

Study on the Function Combination of Urban Complex in Guizhou

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Abstract

The function combination of urban complex plays decisive role in the early stage of the project positioning. It is the key to the urban complex polymerization value-added effect into full play. Guizhou locates in less developed areas, the overall economic and social development lags behind, unbalanced regional development. With the development of the western areas, Guizhou is in rapid development level. This article puts forward complex function combination of pilot project around 22 urban complex in our province in 2013, on the basis of qualitative and quantitative analysis, to explore in line with the current situation of development of city in our province, and the function of the characteristics of urban complex combination has a certain practical significance.

Keywords: Urban Complex; Function; Combination

1 Introduction

Many commentators have noted that urban complex is an important and useful element in urban development. They focus on design, transportation, space layout of urban complex and so on. However, neither of these studies provides any descriptive evidence of the actual positions of function combination. In the present paper, we report on a preliminary study of the function combination of urban complex in Guizhou. At present, some regional central cities in Guizhou only construct a small amount of urban complex, the whole urban complex construction is in the initial stage. According to the "Urban complex layout planning in Guizhou ", our province will be built the basic 100 urban complex at the end of 2017. Combination is studied, and the function of the urban complex can determine dominant and auxiliary functions of the project, further defined the function of the urban complex type, the project design, construction, sales and operation of the whole process of influence, promoting the composite utilization of the urban space, improve the intensive level of cities and urban construction investment efficiency, and it can effectively integrate the regional advantage, realize society, economy, environment, product and corporate brand benefit unification.

2 Literature review

In 1976, American society of urban land put forward <The mix-new methods of land use> for the first time introducing the concept of using a mixture of land (ULI, 1976, p.167-181). Published in 1985, Zeidler Multi - the Use of Architecture in the Urban Context, discusses how complex should with the integration of Urban Context. American urban land institute published "mixed use development resources mix in the 80 s - 90 s about using one of the important books and journal articles in 1995 (Zhang T, 2012, p.40-55). In 1997, British experts Andy Coupland's book <Reclaiming the City - Mixed Use Development> mainly expounds the mixed use projects to push the development of the city. In 2003 the British architecture magazine published the "construction

of translation theory" to "mix" as the theme of the special issue, this paper introduces the relevant design methods and case mix. In 2004, the urban land institute published "Mixed Use development manual (Mixed - Use Development Handbook, Second Edition) ", is the existing about mixed use development one of the most comprehensive and thorough treatise. Secondly, major foreign periodicals, such as "Contemporary European Architects", "ARCHITECTURE REVIEW", "ARCHITECTURE RECORD, mainly reflected in Manhattan, Paris, France, Japan, etc. They represent the world's highest level of development of urban complex.

Later, in 1992, China has entered into the phase of the prototype of the urban complex. At the beginning of the 21st century, with the accelerating urbanization process, a line of developed cities increased demand for urban complex, and enter the early development stage. After 2008, under the background of urbanization and urban renewal in the government, urban complex gradually expand to the second - and third-tier cities, a construction boom. But longitudinal many scholars on the study of urban complex in China is still in the exploratory stage, the related monographs and translation, the research focus at home and abroad excellent scheme is introduced. For example, Yi Qiong (2011, p.23- 35) studied operating mode for the development of urban complex in Dalian. Academic research focuses on the basic theory of urban complex research, value research, case analysis, project development and layout, design, operation, spatial structure and traffic organization, and technology and materials, etc. The area is mainly concentrated in the economically developed areas. Han D Q, Feng J L (1999, p.156-185) put forward the integration of city and building design, its goal is to build urban architecture, a comprehensive system to connect urban functions and architectural features, and organic tandem urban public space and architectural interior space. Le J (2010, p. 33- 40) study on Chengdu city development model.

On the development and function of the complex design, Gu B H (2001, p.65-73) researched on space, function, traffic synthesis of modern urban architecture. Long G X (2005, p.167-201) studied on the development of large-scale urban complex, put forward ideas and suggestions to the practice.

