

# A Comparative Study of Chinese and American Rural Design Guidelines

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**Abstract**—Rural design guidelines is one of the statutory instruments identifying and interpreting directions for rural development on the basis of the actual needs of rural development, securing and normalizing procedures of rural design, construction, and management, guiding and controlling environment and landscape features of the rural space. Guidance and control mechanisms have been respectively established in China and the U.S for rural development, for which rural design guidelines are critical evaluation references, guidance standards, and instruction documentations. This paper outputs a definition for rural design guidelines, and thoroughly analyzes 37 pieces of rural design guidelines from 15 states of the U.S and 44 pieces of guidelines from 15 Chinese provinces collected and sorted out by the authors. It intends to disclose the features and differences of Chinese and American rural design guidelines via the induction of guidance and control factors and the classified comparison of the guidelines, and to compare the guideline-making procedures and application mechanisms between the Chinese and American rural design guidelines under the different circumstances of rural development, in order to offer effective references for rural development practices and studies in different countries.

**Index Terms**—rural design guidelines, design review, elements of guiding and controlling, China, the United States

## I. INTRODUCTION

Although urbanization development has become a global trend (see Fig. 1), many countries particularly developing countries are still struggling in the settlement of a series of rural livelihood and rural development issues. In the recent years, a massive rural development objectively improves the living conditions of rural residents in China; however, some works of the development cause conflicts against the ways of local production and living, which leads to considerable discussions including numerous comments and suggestions on the results of the current rural development practices. But there are very rare studies in respect of how to guide and control the built rural environment [1] and how to ensure an effective

implementation of rural planning and policies [2]. In fact, rural design guidelines have been issued in some Chinese provinces and cities [3]-[4], which stay on a preliminary level while consistent improvements are produced to the related making procedure, contents, and operational mechanisms of the guidelines.

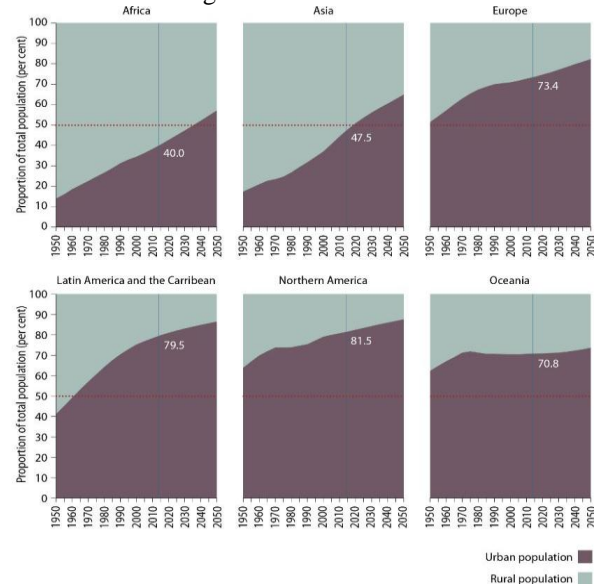


Figure 1. Urban and rural population as proportion of total population, by major areas (1950-2050) (Source: The United Nations, World urbanization prospects, 2014.)

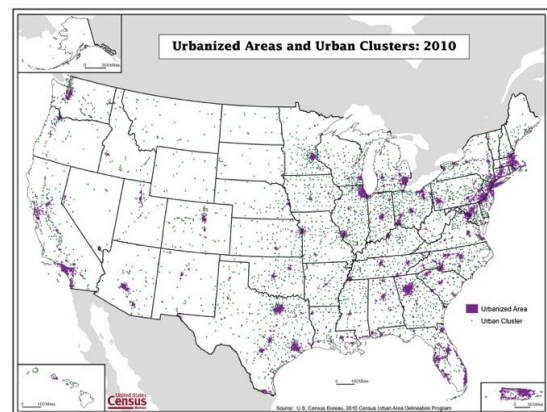


Figure 2. Urbanized areas and urban clusters of the U.S (2010) (Source: The official website of the United States Census Bureau)

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On the other hand, as a country of a relatively high level of urbanization that performed an early rural

development, the U.S also faced a series of difficulties in rural development caused by regional growing [5] (see Fig.2). After a long time of practice, a guidance and control system for rural development has been established in the U.S on the basis and guidance of regional and rural planning [6], taking rural design guidelines as standards and references, and operated via a complete design review system, which has become a valuable object for research and study.

