

THE IMPACT OF ENVIRONMENTAL CHANGE ON THE HAKKKA VILLAGE CHUNGLIN TOWNSHIP OF HSINCHU

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講稿

- Good morning, ladies and gentleman.
- My name is Ying-Zih Chiu, from Taiwan.
- I am a Master student and study in Hakka Political Economy, National Central University.
- Professor Yuei-An Liou and Chin-Hung Chou are my supervisor.
- The topic I am going to present today is “The impact of environmental change on the Hakkka Village ChunGlin TownSHIP of Hsinchu”.

● **OUTLINE**

- **INTRODUCTION**
STUDY AREA
STUDY MOTIVE
STUDY OBJECT
- **METHODOLOGY**
STUDY STEPS
- **RESULTS**
- **CONCLUSION**

講稿

- The outline includes Fours sections.
- Focus will be put on the methodology and results.

INTRODUCTION

- This study area is Hsiashan Village, the center of Hsinchu County, located in the north of Chunglin Township (shown as Fig1)
- It is close to Chubei City in the west and Hsinpu Township in the north.
- The Freeway No.3 that was started to operate in 1997 crosses by Hsiashan in the east, and the Chunglin Cloverleaf is set. Besides, the high-speed railway, Hsinchu Station, was established in 2007 in the north-western side. The traffic here is quite convenient.

