that there were 6 factors affecting flood risk consist of rainfall, slope, elevation, land use, and soil series respectively. Local government officials or disaster prevention and mitigation agencies can apply the principles of this study to more precisely and accurate assess areas at risk of future flooding.

**Keywords :** Flood risk areas, Analytical Hierarchy Process, Geographic Information Systems, Disaster Prevention and Mitigation, Spatial Database

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<sup>1</sup> Research Unit of Spatial Innovation Development (RUSID), Geographic Information Science, School of Information and Communication Technology, University of Phayao

<sup>2</sup> Physiology, School of Medical Sciences, University of Phayao

<sup>3</sup> Geographic Information Science, School of Information and Communication Technology, University of Phayao

\* Corresponding author, E-mail: phaisarn.je@up.ac.th / p.jeefoo@gmail.com