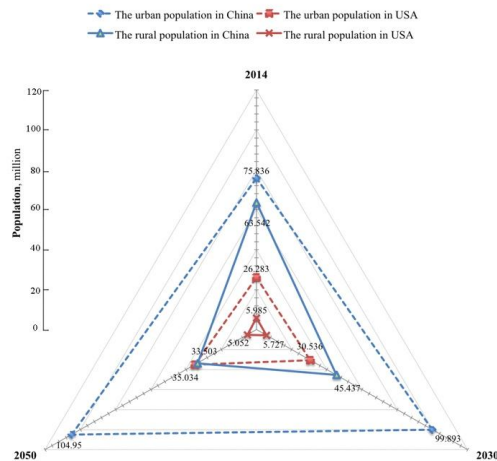


Figure 3. Statistics and forecasts of urban and rural population in China and the U.S (2014-2050) (Source: Drew according to the data of “Word urbanization prospects (2014)”)

Obviously, China and the U.S respectively and typically represents developing and developed countries, having considerably large differences in administrative management patterns, current legal systems, and economic development levels; particularly there exists huge gaps in respect of rural and urban population, current rural conditions, and rural development status between the two countries (see Fig.3, Fig.4). All of these directly reflect that the two countries are staying in different stages of urbanization development, which means they are both facing unique issues demanding various and specific solutions. This study takes the Chinese and American rural design guidelines and the concerned operation for comparison that will form a foundation for practices and studies on the guidance and control mechanisms of the Chinese and American rural development, and provide references for other countries.

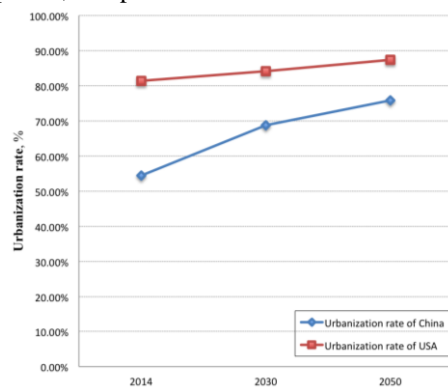


Figure 4. Statistics and forecasts of urbanization rate in China and the U.S (2014-2050) (Source: Drew according to the data of “Word urbanization prospects (2014)”)

## II. METHODOLOGY AND OUTLINE

This study presents an overview and comparison between the current rural design guidelines from China and the U.S. 37 pieces of rural design guidelines from 15 states of the U.S, which issued from 1991 to 2014, were obtained via browsing large quantities of American local government websites. In addition, 44 pieces of rural design guidelines issued by 15 Chinese provinces have been collected from the official website of the Ministry of Housing and Urban-Rural Development of China as well as from the websites of the competent urban-rural development authorities at provincial and city levels. All of these facilitate basic information for the study.

This study interprets purposes, contents, and ways of application illustrated in the above-mentioned rural design guidelines. Definitions and functions are given to the rural design guidelines in Section 3; classifications of the Chinese and American rural design guidelines are set in Section 4 by interpreting the features and differences of various types of guidelines; in Section 5, it summarizes and compares the making procedures and implementation methods between the Chinese and American rural design guidelines; Section 6 concludes the study. To a certain extent, this study fills the gap of the current researches in the field, allowing a further understanding on the patterns and experiences of the guidance and control in rural development of China and U.S.

## III. DEFINITION AND FUNCTIONS OF RURAL DESIGN GUIDELINES

The Chinese terminology in governmental norms or academic studies such as “Design Guides”, “Technical Guidelines”, and “Design Guidance” are equivalent to the “Design Guidelines” of the U.S, the “Design Guidance” of the UK, and the “Design Guides” of Ireland and New Zealand. However, various expressions all point to the same direction, indicating that the design guidelines should be further explanations to the planning of upper policies so as to efficiently push for the specific project implementation.

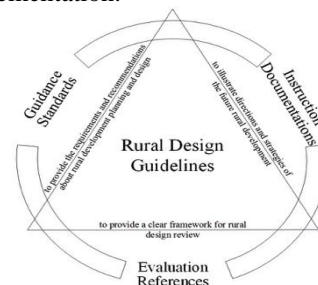


Figure 5. Three important functions of rural design guidelines

This study defines the term of “Rural Design Guidelines” as follows: it is one of the statutory instruments guiding the concerned participants and approval providers involved in rural development on the basis of the actual needs of the concerned local rural development; based on its upper policies and laws, it takes further study and research on the local rural environmental conditions and traditional features via

normative terms and diagrams, identifying and interpreting purposes for rural development, summarizing and promoting rural planning and design technical strategies, guiding and controlling environment and landscape features of the rural space, and securing and normalizing procedures for rural design, construction, and management. The roles and functions of rural design guidelines can be sorted into three aspects: evaluation references, guidance standards, and instruction documentations (see Fig.5).