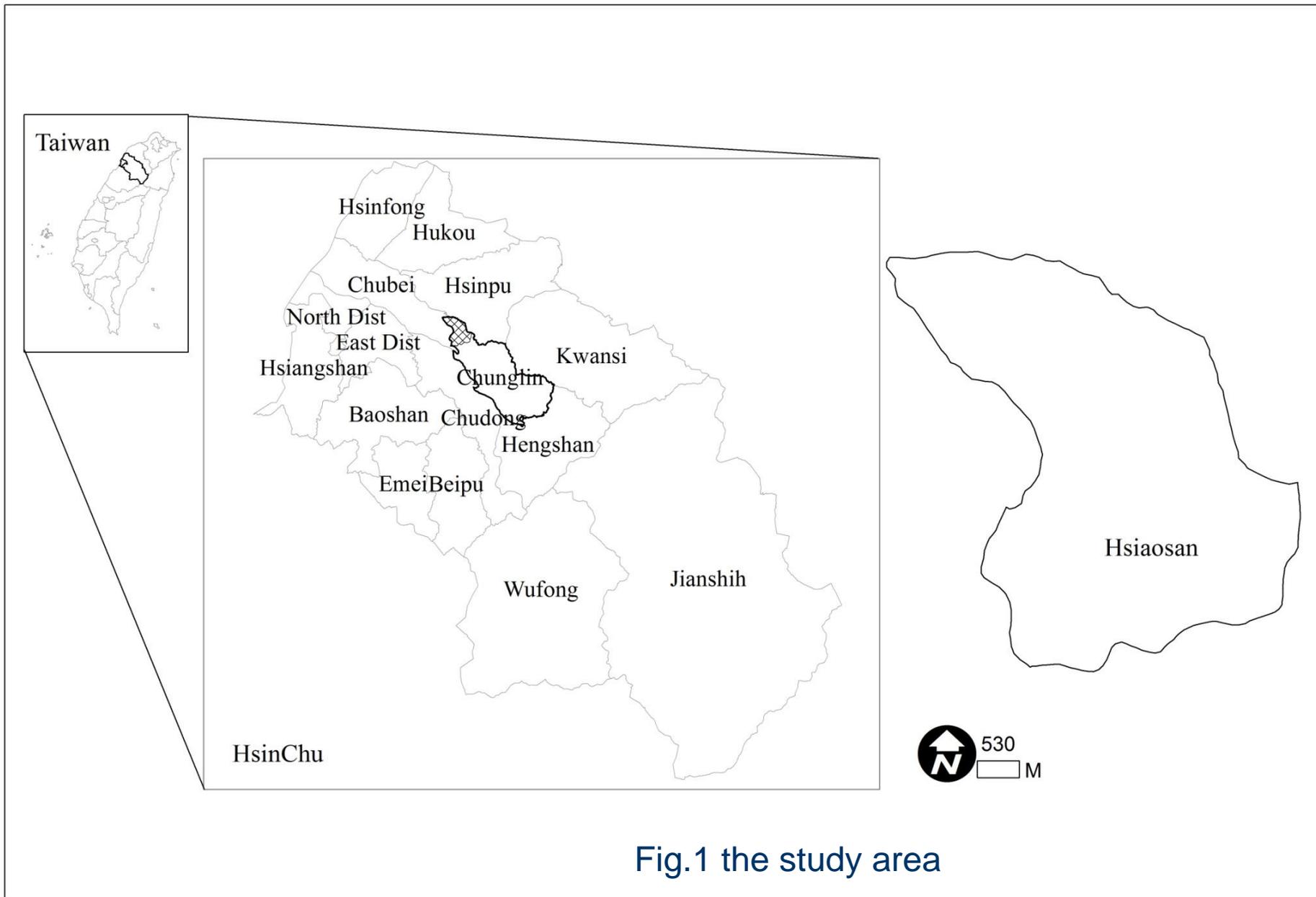


Fig.1 the study area

INTRODUCTION

- From the aspect of historical viewpoint, the land-use policy plays an important role on the environmental ecology that relates to the process of the environmental change.
- The place of Hsiahan village, Chunglin Township, Hsinchu County, Taiwan nearby the Taiwan High Speed Rail stations has been changed dramatically recently.
- With time goes by, the transportation infrastructure has brought about much convenience, which also makes the Hsiashan village to be an optimum place for economic investment.
- we incorporate all the information to analyze the main factors to cause the long term environmental changes on the studied place.

