A Crowdsourcing Application to Improve Land Development Management

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Land use types become more and more complicated along with growth in economic development and social changes. In Taiwan, for effectively preventing illegal or improper land development, the land-use monitoring program uses satellite images and remote sensing technology. Satellite images obtained from different periods of time can be compared to determine points of ground feature changes and suspected illegal land developments. Since the program was successfully implemented, that excited more public's interesting in participating and reporting suspicious illegal activities. Moreover, the crowdsourcing mechanism allows groups of individuals to perform a task voluntarily or participate in public issues interactively in an online environment. Therefore, the program team establishes a Web-based crowdsourcing platform, named "Volunteer Land Use Monitoring and Notification Integrated System", for the volunteer to participate in land use monitoring. The system creates a platform that provides volunteers to compose change information that including discover time/date, positioning, description of content and position, upload photographs, and case inquiries. There are more than 400 people have joined this program and ardently to inform lots of suspicious illegal acts around Taiwan. Through the system, volunteers can easily compose change information and upload the onsite photographs while discovering suspicious illegal acts. Then, the program team performs change analysis in the multi-temporal satellite images, and submits the suspicious illegal land-use changes to local authority for field investigation of the legality. The results from field investigators will be immediately updated to the system and inform simultaneously volunteers by E-mail. The system is a friendly and time-effective Web-based platform which provides a real-time data sharing function and opens up opportunities for more public to participate in land conservation. Through the use of web-based, the public provides more in-depth feedback to the system in a relatively anonymous. Finally, the crowdsourcing platform can serve as a reference for governments in making more effective and democratic land management policies in protecting land resources.

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