



## **Application of Digital Survey Tools (Mobile Carrier) to Investigate the Major Crop Production Area**

Min-Hsien Yang, Professor, Feng Chia University, Taiwan

I Han, Assistant Professor, Feng Chia University, Taiwan

### **I. Policy purposes**

1. Improve artificial visual ways of investigating crop farming area in order to reduce bias caused by human factors on survey findings.
2. Raise the accuracy of survey results in order to provide forecasts and warnings in advance to production and sales distribution.
3. Establish the database for farming area of sensitive crops in order to provide counseling and applications to related businesses and industry.

### **II. Procedure contents**

The project of “Establishing Agricultural Resource Mobile Survey Service System” by Agriculture and Food Agency (AFA) during 2012 and 2016 in fact is extending the previous project “Survey of Sensitive Crop Farming Area” in 2008-2011. The extension project keeps on surveying the farming area of sensitive crops, including garlic, orange, date, onion, peanut, pineapple, pomelo, guava, pear, tea, plum, lily, kumquat, tankan, Hai-Li tankan, and others. The GPS embodied mobile PDA is used to survey farming percentage of lands via accumulation of individual land data to obtain more accurate crop farming region.

### **III. Outcomes**

In 2008, the garlic farming region was the first to be surveyed by the mobile technology, in 20 townships located in Changhua, Yunlin and Tainan. A total of 23,566 pieces of land, or 5,110 hectares area were covered. Continually, farming area of garlic was followed up in 2009, and additionally, another three crops including oranges, dates, and onions were included by surveying a total of 61,509 pieces of land, or 15,555 hectares area. In 2010, the survey was conducted in the second season of peanut, pineapple, onion and garlic, totaling 100,569 pieces of land, equal to 25,255 hectares of planted area. In 2011, another four crops were surveyed, including pomelo, guava, pear, and garlic, totaling 69,854 pieces of land, or

15,816 hectares of planted area. In 2012, tea, plum, lily, kumquat, tankan, Hai-Li tankan, and garlic were surveyed, totaling 55,877 pieces of land, equal to 18,247 hectares of planted area.

#### **IV. Project benefits**

1. Improve the accuracy of the survey: Using GPS to position can confirm the location of crops and the scope of planting.
2. Simplify data entry tasks: The data surveyed by the mobile carrier can be timely transmitted into the database system.
3. Information preservation: The survey data is fully preserved by electronic archives database, which can be further facilitated to other value added applications and also can easily be delivered.
4. Support other agricultural services: The mobile carrier is good at positioning, which can be further applied to other agricultural management tasks requested landmark positioning and enhance implementation efficiency of executive procedure, including agricultural natural disaster aids, fallow, agricultural related evidences, and application of land usage for specific agricultural work.
- 5.

Date submitted: April 21, 2015

Reviewed, edited and uploaded: April 21, 2015