

摘要

近年來 GIS 已朝向行動化之趨勢發展，行動化的發展使得 GIS 的應用，從個人電腦延伸至各種類型的行動化設備，亦使得空間資訊的應用更為廣泛與生活化，地圖也跳脫了傳統紙圖的窠臼，改以視訊空間資料庫的形式呈現

，使查詢與分析更為靈活。而自 GIS 行動化後，其功能已廣泛被應用到野外調查工作上，除了具備方便性外，更可達到預期之準確度，又因其效率大幅提高，不但可節省人力並大幅節省費用及提高經濟價值。為瞭解行動 GIS 於農地重劃區土地使用現況調查作業上的功能，本研究乃採智慧手機結合先進的行動 GIS 軟體，進行重劃區現況調查，嘗試以智慧手機當載台，因現行系統皆以 PDA 當載台，故本研究首創應用「行動地理資訊系統 2.0」結合智慧手機辦理農地重劃區土地使用現況調查之研究，並以 99 年完成之彰化縣「草港尾農地重劃區」進行測試，以應用行動 GIS 所獲得之成果圖與彰化縣政府調查之成果圖進行比對分析，研究證實：一、應用行動 GIS 所獲得之現況成果圖與彰化縣政府調查之成果圖不但非常吻合，圖面清晰且能一目了然外，更可提高土地分配結果之正確性，並減少土地分配之爭議。二、應用行動 GIS 之調查方法，比傳統的調查方法有真實性高、速度快、效率高、受天候之影響限制小、資料保存容易、不佔空間及較環保等優點，深值參採應用並全面推廣。

(**關鍵詞**：行動 GIS、農地重劃、土地使用現況調查)

Abstract

In recent years, GIS has developed toward the trend of mobility. The development of mobility has enabled the application of GIS to extend from personal computer to all kinds of mobile equipment, and made the application of spatial information be more extensive and life-oriented; thus a map has skipped the stereotype of traditional paper map, and is presented in the style of spatial database instead, making check and analysis be more flexible. Since the mobility of GIS has been reached, its function has been extensively applied in the work of field survey. Besides convenience, the expected accuracy can be accomplished, the efficiency can be heightened substantially, the manpower can be saved, the expenses can be economized by a large margin, and the economic value can be boosted. In order to understand mobile GIS's functions in farmland readjustment area land use inventory survey operations, the research adopted smart phone to combine with advanced mobile GIS software to do the readjustment area land use inventory survey, and attempted to take smart phone as a platform, because the existing systems all take PDA as the platform; therefore, the research pioneered applying "Mobile Geographic Information System 2.0" to combine with smart phone to do the research of farmland readjustment area land use inventory survey, took Changhua County "Chaogangwei farmland readjustment area" completed in 2010 to do the test, and did the comparison, contrast, and analysis on the achievement chart obtained after applying mobile GIS and the achievement chart of survey made by Changhua County Government. The research proved that: 1. The present condition achievement chart obtained after applying mobile GIS and the achievement chart of survey made by Changhua County Government not only considerably matched, but the pictures were distinct and clear at a glance; moreover, they could increase the correctness of the results and decrease the dispute of land distribution and allotment; 2. Comparing to a traditional method of survey, the survey method of applying mobile GIS has the advantages of high authenticity, fast speed, high efficiency, being slightly influenced and limited by the weather, easy data preservation, not occupying the space, and comparatively more environmentally-friendly, being deeply worthy of taking as reference, being adopted, application, and overall promotion and

popularization.

(Keyword : Mobile GIS, farmland readjustment, land use inventory survey)