#### IV. COMPARISON OF CHINESE AND AMERICAN RURAL DESIGN GUIDELINES IN TYPES AND CONTENTS

##### A. Types of American Rural Design Guidelines

In general, the rural design guidelines of U.S can be

classified into 4 types: master rural design guidelines, rural design guidelines for specific areas, rural design guidelines for protection of historical and cultural buildings and regions, and rural design guidelines for specific functional buildings and regions. Due to diversified scopes of application, such 4 types of rural design guidelines are in diversified forms, contents, focuses for guidance and control, and practice advantages (see Table I).

##### B. Types of Chinese Rural Design Guidelines

There are large quantities and types of rural design guidelines in China, which can be classified as per their major purposes of application, administrative coverage, applicable village types, and design types for guidance and control (see Table II):

TABLE I: THE COMPARISON OF DIFFERENT CLASSIFICATIONS OF RURAL DESIGN GUIDELINES IN THE UNITED STATES

Type of rural design guidelines		Master rural design guidelines	Rural design guidelines for specific areas	Rural design guidelines for protection of historical and cultural buildings and regions	Rural design guidelines for specific functional buildings and regions
Scope of application		All construction projects in rural areas	Construction projects in a specific area of a village	Projects of new construction, addition, alteration, demolition and relocation which involved rural historical and cultural buildings or regions	Construction projects which involved specific functional buildings or regions in rural areas
Focuses for guidance and control		The guidelines of this type are comprehensive guides to the various factors of rural development.	Considering the characteristics of the specific areas, The guidelines of this type are comprehensive guides to the various factors of rural construction.	The guidelines of this type focus on the control of construction projects involved rural historical and cultural buildings or regions.	The guidelines of this type focus on the control of construction projects involved specific functional buildings and regions.
Design review mechanism		Because design reviews involves multi-stakeholder, reviewers are more concerned with whether projects comply with policies and regulations such as village planning, village codes and rural design guidelines.	Design reviews are more concerned about whether projects meet regional development goals and whether they comply with requirements of upper planning and policies.	Design reviews are co-executed by Design Review Boards and Historic Preservation Commissions or directly executed by Historic Building Preservation Review Boards.	Design reviews mainly examine whether the projects meet the use of the specific functional buildings and areas and whether they are in harmony with the village overall development.
Comprehensiveness and pertinence		A high comprehensiveness, a low pertinence	A high comprehensiveness, a high pertinence	A low comprehensiveness, a high pertinence	A low comprehensiveness, a high pertinence
Percentage		48.7%	24.3%	16.2%	10.8%
Example	Rural design guidelines	Saratoga village design guidelines [7]	Design guidelines for the village's commercial districts [8]	Architectural design guidelines of the village of Ossining [9]	Village of Channahon commercial design guidelines [10]
	Guidance area	Saratoga, California	The Village of East Hampton, New York	The Village of Ossining, New York	The Village of Channahon, Illinois
	Time	January 1991	February 2004	May 2011	March 2006
	Key point	They are earlier guidelines that can be found today, and they give full consideration to various factors of rural development, and propose systematic guidance and advices.	They propose the requirements and suggestions for projects involved commercial buildings and regions, and pay attention to the creation of a pleasant regional environments.	They illuminate the values and characteristics of rural historic buildings, and propose the operational methods and design points of such projects	They subdivide commercial construction projects into mass retail business projects and stand-alone retail business projects, and respectively guide and control these projects.
	Implement achievements				

