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Practice of Regional Rural Construction and Governance Model based on Plan Control—2017-2019 Practice of Rural Construction in Xiamen

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ABSTRACT

In recent years, the construction of beautiful villages led by the government has improved the rural infrastructure and changed a lot of rural areas, but there are also some problems. The author of this article has conducted a large number of rural surveys in southern Fujian and has been commissioned by the Xiamen Municipal Construction Bureau to compile the Xiamen Beautiful Rural Construction Plan. In this process, a method of rural construction methodology that can be replicated and easily promoted is based on region and practice. This article will analyze the compilation process and concept of 'Plan', make an in-depth analysis from the main problems of rural construction and the overall compilation ideas. At the same time, it introduces the local rural practice based on the coordinated construction model of grassroots government departments, expert groups and technical service units under the guidance of 'Plan' since 2017, in order to inspire rural construction in other places.

Keywords:
Beautiful Rural Construction; Planning Guidelines; Rural Construction Methodology; Southern Fujian Village; Xiamen

1. Research and Practice Background – Achievements and Problems In Large-Scale Rapid Rural Construction In Recent Years

Since the new century, with the rapid development of economy, China has issued a series of national-level policies to support rural areas based on a series of goals including balancing urban and rural development, stimulating rural vitality, improving rural living environment and inheriting cultural context. Rural construction has gradually become a hot spot, and it has even become one of the important national policies in recent years. In the rapid rural construction for more than a decade, China's rural infrastructure construction has achieved remarkable results. It has changed the backward and 'dirty and messy' environment and style of many rural villages in a relatively short time. Microscopically, it is indeed a huge improvement in the history of Chinese rural construction. However, at the design level, many places have failed to consider the diversity of regions in the design, and still simply apply the urbanization ideas, resulting in the phenomenon of single model and similar styles, which has destroyed the rural humanities and natural styles.

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Therefore, under the established framework and rules led by the government, with the help of the promotion and operation mode of the national administrative system, aiming at the characteristics of diversified, rapid, low-tech and low-cost rural construction and the advantages and disadvantages of its current model, author propose a universal method of rural construction technology. While improving infrastructure, maintaining and developing cultural diversity in response to different regional characteristics and achieving the coexistence of 'environmental livability' and 'retention of homesickness' are the issues that the author has continued to think for many years and the cornerstone of this article's research and practice.

Fig. 1. Classification of village types

Fig. 2. Illustration of a livable

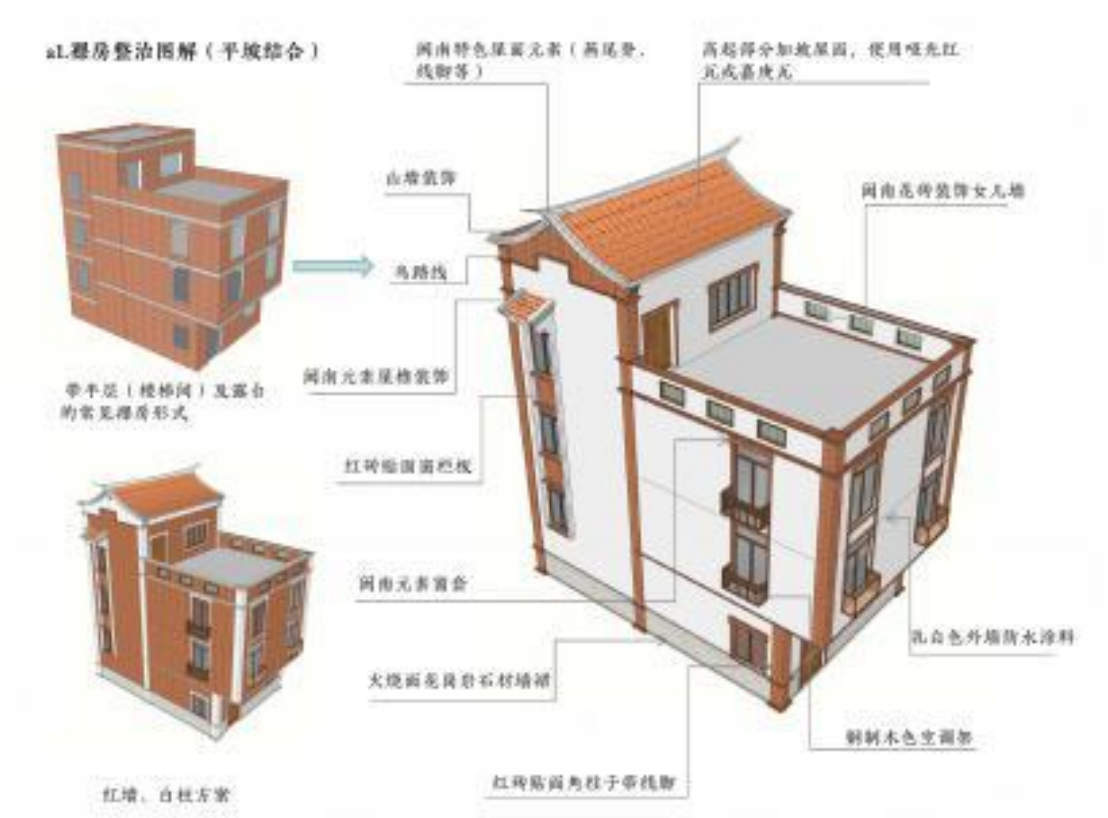

Fig. 3. Illustration of new village construction

2. 'A Technical Specification That Villagers Can Understand'