On the function analysis, Zhu J W (2008, p.66-73) used different cases to analyze the urban complex functions and characteristics of various subsystems. Liu G W, Cao J L (2010, p.41-45) put forward suitable mix proportion of the formats and related suggestion for urban development project size.

In addition, Liu B (2011, p.190-192) study of the function of the urban complex combination, put forward the complex function includes logistics services and public activities, to strengthen the interaction with urban. Jiang Y G (2011, p.45-50), take Shi Jiazhuang as example, research on urban complex function and value analysis, put forward that commercial, office, residential, transportation are the main functions .

In a word, domestic and foreign scholars have achieved certain results about urban complex in theory and in practice, provide certain help for later study. But because of the research goals or the limitation of the research design, the existing research is still a certain deficiencies, no specific research area. Most of the researches are positioning the national level, case selection is mainly the eastern coastal developed areas, and research for the provinces and cities is insufficient, especially in the west the economy of underdeveloped regions in urban complex research is still not form the development of the mode.

3 Theoretical developing

3.1 The concept of urban complex

From the perspective of the "city, openness and intensive" , grasp the nature of urban development, urban complex shows the internal logic, between the city function and city development, using composite architectural space, intensive and opening, meet the needs of urban commercial, office, residential, tourism, exhibition, catering, conference, entertainment and other city function space requirements, and to establish a kind of interdependence, mutual benefit space dynamic relations, form a multi-function, high efficient economic aggregates(Li W, 2007, p.59-63). It is a social ecological system, has the characteristics of efficient and intensive, often known as the "city within a city".

3.2 The function elements of urban complex

Urban complex is a microcosm of the city. Its feature set and closely linked to the urban functions. Mainly function includes the integrated function and the product special function (Fig. 1).

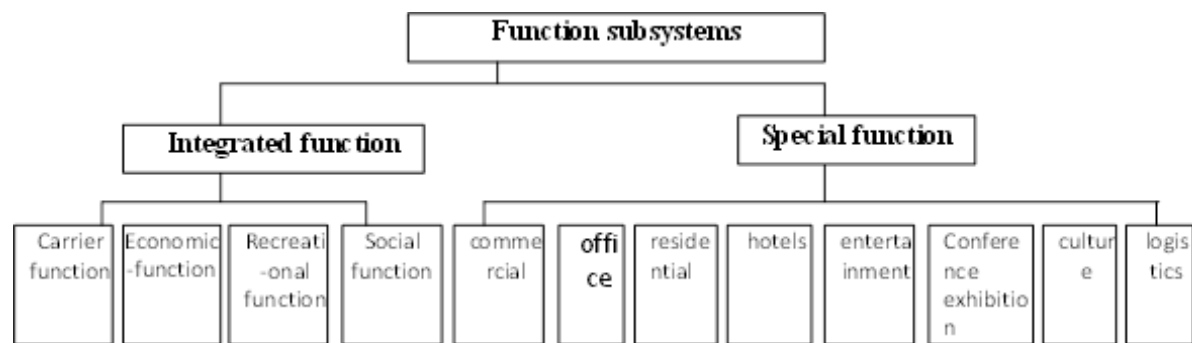


Fig.1 The function elements of urban complex

3.3 The function combination of the urban complex

Function combination is refers to the urban complex projects based on their position determine the combination of urban complex function; each function is the process of distribution and the composition ratio. Specifically, the function combination involves the following three aspects:

——The choice of function. Projects should include many functions. Such as the project is to cover all the functions, or is it just a combination of some function; the type of hotel and star standard, the grade of the apartment and office buildings, etc.

——The determination of proportion. The proportion of each function in the project and each kind of function's size or others is determined. Such as, shopping mall, department stores, and the number of foodservice operators, etc.

——Planning layout. Clear each function in the project location, and make it produce dynamic relationship between each other. Such as large supermarkets, the distribution of peripheral function formats, etc.

Therefore, how to effective combination of the different functions and layout, make its produce huge external linkage and demand effect, it is not only related to the realization of the project positioning, stream of people sharing and residence time, and it determined the efficiency of it.