TABLE II. THE COMPARISON OF DIFFERENT TYPES OF RURAL DESIGN GUIDELINES IN CHINA

Classification method	Types	Introduction	Examples of rural design guidelines	
			Title	Characters
Classified as per major purposes of application	Guidelines for implementation effects	These guidelines guide planning and designs of rural developments and make clear the design principles and implementation effects of the built environment in rural areas. Some concept images, schematic diagrams, and data tables are used to help readers understand the guidelines.	Tianjin Municipality rural architecture design guidelines (trial implementation) [11]	Based on the analysis of the current situation and characteristics of rural buildings in Tianjin, the guidelines guide the designs of rural residential buildings and public buildings respectively. It includes requirements for layouts, features, colors, materials and other factors, and suggestions and methods for the implementations.
	Guidelines for technical rules	These guidelines provide professional and scientific guidance on key technical points in designs and constructions of rural projects. Some guidelines make requirements with quantitative indicators, while some guidelines put forward a lot of specific technical strategies.	Hebei Province housing energy-saving technical guidelines (trial implementation) [12]	The guidelines guide the designs and constructions of housing energy saving from the aspects of building thermal design, energy-saving of building renovation, lighting and cooking energy-saving strategies, etc.
	Guidelines for preparation requirements	These guidelines are formulated to standardize and guide the preparation of rural development planning and design.	Zhejiang Province village planning guidelines [13]	The guidelines divide into two parts: site layout planning for villages in township, and village planning. They provide guidance for main tasks, investigation methods, planning contents and achievements of these planning.
Classified as per administrative coverage	Provincial level	These guidelines are generally applicable to rural development in the provincial administrative areas, and are compiled and promulgated by the Provincial Departments of Housing and Urban-Rural Development.	“Jingchu Style” town style planning and residential building style design guidelines (trial implementation) [14]	The guidelines are applicable to the planning and design of projects in villages and towns in Hubei Province. It tries to excavate the characteristics of the architectural style of Hubei Province as a reference for rural development.
	Municipal level	These guidelines are generally applicable to rural development within the administrative areas of cities and counties, and are promulgated by the local Urban-Rural Construction Committees or the Planning Authorities.	Jiaxing City village planning and design guidelines (trial implementation) [15]	The guidelines are applicable to the establishment of village planning within the administrative area of Jiaxing City.
	Village level	These guidelines are generally applicable to the rural development in specific towns and villages, and are promulgated by the Village and Town Planning and Construction Management Offices of Town and Township Governments.	The rural development style design guidelines in the area of Changtan Lake, Huangyan District, Taizhou City [16]	The guidelines are applicable to the rural housing design in the area of Changtan Lake, Huangyan District, Taizhou City. Through the research on the current situation of rural residence and landscape in the area, the design guidelines are formed with the characteristics of villages in Huangyan and the residential style of Southeast Zhejiang.
	Specific regional level	These guidelines are generally applicable to the areas that are not defined by the administration, but are defined by specific objectives of guidance and control.	Technical guidelines for promoting overall improvement of dangerous housings in rural areas in Hunan Province (trial implementation) [17]	The guidelines are applicable to the rural housing design in the villages along the Hunan province's Wuguang high-speed railway and Shanghai-Kunming high-speed railway, the villages in Lang mountain and Zhangjiajie natural heritage region, and the villages in Changzhutan key demonstration towns.
Classified as per applicable village types	Guidelines for general rural areas	These guidelines are generally applicable to projects in all villages within the control area.	Zhejiang Province village design guidelines [18]	The guidelines divide the villages in Zhejiang Province into plain villages, mountainous hilly villages, water villages and island villages, and respectively explain the principles that projects in these villages should follow.
	Guidelines for specific types of villages	These guidelines are generally applicable to the design and construction of projects in a certain type of villages.	Technical guidelines for new rural complexes' planning in Sichuan Province [19]	The guidelines are formulated for the construction planning and management of the "new rural complexes" in Sichuan Province.
	Guidelines for villages of special issues	These guidelines are generally applicable to projects in the villages in the context of a particular target or event.	Technical guidelines for rural housing reconstructions after typhoons in Hainan Province (trial implementation) [20]	The guidelines are formulated for the technical guidance for the reconstructions of rural buildings after typhoon, which help to build safe, economical, suitable and beautiful rural houses, and to improve the rural living environment.
Classified as per design types for guidance and control (see Fig.7)	Guidelines for township master planning	These guidelines generally guide designing schemes of villages site layout planning and village system planning in township.	Guidelines for preparation of town planning and village planning in Hebei Province [21]	The guidelines are formulated for the guidance of preparation of township planning and village planning in Hebei Province.
	Guidelines for rural development planning	These guidelines generally guide designing schemes of village master planning.	Technical guidelines for the planning and construction of beautiful villages in Hainan Province (trial implementation) [22]	The guidelines are formulated for the construction of beautiful villages and the guidance of village planning.
	Guidelines for special village planning	These guidelines generally guide designing schemes of special village planning extracted from village master planning.	Chongqing Municipality village style design guidelines [23]	The guidelines guide and standardize the style designs of villages in Chongqing, which help to establish the technical support system for the village style designs.
	Guidelines for design of rural buildings and other structures	These guidelines generally guide designing schemes of rural buildings and structures.	Design guidelines for the sign systems of ancient post roads in southern Guangdong Province [24]	The guidelines are formulated for designs and constructions of the sign systems. It presents requirements of sign system, such as requirements of symbols, sizes, colors, fonts and others.



