中文摘要

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論文題目：都市火災空間分布及發生因素之研究 論文頁數：244

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論文提要內容：

本研究的主要目的，在透過火災的發生類型、空間分布以及相關社會經濟環境，以台北市為空間範圍，探討都市火災在空間規劃上的意涵。分析的資料係以公部門所公布的二手資料為主，運用地理資訊系統的空間分析模組，展示都市火災分布的空間型態以及空間變異。

火災資料取材自台北市行政轄區內，從 1999 年至 2003 年五年間的全部火災紀錄，利用地理資訊系統 (GIS) 的工具，套繪火災發生地點的空間分布位置，並建置相關的屬性資料，作為後續空間資料分析的基本資料結構。而聯合克利金模型的應用，結合空間資料相關的社會經濟變項，進一步探索台北市火災分布的空間型態，並推估台北市火災危險度的空間區位分布樣態，據以建置台北市火災風險潛勢圖，期能在都市規劃及災害預防行政方面，對市政的興革與市民生命財產安全的維護，有所助益。

審視火災危險度分析與都市空間規劃的關係，作為都市規劃師，面對充滿不確定性的都市火災危險度，在不同的族群與不同的都市空間中，潛在的火災危險度是不盡相同的。因此，本研究非僅只於提出理論分析架構，來呈顯都市火災危險度的樣態，也具體提出了改善都市火災危險度的空間規劃策略。在後續的研究建議中，也強調火災的空間特性，特別是關於人文區位環境、社區營造、以及人際關係的面向的探索，將可為都市火災研究發展出更周全的空間規劃內涵。

關鍵字：都市火災、火災危險度、地理資訊系統、空間資料分析

英文摘要

ABSTARCT

THE RESEARCH ON THE SPATIAL DISTRIBUTION AND THE CAUSE OF URBAN FIRES

by

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The key objective of the research was to analyze the nature of fire incidents by their type, by their spatial distribution, by their variable location, and by their relationship to the underlying socioeconomic composition of the population be served. The study area was Taipei City which was the major city of Taiwan with a population of over two million people. This research used the second-hand data of the spatial distribution of fire incidents occurred at Taipei City. A GIS was used to investigate the patterns of fire incidents by their type and by their spatial distribution in order to explore different behaviors or activities in urban substantial space structure.

This research reported the distribution, focus and feature of fire incidents occurred in recent five years by combining the value file of socioeconomic factors and GIS in Taipei City to reveal the fire incidents location. Taking that as a fundamental data, this research also made a spatial analysis on the variation of urban spatial phenomenon in Taipei City. A Co-Kriging model was used to explore the significance of each variable socioeconomic factor. The correlated rule was used to analyze the urban substantial space structure, explore the correlation between related factors and fire occurrence, and select variables being accomplished to realize the potential threat which caused the fire occurred in variable neighborhoods. A potential fire risk map in Taipei City was established and might be provided to the government of Taipei City as useful reference for conducting various plans and programs.

The purpose of this research was to examine the correlation between the fire risk analysis and the urban space planning. The fire risk that everyone gets in touch with is different. The potential fire risk has difference because of the dissimilarity of the urban space characteristic in different location of urban. Due to the complexity on

discussing fire risk in urban space, the research not only offers a theoretical result and establishes the basic data of shape of urban fire risk, but also proposes the relevant strategies for improving the fire safety environment. It also suggests the further studies on the human ecological environment, community empowerment and interpersonal relations should be conducted for more findings.

Keywords: Urban Fire, Fire Risk, GIS, Spatial Data Analysis