

Analysis on the Status Quo and Characteristics of the Living Space of Native Agricultural Rural Communities in China

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Abstract—In the new era, it is a general reality that the original rural settlements in China turn to "new type" community agglomeration. The smart shrinkage of rural space planning is the clear direction of current situation analysis and a new round of national policy guidance. This article selects the plains native of Shandong agriculture country as the sample area, by adopting the combination of field survey and the questionnaire survey way, for the rural planning and community construction, the comprehensive research of current situation of the living space, summed up the regional present situation and characteristics, the contraction "smart" concept in the practice of the rural communities living space to build, to provide reference for related response countermeasures and reference samples.

Index Terms—native agricultural countryside, rural communities, living space

I. INTRODUCTION

On the 40th anniversary of reform and opening up, China has witnessed rapid economic and social development and experienced the largest and fastest urbanization process in world history. At the same time, the long-term urban-rural dual development has led to a serious imbalance in resource allocation, and the urban-rural economic gap, cultural differences, and widening differences in living environment and other problems exist objectively. The phenomenon of rural population migrating to cities, a large number of empty houses in rural settlements, and the continuous disappearance or hollowing out of natural villages all reflect the essence of rural "shrinkage". According to the analysis of the situation and a new round of policies to guide clear point, in the space of native agriculture rural planning and development practice, promote the original rural residence form (settlement) to the new community gatherings, implementation of intensive and high levels

of sharp contraction, optimize and upgrade the function of rural community living space, has the very realistic significance.

In the face of many problems caused by the gathering of means of production and the change of life style, how to infiltrate the concept of "smart shrinkage" into the construction of the original agricultural rural living space? How to obtain convenient living functions, livable living environment and more dignified life value experience have become outstanding problems that need to be solved urgently. Based on this, the research group of this paper adopts the method of field survey and questionnaire survey to carry out a comprehensive survey on rural planning, community construction and living space status of juntun township, wenshang county, jining city, Shandong province.

II. OVERVIEW OF THE CASE AREA

Southwest of Shandong province has a vast area of plain farmland, agricultural production is mainly plain dry land farming, the primary agricultural type of countryside accounted for a relatively high proportion. Juntun township, the case study area selected in this paper, is located in the northeast of wenshang county, jining city, Shandong province. It is located at the confluence of the four counties in the two places, bordering ningyang county in the east, feicheng city and dongping county in the north across the dabai river, and yangdian town and baishi town in the southwest. It is the transition zone between the yellow sea plain in the west of Shandong and the alluvial plain in the front of taiyi mountain.

Juntun township has jurisdiction over 20 administrative villages, 32 natural villages, with a registered population of 27,600 and a permanent population of 18,500. Juntun township and village show the following characteristics:

(1) Natural environment: except juntun village, wangdazhuang, sunzhuang and weiyang village, all

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other villages are close to mountains or rivers, with relatively good natural environment.

(2) Industrial status: based on modern agriculture and large-scale production, according to the development mode of "peasant household + base + leading enterprise", more than 12,000 mu of cash crops such as yam, burdock, purple sweet potato are planted, and 8,000 mu of walnut economic forest such as xiangling and yuanfeng are planted. Township land transfer volume of more than 25,000 mu, is a modern agricultural demonstration town. The second and third industries are mainly garment and agricultural and sideline products rough processing, township government resident catering services, wholesale and retail, the development of relatively slow.

(3) Rural characteristics: it has certain natural landscape resources, historical and cultural resources, and the conditions and potential for the transformation of traditional villages and the development of characteristic industrial villages and tourist villages.

(4) Construction basis: in recent years, the construction of local beautiful villages has been promoted in an orderly manner. The completed demonstration areas of beautiful villages include qiji village, jiezhuang village, dongcao village, lijiaji village, yunwei street village, wangjiazhuang village, yangzhuang village, and another demonstration site of beautiful villages, ma shanzhuang.

(5) Population outflow: economic backwardness leads to serious population outflow, which leads to insufficient economic development momentum in rural areas. Permanent residents account for a large proportion of registered population, with most villages accounting for about 60% and yunwei street accounting for 42%. The vacancy rate of house sites in most villages is more than 10%, and that in baidian village is 30%.

Juntun township has the topographic characteristics of the southwest plain of Shandong province and is located at the geographical location where the two places and four counties meet. As a primary agricultural village and a modern agricultural demonstration town, the present situation of rural community living space has strong case value for this paper.