METHODOLOGY

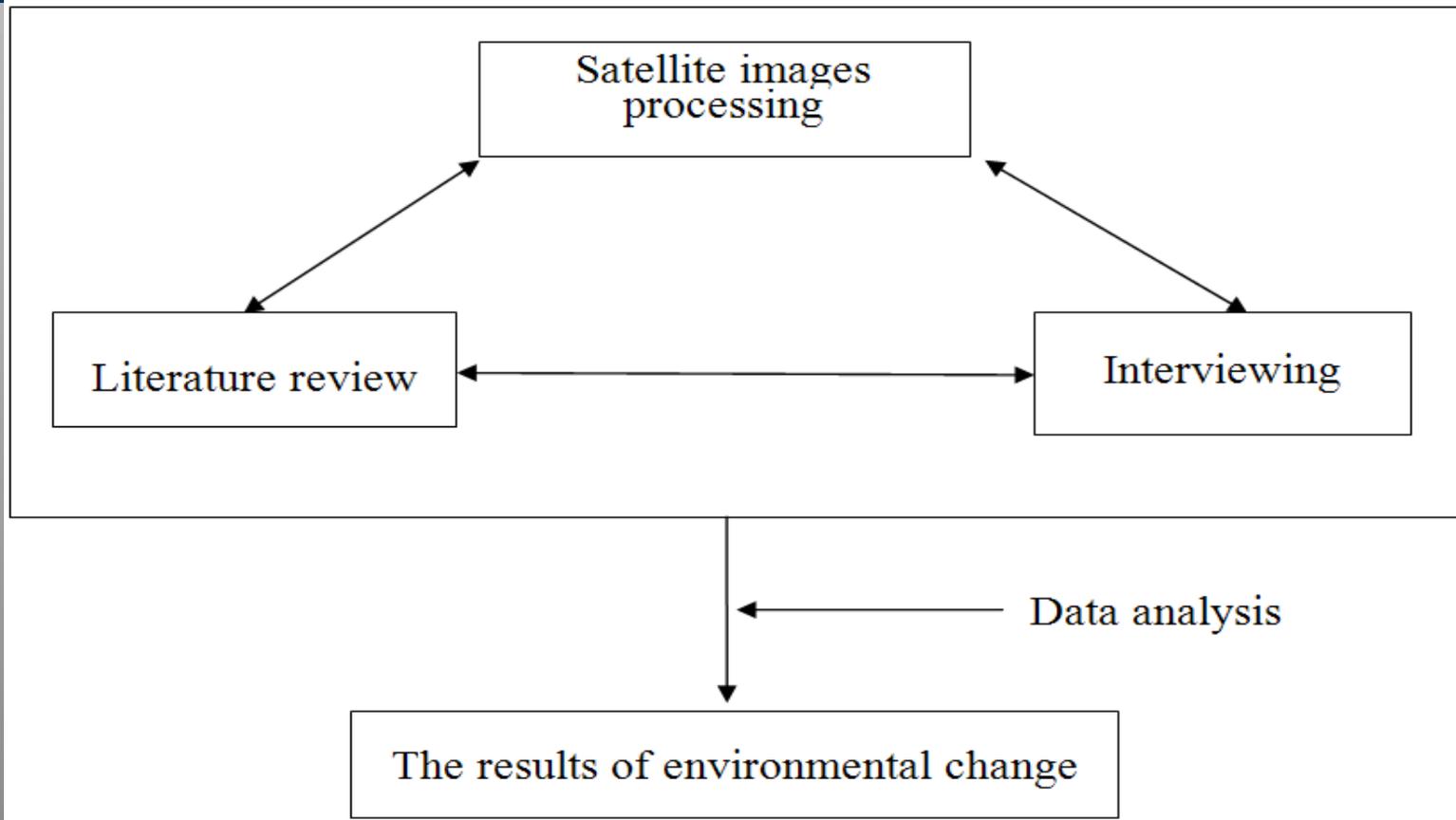


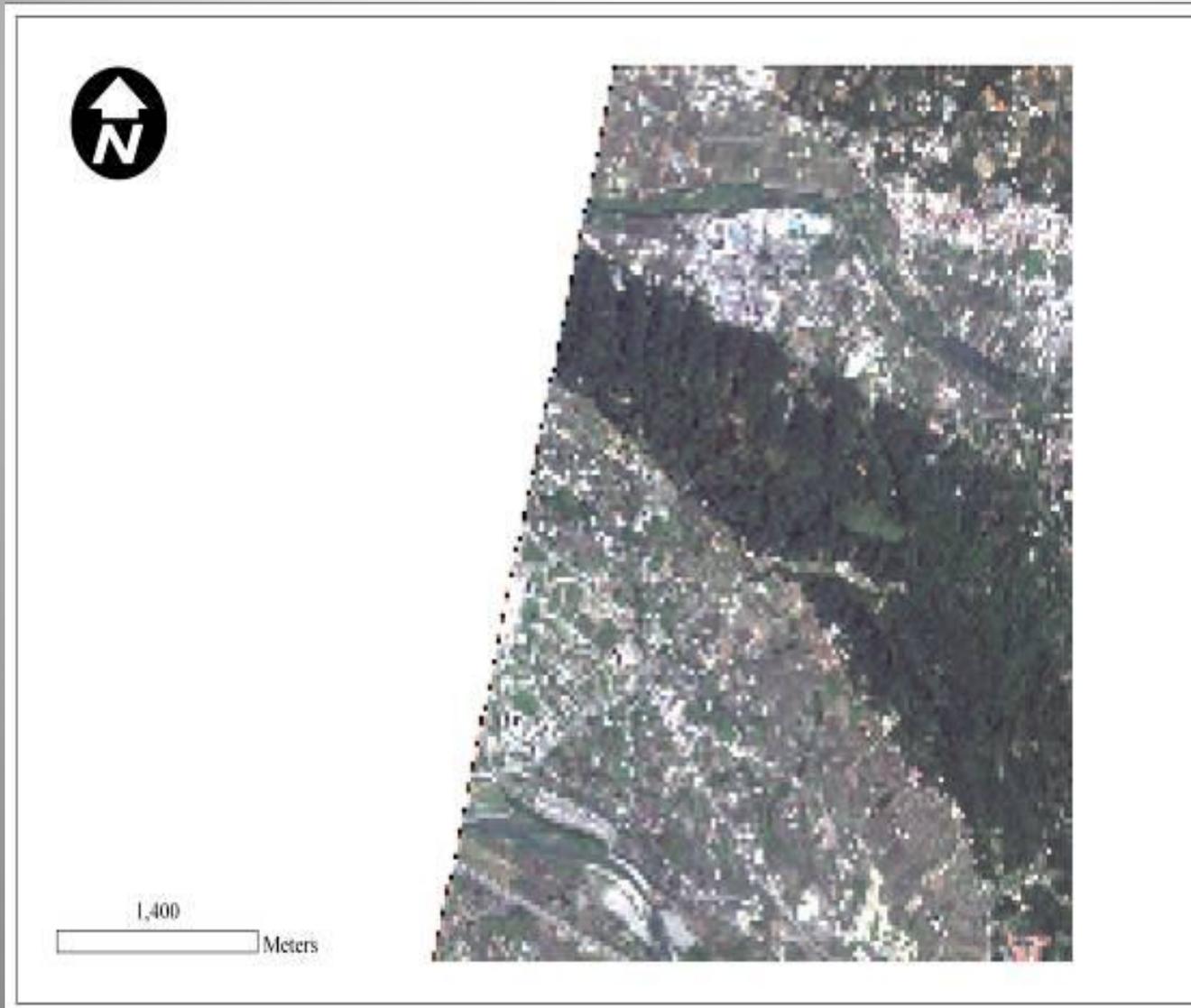
Fig.2 the research flowchart of this study

METHODOLOGY

- the satellite images processing
- the literature reviews
- the interviewing
- the data integration and analysis

RESULTS

Changes of land-use by multi-temporal satellite imageries



3-A. 2010 Formosa-2 satellite image

Fig.3 1997-2010 the Hsiashan Village's analysis images by change detection and distance-dependent model