4 Analysis the function elements combination of urban complex in Guizhou

4.1 Analysis the function elements

The author investigated 22 urban complex in 2013 in Guizhou. Each function frequency is shown in Fig. 2.

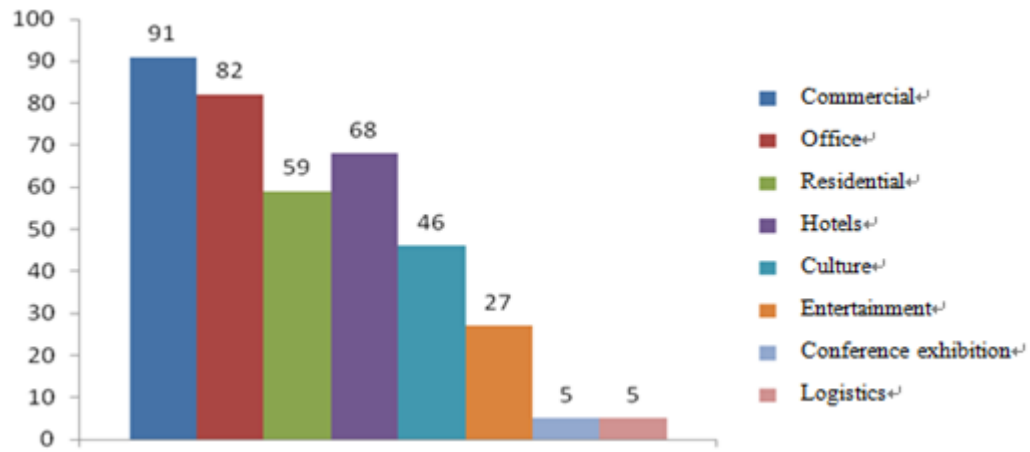


Fig.2 The frequency diagram of urban complex function subsystem in Guizhou (%)

The result of the survey is shown in figure 1: The functional subsystems of urban complex in Guizhou includes commercial, office, residential, hotels, culture, entertainment, conference exhibition, logistics and professional market. Function of each subsystem respectively accounted for 91%, 82%, 59%, 68%, 46%, 27%, 5%, 5%. As you can see, the function of commercial, office, residential and hotel frequency more than 50%. They become the dominant function. In combination with the practical situation of Guizhou, cultural entertainment, conference exhibition function subsystems in Guizhou occupy a pivotal position, the function of the combination frequency reached 46% and 27%. At the same time, with the development of local economy and society, trade logistics, professional market function subsystem also begin to emerge. In short, the eight functional systems will become the important development direction of urban complex function in the future.

4.2 Proportion of each function in the urban complex

Theoretically, urban complex and the city is organic coordination system. While the function of subsystems has a relationship of high concentration and form a value chain between them. Urban complex, therefore, the degree of mutual support between each function subsystem should be certain, there is a corresponding proportion relationship. So, under similar conditions (economic, policy, location, transportation, market, etc.), similar to the regional city complex, each function have certain comparability between subsystems, have certain reference significance.

Average column in the table represent different function subsystem in the case of area ratio. This study's case quantity is limited, the data and the actual situation may be differences. Therefore, function combination, in the early stages of the project should be revised according to the actual situation. (Table.1)

Table1. The data gathered about the dominant function subsystem area proportion of the urban complex in Guizhou

| | commercial | office | residential | hotels | Culture and entertainment |
|------|------------|-----------|-------------|-----------|---------------------------|
| | subsystem | subsystem | subsystem | subsystem | subsystem |
| Mean | 0.2625 | 0.2498 | 0.1851 | 0.1976 | 0.2076 |

Five main function subsystem (commercial, office, residential, hotel, leisure culture entertainment) in urban complex frequency distribution histogram and the proportion of normal distribution curve as shown in Fig. 3.