The lack of appropriate technical guidance and specifications for rural construction is the author's deepest feeling after walking through more than 700 villages in person. We then have a simple desire to make a manual that can not only guide and standardize the existing technical operation mode, but also provide technical guidance to the village grassroots builders, and at the same time adapt the existing economically applicable and regional design and concepts, spread to the vast villages. This idea was supported by the Fujian Provincial Department of Housing and Xiamen Municipal Construction Bureau. In January 2017, our unit undertook the task of compiling the Xiamen Beautiful Rural Construction Plan (hereinafter referred to as the 'Plan'. We Hope this technical document can achieve the following goals:

1. Do a research on the methodology of rural construction that can be replicated and promoted, with theories and experiments.

2. The scope of direct application is not limited to Xiamen, but should be applicable to the southern Fujian area with similar regional culture.

Promote the local aesthetics, guide and improve the villagers' existing solidified ideas, do a research on 'Public Rural Construction Science Popularization' in southern Fujian, and do a 'technical specifications that villagers can understand'.

For professionals, Multi-purpose practical manual for rural construction is a technical specification, and for villages without design intervention, it can become a direct reference text for rural construction.

3. Preparation Method and Main Content Of Plan – Preparation Process And Content

Under the above objectives, the preparation team based on the extensive and in-depth local surveys conducted in recent years on rural construction in Xiamen, southern Fujian, other parts of Fujian Province, and Taiwan, and summarized the practical experience and scientific research results of beautiful rural construction. The relevant provisions of the Guide to the Construction of Beautiful Villages and other documents are based on the actual status and characteristics of the rural areas in southern Fujian, with the goal of building a livable environment in the countryside, with the corresponding technicality, at the same time, with pictures and texts, in an intuitive and easy-to-understand way to compile the 'Plan'.

Fig. 4. Local materials and construction technology

Fig. 5. Regional demonstration of the research team

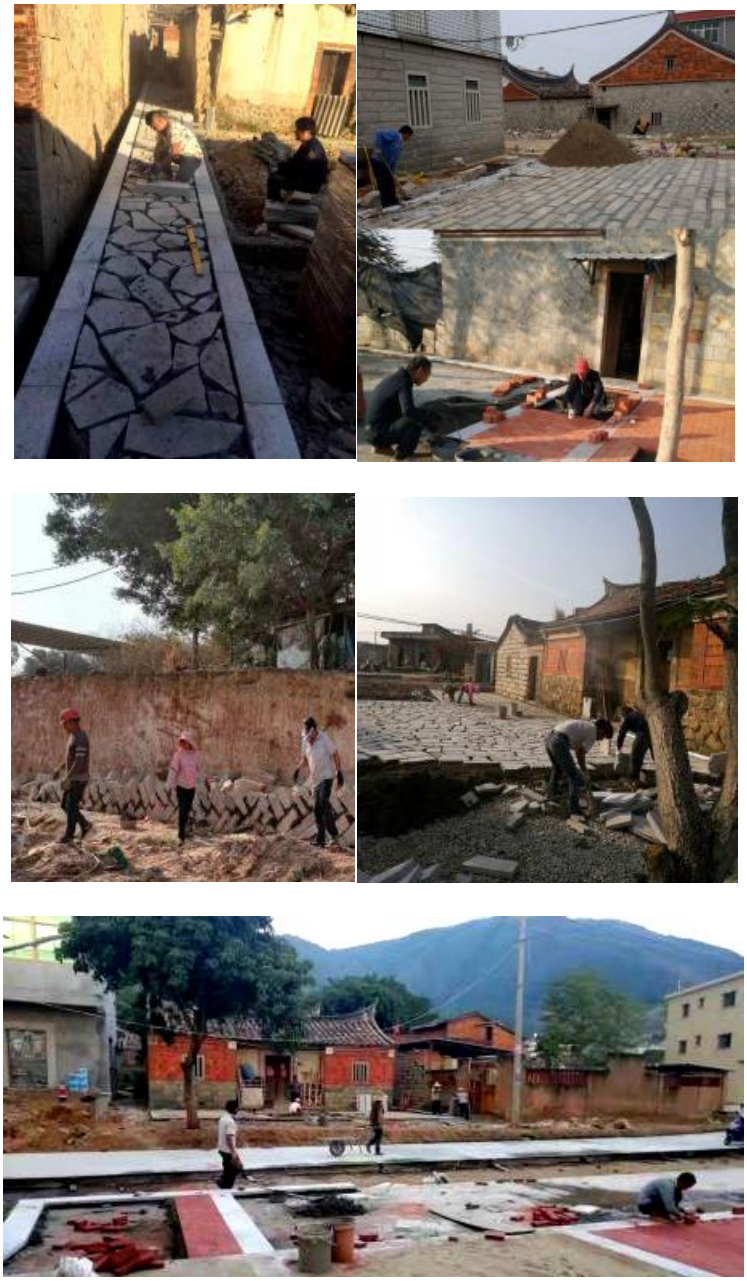

Fig. 6. Large-scale regional rural construction site under the guidance of the research team