III. RESEARCH ON THE PLANNING TREND OF RURAL COMMUNITIES AND THE STATUS QUO OF CASE AREAS

(1) Development trend of rural community planning

In Shandong province in September 2014, the Shandong province issued "the new rural communities and the new rural development plan (2014-2030)," according to the Shandong province rural population development forecast (Table 1), new rural communities can be divided into villages and towns aggregation type community, gather and new type community (central village and village) at the grass-roots level in rural areas form three types of community, and the construction standard, the population size, style and features, respectively, the interpretation. In September 2018, the CPC central committee and the state council issued the strategic plan for rural revitalization (2018-2022), which divided the types of villages into agglomeration and

upgrading villages, suburban integration villages, characteristic protection villages and relocation and merger villages.

TABLE I. RURAL POPULATION DEVELOPMENT FORECAST OF SHANDONG PROVINCE

Refers to the standard		2013	2017	2020	2030
Registered population	Registered population of the whole province (10,000 people)	9612	9900	10100	10150
	Urbanization rate of registered population (%)	42.97	48.1	52	63
	Rural registered population (10,000 people)	5482	5140	4850	3750
	Annual decrease of rural household registration (10,000 people)	--	85.9	96.7	109.3
Permanent resident population	Permanent resident population of the province (10,000 people)	9733.4	10100	10300	10600
	Urbanization rate of permanent residents (%)	53.75	58.6	62	72
	Permanent resident population in rural areas (10,000 people)	4502	4180	3915	2970
	Annual decrease of permanent residence in rural areas (10,000 people)	--	87.3	89.1	94.6

At the planning level of the residential environment of rural communities, scholars in the industry have put forward the planning concept of "smart shrinkage" in rural areas. Shrinkage is an urban development strategy put forward by some mining and industrial cities in Europe and the United States as a result of shrinkage. Professor Zhao Min of Tongji University, based on the practice of village and town planning and many rural fieldwork surveys in recent years, put forward the view of "Smart Shrinkage" about the development of rural residential space in China based on the general reality of the substantial decrease of rural population, the outflow of young and middle-aged labor force and the fundamental change of rural production organization mode. "Shrinkage" is used to cope with the gradual dilution of rural residential environment. In line with the optimal allocation of agricultural production means, it proposes the integration and reconstruction of spatial planning of residential environment to improve the overall welfare level of rural society. "Smart" means to transcend the extensive means of "moving villages and merging points", reject the community construction thinking of "urban implantation in the countryside", selectively preserve the spatial memory of agricultural culture, and retain the specific cultural genes of the countryside.

Thus, the current difficulty of dealing with rural population outflow, cooperate with the development of new rural production resources integration, the original

rural residence form (settlement) to the new community gatherings become the inevitable developing trend of the native agriculture rural living environment, rural community planning will go to "Smart" contraction, this also specifically targeted policy guidance and the analysis of the situation.

(2) Investigation on the status quo of rural communities in the case area

In juntun township, there are many cases in which one administrative village corresponds to many natural villages, and the classification guidelines for village construction and beautiful villages are all based on natural villages. According to the current situation of villages, on the basis of the system planning of villages and towns, based on the comprehensive analysis of factors such as population size, infrastructure allocation and outflow of village population, and the judgment of the future development trend of villages, the existing villages are divided into three categories: comprehensive renovation villages, general renovation villages and restricted development villages.

1) Village level scale and basic situation of community planning

In September 2018, the research group conducted a field survey on the rural communities of juntun township, and summarized the existing village planning level, population scale of villages and communities, and the control of house sites as follows (Table II):

TABLE II. BASIC INFORMATION OF VILLAGE LEVEL AND COMMUNITY PLANNING IN JUNTUN TOWNSHIP

Village level	Quantity	Registered population (person)	Resident population (person)	Homestead control requirements
Township resident	2	5539	3900	Resident development consolidation (comprehensive rectification, guiding development)
Central village	6	7652	5123	Integration of new rural community development
The grass-roots village	12	14456	9503	Ecological civilization, beautiful countryside

2) Research on the current situation of rural communities

According to the existing village size and development orientation, juntun rural community can be divided into four categories:

The resident central community: juntun village is the township government resident, and the residential buildings are mainly bungalow in the village. The per capita occupation area is large, and the land use is not economic; The project development scale is too small and lacks of overall planning; The old village reconstruction lags behind, and the phenomenon of disguised development and land occupation under the name of old village reconstruction is serious. Township public services and community supporting infrastructure

are outdated and outdated, and the living environment of villagers is poor.

