

Master's Thesis 2010-2011  
Graduate Program in Sustainability Science  
Graduate School of Frontier Sciences  
The University of Tokyo

***Investigation of Infrastructure's impacts on rural communities'  
values in China —a case study of Hangzhou Bay Bridge***

Chen Haiting 47-096835

Supervisor: Professor MINATO Takayuki

Advisor: Professor YARIME Masaru

Aug, 2011

**ABSCTRACT**

According to the *Chinese Rural Infrastructure Construction Report 2009*, both infrastructures for agricultural production and for public services are far from enough. To fulfill the gap between demand and supply, also to realize rapid urbanization and industrialization, more and more attention is being paid to, and more and more investments are flowing into the rural areas for infrastructure construction because time and again it has been emphasized that infrastructure is an important conduit of development. However, the cultural consequences of infrastructure involving changes to the behaviors, beliefs and values of individuals that guide their cognition of themselves and their society are seldom considered by the decision makers when almost all attention is paid to the engineering and cost-benefit analysis. In fact, infrastructure, as an application of technology, is an autonomous system generates cultural consequences through its "chain effects". That means infrastructures can bring changes to the local community and in order to

acclimatize themselves to these changes, communities may have new behaviors and customs. And these new activities may arouse communities' different awareness about the social phenomena and incubate new ideas. Finally, these changes could go deep enough to shape local communities' values in certain level.

U.S. National Environmental Policy Act Legislation once introduced social impact assessment (SIA) to judge infrastructures' social effects in 1969. However, SIA is still not widely adopted in current China. So people, especially the rural communities with low educational background, cannot connect the value evolvement with infrastructures or even cannot realize the changes of their values.

This research aims to uncover the inconspicuous effects of infrastructure on rural communities' seven specific values: Familism, Gender Inequality, Hard working, Weak civic consciousness, Frugality, Unadventurous in investment and Low environmental awareness. Because rural communities in China shaped by a tradition of four thousand years of history and less affected by the open policy implemented since late 70s, they are keeping these specific conventional values that unique and distinguish them from urban communities.

Firstly, by reviewing previous literatures and learning existing examples, author summarizes that the infrastructure's impacts on values are following with three main aspects – The expected functions of infrastructure including “developing regional economies”, “assisting working activities”, “spreading knowledge and information”, “expanding communities' social circle” and “enhancing communities' living conditions”; Infrastructure's own characters including “its relationship with environment”, “the operational model”, “the financing model” and “the land use”; And the detail designs of infrastructure. The chain effects after these elements on the specific values are depicted and discussed.

Then, a case study of Hangzhou Bay Bridge was conducted. Even though neither local communities nor official organizations have realized the bridges' cultural consequence, the results of questionnaire survey illustrated that local rural communities' values were certainly changed because of the bridge construction and utilization: the values of “gender inequality”, “hard working” and “unadventurous in

investment” were changed greatly while the values of “weak civic consciousness”, “frugality” and “low environmental awareness” are changed a little. And through the afterward individual interviews and observations, some reasons were detected and the role of bridge was clarified.

Based on the analysis of infrastructure’s impacts on rural communities’ values, new definition leading people to pay attention on infrastructure’s cultural consequences is given. Several policy recommendations are also generated for the decision makers.

**Key words:** infrastructure; cultural consequences; chain effects; communities’ values