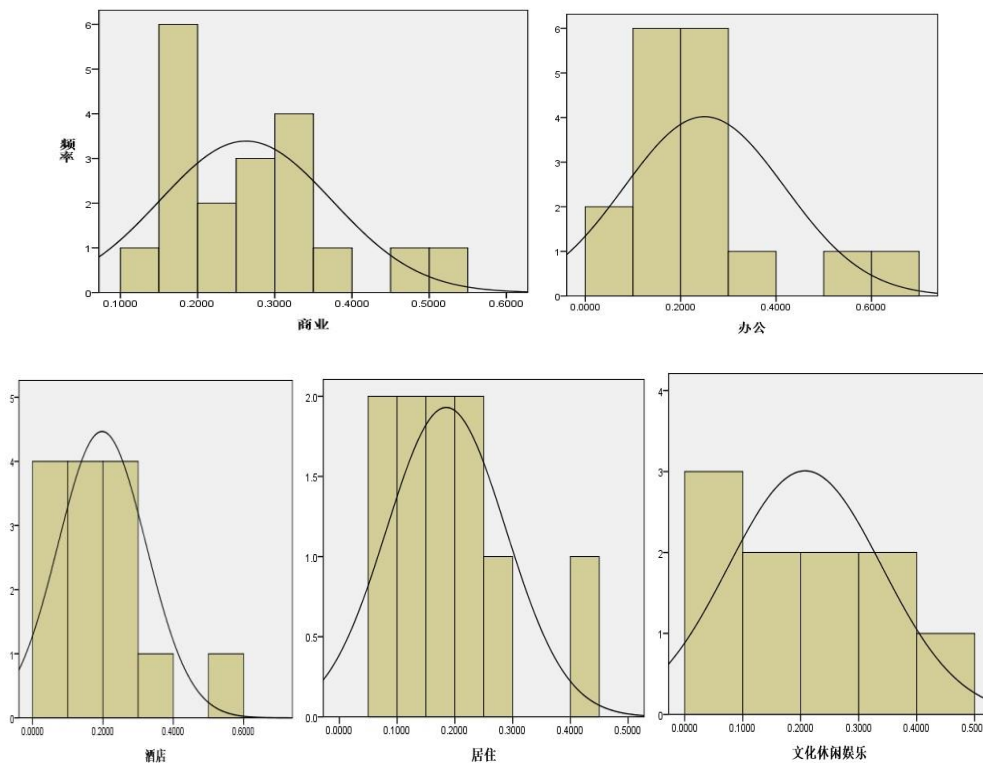


Fig.3. Dominant function subsystem of the frequency distribution histogram and the normal distribution curve

Urban complex combination formula of each function subsystem should exist in a certain range, but there is no fixed the golden ratio. From above the dominant function of discrete degree analysis, the function of the urban complex is affected by the factors of the project size, the economic and social development level of city, project location, urban environment, market conditions, developer's strength and project their own identities. Visible, the development and operation of urban complex in Guizhou can be divided into different levels. The higher level of economic and social development, the rank is higher, corresponding larger scale, the function is rich, proportion corresponding is bigger, and vice versa. (Table2)

Table2. Hierarchy partition of urban complex in Guizhou

| Hierarchy | Area | Case |
|--------------|---|---|
| First level | Guiyang、 Zunyi、 Guian、 Liu Panshui | Weilai fangzhou; Zhongyu diyichegn; Jun fa cheng; Wanke daduhui; Baoli weilaichengshi; Hongqiao urban complex; Guoji jiayuan; Liupanshui tiyu zhongxin; Guizhou duocai wanxiangcheng; Liupanshui fenghuanshan |
| Second level | The rest of the city (state) government headquarters | Tongren ruili guojicheng; Kaili jinquan guoji xincheng; Kaili shierhao dayuan; Bijie yuanhang wuliu; Xingyi shangcheng; Xingyi Jinzhou tiyu zhongxin; Bijie zhaoshang huanyuan; Bijie tongxin dasha. |
| Third level | Strong county economy and regional central city | Wenan qilong wuliuyuan |
| Fourth level | Generally have county and the conditions of small towns | Zhengan qixin weilai shijie; Libo zhangjiang guoji; Qiannan longshanzhen xinanyao |

In general, the city level is higher, the greater the service scope of urban context, positioning the higher, the more complex function combination, the greater the size scale, the stricter building standards, and city level is lower, the smaller the service scope of urban context, orientation and function combination is simple, the smaller the size scale, the more lax building standards.