## V. COMPARISON OF GUIDELINES MAKING AND APPLICATION BETWEEN CHINA AND THE U.S

### A. Rural Design Guidelines Making

For making of rural design guidelines, a relatively matured and systematic laws and procedures have been established in the U.S. Rules, and policies are composed at the village level, such as Comprehensive Plans and Village Codes, which identify clear future targets for development. In order to ensure the reality of the general targets of rural development, firstly needs are proposed for making of rural design guidelines, which will be then jointly drafted by the planning commissions, village commissions, and professional institutes. During the process of drafting, a large number of public meetings shall be convened to collect requirements and suggestions of villagers. The actual land conditions and features will be proved via sufficient field investigations. Existing plans and design projects will be studied to understand the current technical requirements and information. Based on the available information, comments and suggestions from all concerned aspects, the draft of rural design guidelines will be completed upon all integrated resources. At last, after discussion of all concerned parties and several rounds of revision and amendment, the rural design guidelines will be reviewed and finally adopted by the competent authority for rural development (see Fig.6).

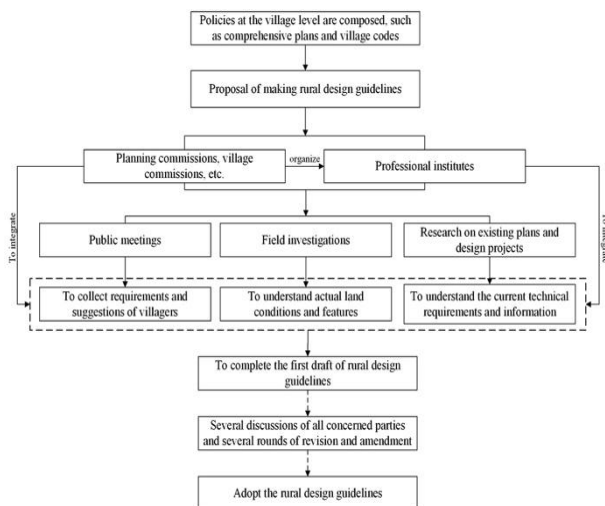


Figure 6. The procedure of making rural design guidelines in the U.S

Compared to the U.S, China had a late start in formulation and implementation of rural design guidelines. Chinese rural design guidelines are produced via strict and detailed procedures, which have a certain similarity to those of the U.S. However, the Chinese guidelines making procedures indicate three clear stages, including preliminary study, guideline compilation, and review and approval (see Fig.7):

