

Title	持続可能な発展のための文化的景観特性分析方法の開発に関する研究:長白地域の伝統的な村の事例
Author(s)	ZHANG QUNSONG
Citation	
Issue Date	2022-03
Type	Thesis or Dissertation
Text version	ETD
URL	<a href="http://hdl.handle.net/10119/17780">http://hdl.handle.net/10119/17780</a>
Rights	
Description	Supervisor:KIM, Eunyoung, 先端科学技術研究科, 博士

氏名	ZHANG, Qunsong		
学位の種類	博士 (知識科学)		
学位記番号	博知第 297 号		
学位授与年月日	令和 4 年 3 月 24 日		
論文題目	Developing an analytic method of cultural landscape characteristics for sustainable development: in the context traditional villages in Changbai mountain region		
論文審査委員	KIM, Eunyoung (main examiner)	JAIST	Assoc. Prof.
	HUYNH, Nam Van	JAIST	Professor
	YUIZONO, Takaya	JAIST	Professor
	GOKON, Hideomi	JAIST	Assoc. Prof.
	NORANI, Nordin	UUM	Assoc. Prof.

## 論文の内容の要旨

Traditional villages refer to villages with material and intangible cultural heritage, as well as high historical, cultural, scientific, artistic, social, and economic value. However, with multiple challenges, such as agricultural modernization, urbanization, and the development of rural tourism and their impacts, traditional villages are constantly being destroyed by construction, development, and tourism. Presently, the disappearance of the heterogeneity of the cultural landscape is becoming a common problem, and several traditional villages face inevitable destruction or even disappearance.

The formulation of optimization strategies for the sustainable development of traditional villages is necessary to realize rural revitalization. Chinese rural policies have already produced initial results, as evidenced by the recent signs of economic recovery and successful ecological conservation. However, several rural issues still need to be addressed, especially in northeast China. At present, research on the cultural landscape is mostly limited to the ancient villages in central and southern China, whereas research on landscape sustainability in the traditional villages in northeast China is lacking. This thesis systematically studies the cultural landscape of 11 traditional villages in the Changbai Mountain area based on sustainable development.

This study proposes a prospective research framework for the sustainable development of cultural landscapes. The main purpose was to highlight the influence of applying importance-performance analysis and the geographic information system–space syntax method to study the cultural landscape of Changbai Mountain traditional villages and reveal a future scenario of the research area. The subobjective was to identify cultural landscape characteristics based on sustainable development. Minor research was needed to identify the required development strategy approach using a statistical analysis method. This dissertation consists of three parts comprising eight chapters. The second part (Chapters Four to Seven) is the focus of this dissertation; the research of each chapter is based on the conclusion of the previous chapter, corresponding to four research stages.

This study was conducted in four phases. The first stage of the four phases was the pilot study, which is the fourth chapter. The second stage (Chapter Five) involved the recognition and identification of cultural landscape characteristics by using a geographic information system and space syntax. The third stage was the statistical analysis of cultural landscape characteristics by the A-IPA approach. Based on the identification index system of the cultural landscape characteristics of Changbai Mountain traditional villages in Chapter Four, the author extracted the corresponding evaluation index from the results of Chapter Five and established an index system of 15 carriers of cultural landscape characteristics based on the four pillars of sustainable development. Afterward, the author verified the construct validity of the questionnaire by performing exploratory factor analysis. The A-IPA models with originality are established in Chapter Six. This phase aims to make sustainability strategies more accurate by modifying the relationships between indicators, considering their relative impacts. Based on the results of the A-IPA analysis of stakeholder-based sustainable development with respect to the importance of stakeholder perceptions, sustainability strategies to develop Changbai Mountain traditional villages are suggested in Chapter Seven (the last stage). The basic research in Chapters Five and Six and applied research in Chapter Seven demonstrate knowledge innovation.

The originality of this research lies in the recognition, identification, and management of traditional villages' cultural landscape characteristics, which are comprehensive, intersecting, and exploratory, and the recommended sustainable development strategies. This study integrated multidisciplinary research methods to identify and systematically analyze the cultural landscape characteristics of Changbai Mountain traditional villages and to construct influencing factors. Additionally, the author innovatively used a combination of the structural equation model and the four pillars of sustainable development to adjust the IPA method.

This study provides a new idea for the research of the cultural landscapes in a region with complex and diverse historical cultures.

**Keywords:** cultural landscape, sustainable development, traditional village, Changbai Mountain, rural revitalization

### 論文審査の結果の要旨

Facing the destruction and disappearance of the heterogeneity of the cultural landscape, we need to develop an analytic method to assess the characteristics of cultural landscape for the sustainable development of traditional villages. Existing research on the cultural landscape is mostly limited to the ancient villages in central and southern China. Her research systematically studies the cultural landscape of 11 traditional villages in the Changbai Mountain area based on sustainable development.

This dissertation proposes a prospective research framework for the sustainable development of cultural landscapes,

highlighting the influence of applying importance-performance analysis and the geographic information system–space syntax method to study the cultural landscape of Changbai Mountain traditional villages and reveal a future scenario of the research area.

Her research includes the recognition, identification, and management of traditional villages' cultural landscape characteristics, which are comprehensive, intersecting, and exploratory, and the recommended sustainable development strategies. She integrated multidisciplinary research methods to identify and systematically analyze the cultural landscape characteristics of Changbai Mountain traditional villages and to construct influencing factors. Additionally, She innovatively used a combination of the structural equation model and the four pillars of sustainable development to adjust the IPA method.

This research provides a new idea for the research of the cultural landscapes in a region with complex and diverse historical cultures. This is an excellent dissertation and we approve awarding a doctoral degree to Ms. ZHANG Qunsong in March 2022. All the committee members approved it on her final defense on Feb 3<sup>rd</sup> 2022.