New rural communities: including the relocated taohuayuan community and jinxiujiayuan community under construction, which belong to the rural areas with serious population loss and move to villages to form a new rural community form, and there is a certain degree of land reclamation of the original homeownership base. Taohuayuan community started construction in 2009, with a planned total land area of 15.88 hectares. The residential building is a four-storey building with a construction area of 135,000 square meters and a capacity of 3,696 people. At present, the resettlement building of nantao village has been basically completed, and the relocation and resettlement work has been completed. Jinxiujiayuan community, started construction in 2010, has a total planning land of 12.51 hectares, with a residential area of 97,000 square meters and a 5-storey building. It is planned that villagers of baidian village, xu village, qi village, sun zhuang household, wei Yang zhuang and wang dazhuang will move and live together. Due to problems such as funds and motivation for subsequent relocation, after years of stagnation, construction will continue in 2017, and now it has been basically completed. The demolition compensation and relocation work are progressing in an orderly manner. Temporarily remove and relocate baidian village, xu village, qi village three villages, the remaining villages to maintain the status quo.

Beautiful rural communities: planning demonstration areas (qiji village, jiezhuang village, dongcao village, lijiaji village, yunwei street village, wangjiazhuang village, beiyangzhuang village) and demonstration sites (ma shanzhuang village), develop beautiful rural areas featuring agricultural tourism, and build a rural complex relying on the natural ecological advantages of mountains and rivers. At present, the renovation and aggregation of communities are still at the planning level, with prominent features of scattered layout. Therefore, it is difficult to further promote and improve the overall situation.

Others: villages such as sunhuzhuang, weiyangzhuang and wangdazhuang shall maintain their original rural community status.

To sum up, the rural community construction in juntun township is characterized by unbalanced development between old and new communities, scattered and obsolete infrastructure construction, generally divided public opinion, and great difficulty in relocation and resettlement. As a whole, there is a series of shrinkage that is not smart enough. Fundamentally, the problem lies not in the rural contraction itself, but in the unscientific and unreasonable ways and methods of contraction. Therefore, it is urgent to form a consensus on the concept of "smart shrinkage" and establish corresponding construction management mode and development strategy accordingly.

IV. INVESTIGATION AND CHARACTERISTIC ANALYSIS OF THE CURRENT SITUATION OF RURAL COMMUNITY LIVING SPACE

Research combining the field investigation and questionnaire survey, for example area original new rural community and rural community 120 questionnaires, effective recovery of 112, the effective rate was 93.3%, satisfaction survey content involves both old and new residential community, public services and improve the degree, leisure entertainment, convenient degree of consumer demand, combined with the field survey, status and characteristics of the comb can be as follows:

(1) Living space

1) Current situation: The comprehensive residential satisfaction of the new rural community is 86.7%, which is higher than 69% of the original rural community. The differences are mainly reflected in the comprehensive environmental improvement of the community, the layout of the housing structure, the basic living conditions, the degree of integration of production and life and other aspects (Figure 1). At the same time, the incoordination between the new community and the traditional life style of farmers and the change of personnel structure also become prominent:

The new rural community construction is mostly 4, 5 floor buildings, the aging degree of community members can not go upstairs, the first floor "garage" into the old people's long-term residence is very common, poor ventilation and lighting conditions; There is no place for agricultural equipment and crops to be placed in the air. They are piled up in front of the "garage" building of the community, and the comprehensive environment of the community is affected. The traditional texture of rural residential form and the humanistic characteristics of rural landscape are hard to find in the construction of new communities. The comprehensive improvement of the original residential environment of the community is being promoted, but due to practical problems such as urban and rural population flow, planning progress, homestead compensation and so on, the work is more difficult.

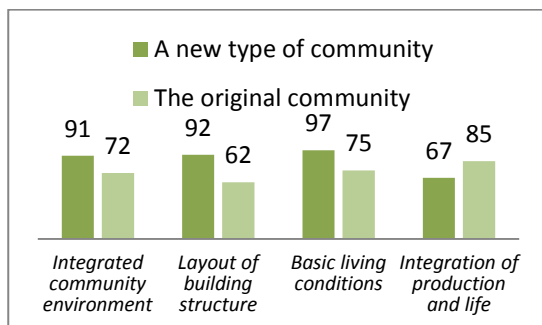


Figure 1. Comprehensive satisfaction survey of living space in old and new rural communities (unit: %)

2) Characteristic analysis: the old and new rural communities have unbalanced development of the original way of life and living conditions, and the agricultural villages show the diversity of contradiction between breaking and standing. The problems of

personnel structure and aging have not been effectively responded in space, and the urbanization thinking of new rural community construction has been seriously implanted. To implement a more "smart" resources reasonable exit and optimized restructuring, through fine processing of land resources and the use of construction funds lean (such as through the integration of redundant village construction land development and returning farmland to forest, within the scope of the policy for the long-distance transfer of the construction land index independently to raise more funds for community building), applicability to local perspective ascending life space, to further improve the living conditions.