4.3 Restriction function combination factors

There are many restricting factors about the function combination of urban complex. The main factors have regional social economic development level, the regional environmental status, market situation, the property characteristics of each function subsystem, the uniqueness of their own projects. They interact with each other and influence each other. Among them, regional social economic development level, regional environmental status, market situation are the external factor; the property characteristics of each function subsystem, the uniqueness of their own projects are internal factors. Internal factors and external factors combined together determine the functionality of the urban complex.

5 Case Study

Analysis data of 22 provincial-level pilot urban complex in construction scale, function combination and the ratio in 2013, combined with specific regional characteristics, clear selection and combination of urban complex forms. This study case quantity is limited, the data and the actual situation may be differences. Therefore, function combination, in the early stages of the project should be revised according to the actual situation.

According to the demand and resource driving factors, urban complex in Guizhou is divided into trade comprehensive type, convention and exhibition, cultural tourism, transportation and logistics, leading industry city types. Summarizes the characteristics of five kinds of mode are shown in table3.

Table3. The development mode of urban complex in Guizhou

| Mode | Driving factor | Function Combination | | Main points | Case |
|--|--|-----------------------------------|---|---|--|
| | | Leading | Supporting | | |
| Trade comprehensive type | Business services, trade activity | commercial, office, hotel | apartment, entertainment, conference and exhibition | Located in the downtown area, new district, development zone, the administrative and cultural center, the new old hub zone, is the most basic types of complex | Weilaifangzhou、Zhongyudiyicheng、Junfacheng、Wankedaduhui... |
| | Headquarters economy development demand, conference, exhibition activities | exhibition, conference and office | recreational, commercial, apartment | During the development of important urban node and business district, the office exhibition type is an important strategic choice | Liupanshui fenghuangshan zongheti、Bijie tongxindasha... |
| Cultural tourism type | Cultural activities, tourism and sports activities demand | hotel, business, entertainment | office buildings, residential | Emphasis on regional, economic, social and environmental benefits; Pull the engine boost spending power; is central to the industry development direction | Liupanshui tiyuzhognxin、Libo zhangjiangguoji |
| Transportation and logistics type | Transport hub resource | hotels, commercial | apartments, office buildings, logistics | Rally point for the urban transport hub, is the stream of people, logistics, information flow, distribution and change of place; a bridge of a city of inside and outside contact | Bijie yuanhang wuliu、Xingyi shangcheng |
| Leading industry city type | Industry resources | hotel, commercial and office | professional market, convention and exhibition center, r&d center, houses | The product of urbanization, the future investment and development focus mode; Committed to build a new core city, set up the regional benchmark | Xinan yaodu shengtaichegn; Qilong wuliuyuan |

The function positioning of urban complex meet people various requirements, such as in the material, spirit, experience, life, work, leisure, communication, private and public, city, region, industry, and science and technology. It is a recyclable ecological organism. Therefore, how to carry out scientific and reasonable function orientation, make its produce huge external linkage and demand effect. It is not only related to the realization of the project positioning, stream of people sharing and residence time, and determines the merits of the project benefit.

6 Conclusions

Through this study, we can draw the following basic conclusions:

(1) The main function subsystem of urban complex in Guizhou are commercial, office, residential, hotel and cultural entertainment.

(2) The size of the urban complex is affected by regional economic and social development level, it is divided into different levels. The higher the level of economic and social development, the rank is higher, corresponding scale is larger, and vice versa.

(3) The ratio of the dominant function combination exists in certain scope, but there is no fixed the golden ratio, it needs depend on the city economic development level, policy planning, market conditions, developers strength and so on.

(4) The function combination of the urban complex in Guizhou has five types: comprehensive type, office exhibition trade type, transportation and logistics type, cultural tourism type, leading industry city type. At this stage, it is given priority to comprehensive type, office exhibition trade type and cultural tourism type.

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