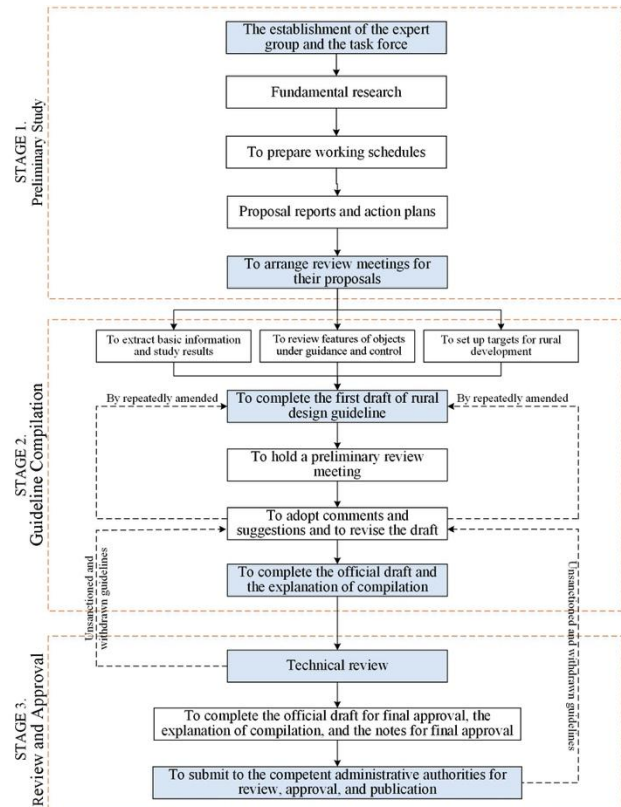


Figure 7. The procedure of making rural design guidelines in the China

### B. Comparison of Rural Design Guidelines Application: Rural Design Review Mechanism

To ensure an orderly rural development, it is necessary for the relevant administrative authorities to review the designs of projects in rural areas, referring to rural design guidelines, and other relevant laws, standards, policies, and planning. No further construction activities should be acted without corresponding permits.

#### 1) The American rural design review mechanism

In the U.S, each administrative area gives its own requirements. Thus there is no universal standard for the rural design review mechanism. Most design reviews are carried out by the Design Review Boards, which accredit by the Village Codes. A design review board consists of 5-7 members who are usually professionals, officials from Village Councils and Planning Commissions, law-enforcement officers of the Village Code, and local residents. Due to features of the administrative division and regional autonomy of the U.S, there are certain differences in design reviews for various areas or diversified types of rural development projects. However, design reviews still subject to the general procedure shown in Fig.8.

#### 2) The Chinese rural design review mechanism

Many Chinese villages still do not do any of their own village planning. Rural design guidelines act not only as references for design review related to the construction of rural residential and public buildings, but also as a management basis for preparation of village planning.

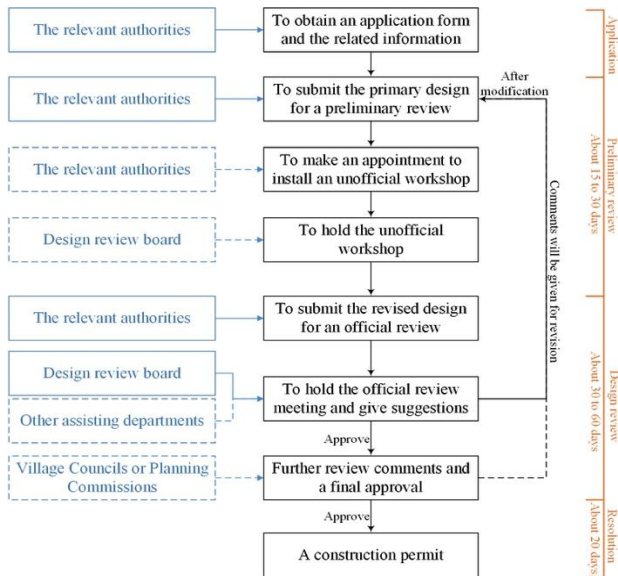


Figure 8. The procedure of the rural design review in the U.S

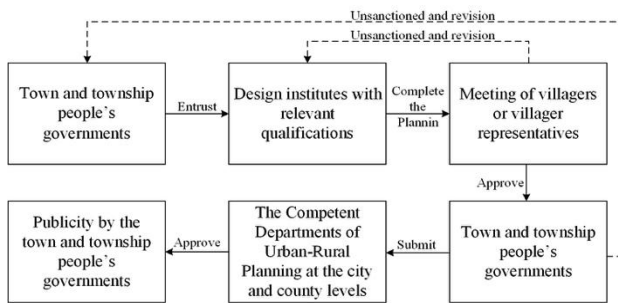


Figure 9. The process of a rural planning review in China

### •Management for Preparation of Village Planning

Generally speaking, Chinese village planning are usually prepared by design institutes with relevant

qualifications, which are entrusted by town and township people's governments. At the completion of the planning scheme, it shall be agreed in the meeting of villagers or villager representatives via discussions. And then the planning scheme shall be submitted by the town and township people's government to the competent department of urban-rural planning at the city and county levels for review. If the review gives an affirmative result, supporting comments shall be also provided. Finally the reviewed village planning scheme shall be posted to the public by the town and township people's government at the local government websites and the village committee (see Fig.9). The reviews are based on county master planning, town and township master planning, and relevant rural design guidelines and technical requirements.