(2) Public service space

1) Current problems:

The old and new communities are basically equipped with the education service space for kindergarten and primary school, the only secondary school in the township supporting the resident, primary school students have nearly 60% in the third grade after moving out of the school into the city to study, secondary school transfer is more common; The old and new communities have built health clinics, resident supporting township hospitals, medical transport is relatively convenient, but the medical facilities are old, better conditions or have a major disease residents will choose the county level hospital for medical treatment; The original community supporting mutual assistance nursing home, nursing home facilities are old, jinxiujiayuan new rural community government investment in the form of bungalow mutual assistance old-age housing (a room, a hall, a bathroom and a hospital), for the widower and the elderly live free of charge, superior conditions; The new community is building a community canteen, can meet the needs of daily dining.

2) Feature analysis: the new type of community pension has attracted much attention, but the overall planning of education, medical and other public service Spaces, population size and personnel structure is still not reasonable, resources are relatively scattered, and facilities are relatively old. In the case of resource shortage, infrastructure of all kinds of public service Spaces in rural areas should be centralized and integrated as far as possible to avoid excessive pursuit of perfection and pay attention to multi-function aggregation and convenience. On the one hand, land use should be saved to improve the efficiency of use; on the other hand, agglomeration effect should be enhanced to form a good surrounding atmosphere of villages.

(3) Leisure space

1) Current problems: most open Spaces in old and new community fitness squares, basketball courts and other leisure Spaces have become places for drying grain, piling up residents' sundries and temporarily parking; Library, cultural auditorium, the elderly activity room utilization rate is low.

2) Feature analysis: it is difficult for leisure space to effectively integrate with local regional culture. The reason is that the decline of local culture and the lack of leisure activities are its internal factors, while the micro

response of space does not meet the transformation characteristics of residents' lifestyle from agricultural leisure to leisure, which is the fundamental reason. Related construction should avoid to use urban recreational space setting methods, but set up on the basis of fully understand the condition of the people, to solicit public opinion, and maximum keep the village villagers activity and behavior characteristics of the original, form conforms to the village "gene" public space sequence itself, on the basis of the increase of interest and identification of the space, improve efficiency, to promote exchanges between villagers and CunFeng harmony.

(4)Consumption space

1) Current problems:

The main agricultural products from self-production and self-use gradually turned to the purchase of farmers' market, resident center supporting market for the main consumption area, community streets around the distribution of grocery supermarkets, but small scale, single products;

Due to land transfer, area planning and other factors, the function of rural market is losing its original rural style and spatial function;

Catering consumption space layout on both sides of the main street of the residence, the houses are mostly self-built houses along the street, with local banquets, outings as the main consumer groups;

Other entertainment consumption space is mainly concentrated in the resident center community, accounting for a relatively small.

2) Characteristic analysis: the change of production mode brings about the change of life style, and the consumption structure also changes accordingly. It is difficult to improve the single and scattered consumption space and meet the living needs of residents; The gradual disappearance of the market with local characteristics exacerbates the decline of local culture. In the planning and construction, how to continue the original track of village consumption activities and build a new consumption space with local cultural characteristics through the abstraction and extraction of rural elements can not only accurately meet the consumption needs of villagers, but also realize the accurate inheritance of village memory, which has both practical and cultural significance.

V. CONCLUSION

To sum up, in the face of the "post-modern" rural society with rapid changes in production and life, if it is said that the "smart shrinkage" of rural space is an irreversible inevitable trend, the integration and reconstruction of rural community living space is a micro response to the macro trend. It is true that the problems of rural living space cover a wide range of aspects. It is necessary to integrate the discipline system of rural planning and architecture, introduce relevant theories and research methods of sociology, human geography, rural culture research and other disciplines for comprehensive consideration, and then start from the details to solve

practical problems. For example, the residential space of old and new rural communities should be classified and planned, the original community texture and pattern should be respected, and the adaptive co-construction method should be explored. We will carry out community-supported agriculture (CSA model), launch the development of experiential agricultural gardens, characteristic homestayhouses and other comprehensive tourism projects, promote the employment and income of farmers, and re-establish the integration of rural production and life. To further meet the needs of consumer groups, preserve and optimize the functions of rural markets; To coordinate resources and concentrate efforts to upgrade the efficiency of public service space; The existing conditions of cultural space should be utilized to protect the original communication nodes and site spirit of villages, preserve the local cultural genes, and regain the confidence of local culture.

Smart shrinkage in the planning and construction of rural community living space is not just subtraction, but active and renewal oriented addition and subtraction -- increasing intensive investment in positive elements, introducing new scientific auxiliary elements, and protecting elements with rural memory and cultural significance. In strategy and the concrete practice, we should abandon the "city into" thinking, in the perspective of the real local problems in countryside, in the organized, conscious planning guidance, through the "smart" aggregation mode, organization form and way of construction, realize the life space response of a category and innovation play a positive role in the rural modernization transformation.

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