4. The Combination of Pictures and Texts, Positive and Negative Contrasts – The Overall Preparation Ideas under the Low-Tech Rural Construction Environment

An important idea for compiling plans is to popularize and visualize the indicators and requirements in the original relevant technical specifications with concise and concise text, so that builders mainly at the grassroots level of towns and villages can see at a glance.

There are more than 1,000 case pictures in the 'Plan', which are directly derived from the actual scenes that have been built inside and outside the province. The more abstract parts of the implementation process, construction purposes and other parts are interpreted in the form of diagrams. In the construction guidance chapter, the positive case and the negative case are juxtaposed and compared. 'How to do it right' and 'How to do it wrong' are clear and intuitive.

5. Divided into Categories, Scientific Analysis - Technology Communication Method For Grassroots Builders

First of all, based on the two factors of ‘regional’ and "urbanization", villages in Xiamen are classified into traditional villages (pastoral, coastal and mountainous sub-types), urbanized villages (urbanized villages and semi-urbanized sub-types), to elaborate the characteristics of various villages. Secondly, based on a large amount of research, the rural space has been refined into 8 types of space sub-types such as temple squares, ponds and rivers, roads and lanes, front and back houses, characteristic buildings (structures), historical settlements, idyllic vegetable fields, ancient trees and forests. The characteristics and material technology of each space sub-type were explained in detail. Third, the local materials and craftsmanship with regional characteristics are the core elements and the construction and application points that constitute the rural features of southern Fujian. The plan extracts stone, brick, tile, soil, and other special materials (wood, white ash, granitic plaster, oyster shells, etc.) and other five material types, and a detailed interpretation of the characteristics of each material and process, how to use it again. The sub-chapter ‘Improving Infrastructure’ summarizes the contents of rural infrastructure construction into four parts: ‘Effective Treatment of Domestic Waste’ and ‘Effective Treatment of Domestic Sewage’. Based on the 8 sub-types of rural internal space analyzed above, the sub-section ‘Improving Human Settlement Environment’ uses brief but meticulous and specific instructions to transmit the construction requirements, and is accompanied by a large number of excellent example pictures to propose. The construction requirements convey the diversified, localized, and ecological construction methods. Each space sub-type excellent example is accompanied by common negative practices and text descriptions of the sub-type, while avoiding negative practices intuitively.

6. Xiamen Rural Construction Practice – Practice Process and Effectiveness

Only when the technical specifications are implemented can they achieve their effects. Therefore, the supporting construction model is crucial. After a lot of field research and analysis, the research team believes that in the current government-led rural construction system in China, government departments, expert groups, and technical service units at all levels can establish a closer and complementary construction mode with tripartite collaboration.

In this ‘tripartite coordination’ model, government departments (construction bureaus, village and township grassroots) as the owners of rural construction are responsible for the organization, management, and implementation of the construction. The expert group can make up for the shortage of county and township grassroots technology and exercise The function of supervision, guidance and control has become a powerful supplement to the government's technical management function, and technical service units (including design and builders) as specific technical service providers implement construction under the management of the above two. In this process, the technical guidelines effectively regulate the implementation methods and processes in the form of regulations.

Since 2017, the preparation team has cooperated with grassroots government departments to adopt the above ‘tripartite cooperation’ model to control a large number of rural constructions. In this series of practice, all steps are strictly carried out in accordance with the ‘Plan’ process. The government department organized villagers to conduct a comprehensive garbage and ditches clean-up of the village, laying a foundation for the construction of beautiful villages, and held many on-site meetings to solicit villagers' opinions. The design institute conducted in-depth investigation and design in accordance with the requirements of the ‘Plan’ in conjunction with the needs of the village.

Fig. 7. The change of Xiamen's village after the guidance of regional construction

The expert team conducted multiple rounds of review and modification of the design plan, and finally formed an implementation plan. During the construction process, the government department and the expert group conducted on-site guidance and verification many times to solve the problems on the spot and ensure that the construction can be carried out according to the implementation plan.

Through the above practice and control, in the southern Fujian area, the research team has explored a suitable and reproducible rural construction path. After the construction of the village, the quality of life has been greatly improved, and the regional culture has been retained, achieving the dual goal, Improvement of living environment and protection of historical culture.

References

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