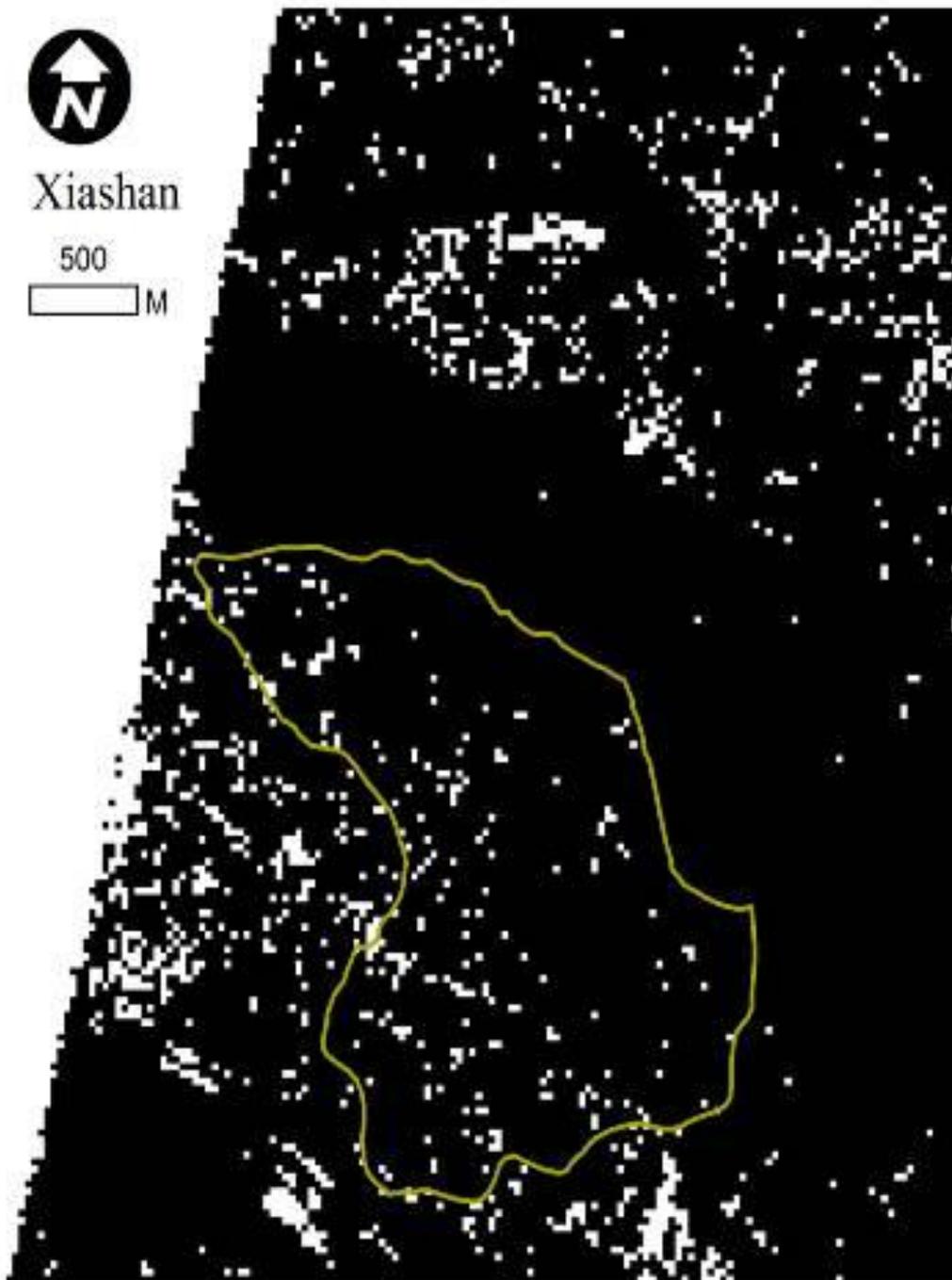
3-B. 1997 SPOT satellite image

Fig.3 1997-2010 the Hsiashan Village's analysis images by change detection and distance-dependent model