### •Rural Architectural Design Review

Rural architectural design review mainly focuses on two kinds of projects: one is public building such as constructions of township enterprises, rural infrastructures, public welfare buildings, and rural centralized settlements; the other is rural residential building. For public buildings, an applicant should submit the application to the town and township people's government. After a preliminary review, the application and materials shall be submitted to the competent department of urban-rural planning of the people's government at the city and county levels for a final review. Once it is approved, a "Permit for Rural Development Planning" shall be granted to the applicant [25]-[27]. It may demand more restrict requirements in other areas [28]-[29]. For rural residential buildings, in different areas, the procedures for review and approval of designs may be differed [26]-[33]. (see Fig.10)

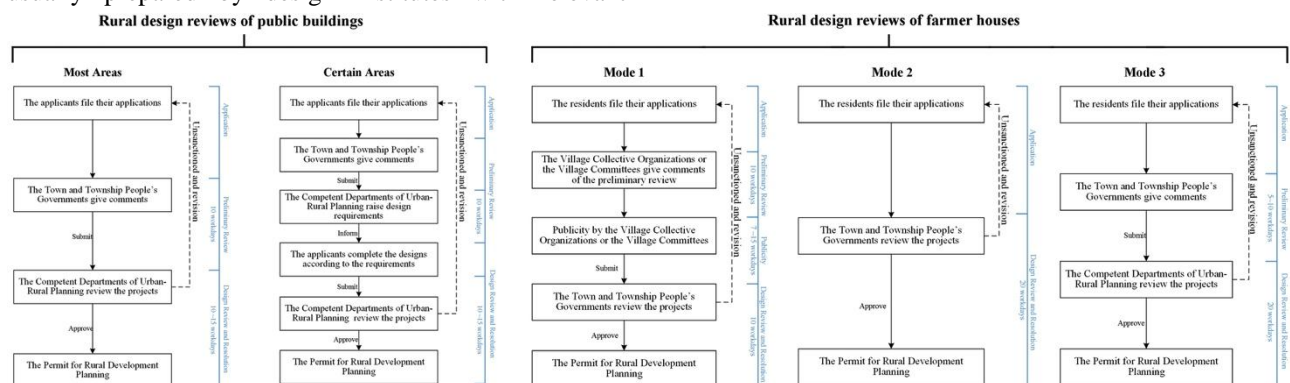


Figure 10: Different processes of rural design reviews in China

## VI. CONCLUSIONS

Rural design guidelines provide specific design standards and a clear framework for review, setting prior principles and boundaries for rural development project proposals, and leaving flexibilities for rural development via reasonable ways of making dynamic instructions, which play an impressive role for rural development. Rural design guidelines take sufficient considerations of comprehensive factors in the society, economy, culture, and historical development of the concerned area,

identifying key controlling points for rural planning and design, implementation, and management of rural development works, and assisting to various laws and norms of rural planning and design, which form a relatively complete guidance and control system for rural development. The contents of rural design guidelines should obey the principles of highlighting rural characteristics, paying attention to cultural inheritance, protecting ecological environment, emphasizing on humanization design, and insisting on sustainable

development, in order to facilitate the implementation of all aspects of rural development with a solid foundation.

Both China and the U.S contributed great efforts in the guidance and control of rural development, growing with their own features and advantages. The preparation, application and contents of their rural design guidelines are different. There is a gap between Chinese and American rural design guidelines in terms of administrative coverage. Most of American rural design guidelines target on specific villages and towns, which are complied with the village comprehensive planning. While in China, there are rural design guidelines for different administrative levels, such as provincial, municipal, county, and rural areas; with a consistent advance of rural development in China, there will be more and more design guidelines for specific villages in a coming future. Moreover, rural design reviews in China are mainly be undertaken by the town and township people's governments and the competent departments of urban-rural planning of the people's governments at city and county levels. Comparatively, rural design reviews have been authorized to professional organizations and institutes in the U.S, such as Design Review Boards; and the public participation mechanism is relatively perfect, which sets a good sample for many other countries.

In face, no matter the "Chinese pattern" or the "American way" can be further optimized. In addition, each country faces its unique actual conditions and major difficulties, so successful experiences may not be fully copied in other countries. However, there are some same advantages of Chinese and American rural design guidelines and their operating mechanisms, such as rigorous process of preparation, serious monitoring process, and dynamic contents, which still deserve our attention and research.

By comparing Chinese and American rural design guidelines, this study aims to arouse thoughts and studies by more and more scholars on guidance and control mechanisms for rural development, as well as on the related implementation subjects, referential standards, and managed objects in the above-mentioned mechanisms.

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