

## 5. CONCLUSION

Land use change is a dynamic spatial process involving various socioeconomic factors composed of unsolved complex interactions at different spatial scales. As the nature of land use modeling is difficult to compose mathematically, it has become a very challenging work. Thus, both comparative case study and the spatial-temporal model study in different regions have been rendered by two international organizations (LUCC, IGU-LUCC) as research focus in the next couple of years.

In the past few decades, land use of some high economic developed areas (e.g. Japan and Taiwan) has changed greatly that was reflected in urban expansion, losses of paddy fields and spatial concentrated in 'hot spots'. This study aims to develop an integrated model between Japan and Taiwan. The designing model follows the hypothesis that different regions can experience similar land use changes on the basis of passing through comparable stages of economic development at different times. The loss of paddy field was chosen as the core part of the modeling work.

Binary logistic regression and GIS technology take great benefits for analyzing and visualizing the model in this study. Both socioeconomic and biophysical factors were applied in predicting the loss of paddy field in different county types in Taiwan. To better accuracy of prediction, the model will be altered with some key spatial factors of Taiwan's high speed rail system which will be completed in 2005. The study explores a new concept in comparative analysis of Land use change in different regions. The insights of this study would be helpful for the Taiwanese government in land management and development.

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