Xiashan

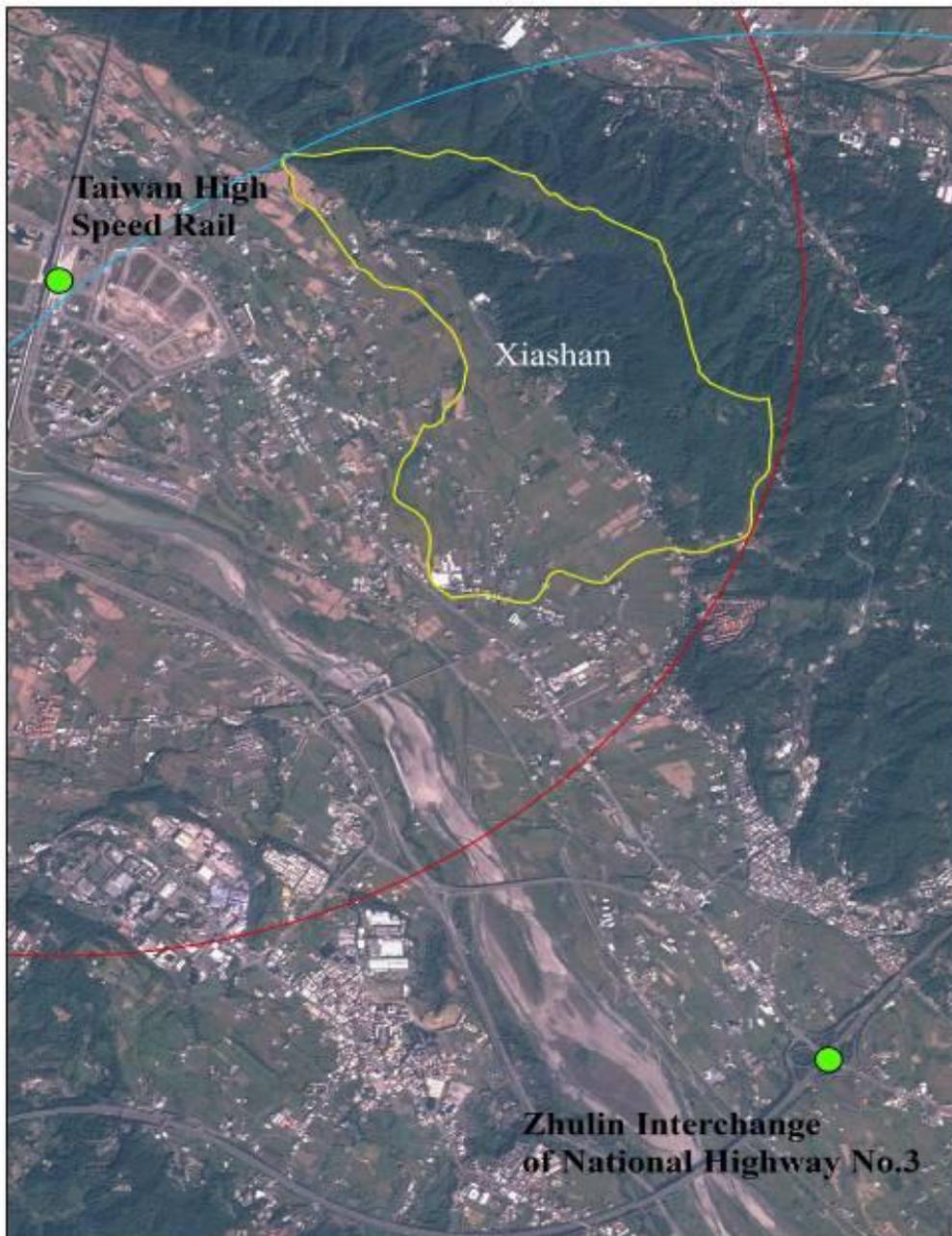
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By analyzing the differences, the regions with significant changes in land-use status around Hsiashan Village, Chunglin Township, Hsinchu in the 13-years period may be easily identified as shown in Fig. 3-C.

3-C. image of change detection analysis

Fig.3 1997-2010 the Hsiashan Village's analysis images by change detection and distance-dependent model



To further investigate the impact of the constructions on the surrounding environment, two circles are drawn with the Hsin-Chu high-speed rail station (diameter = 25km, red curve) and the Chunglin interchange (diameter = 38km, blue curve) as center points, respectively, as shown in Fig. 3-D.

The two centers are indicated as S and H, respectively, in Fig. 4.

3-D. distance-dependent model analysis image

Fig.3 1997-2010 the Hsiashan Village's analysis images by change detection and distance-dependent model

