Spatial Economic Evaluation for the Benefit of Environmental Resource Management by Stated Preference Measures

Akio Muranaka

In this dissertation, we discuss the spatial issues associated with the benefits of farm and forest land management. Further, we make new analytical modifications to the contingent valuation method (CVM). The benefit is defined by consumers' maximum willingness to pay (WTP) for land conservation. This thesis is characterized by its focus on (1) the spatial spill over effect of the benefits, (2) the spatial distribution of the goods subjected to study and (3) the willingness to work (WTW) towards land conservation. After evaluation, the following results were obtained:

(1) We evaluated the benefits of rice terrace conservation. The results revealed that the residents living near the rice terrace obtain higher benefits than those living further away from the field. This clearly indicates that the benefits of rice terrace conservation spill over as the distance decay effect. It also constitutes important information when governments impose financial burdens for conservation on the residents; in this case, the governments need to ensure the regional equity of this burden.

(2) We evaluated forest management in order to reduce the risks of Japanese cedar pollinosis. We also proposed new models with multizonal contingent markets based on CVM for valuing the environmental goods that are widely distributed in the study area. These models allow us to estimate the management benefits per unit area. In addition, we discussed the priority region and investment destination of forest maintenance.

(3) We estimated the benefits of forest management using forest volunteers. It should be noted that physical and financial support remains a serious policy issue. Therefore, we investigated WTP and WTW with regard to forest conservation. The result revealed that the values that an individual assigns to forest conservation are particularly influenced by that individual's sense of belonging to a society and previous experiences in visiting the forest.