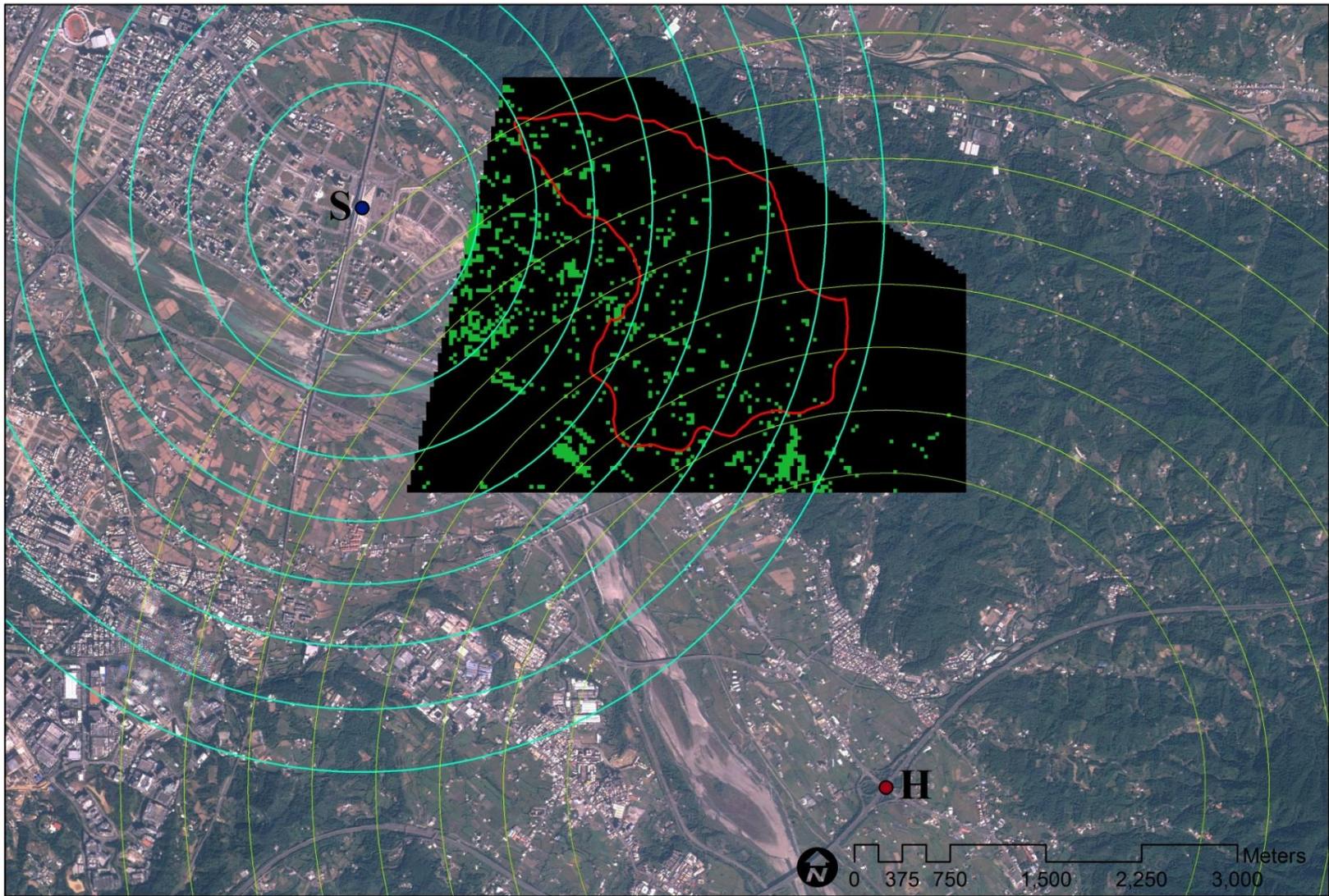


Fig. 4. Change in land-use surrounding the Hsin-Chu high-speed rail station (point S) and the Chunglin interchange (point H) as detected by satellite images

Evolution of culture from interviews with the local residents

- Lifestyle and landscape
- Traffic factors
- Government policy

CONCLUSION

- In this study, we intend to understand the differences and changes of land-use condition of the Hsiashan village people through environmental changes by using satellite images analysis.
- The results indicate that a change in the land-use around the Hsiashan village is obvious by the satellite images analysis and distance-dependent mode, especially, after the Number 3 Freeway of north Taiwan and Taiwan High Speed Rail stations were finished and started to vehicular traffic on 1997 and 2007 respectively.



THE END

