

Article

Not peer-reviewed version

System, Life and Modernity: Study on the Design of the Collective Residential Buildings of the People's Commune in the Early Stage of P.R.C

[Fei Yu](#), [Lu Ye](#)^{*}, Yi Zhu

Posted Date: 19 September 2024

doi: 10.20944/preprints202409.1538.v1

Keywords: Rural construction; People's commune; collective housing; courtyard; sideline



Preprints.org is a free multidiscipline platform providing preprint service that is dedicated to making early versions of research outputs permanently available and citable. Preprints posted at Preprints.org appear in Web of Science, Crossref, Google Scholar, Scilit, Europe PMC.

Copyright: This is an open access article distributed under the Creative Commons Attribution License which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

Disclaimer/Publisher's Note: The statements, opinions, and data contained in all publications are solely those of the individual author(s) and contributor(s) and not of MDPI and/or the editor(s). MDPI and/or the editor(s) disclaim responsibility for any injury to people or property resulting from any ideas, methods, instructions, or products referred to in the content.

Article

System, Life and Modernity: Study on the Design of the Collective Residential Buildings of the People's Commune in the Early Stage of P.R.C

Yu Fei ¹, Lu Ye ^{1,*} and Yi Zhu ²

¹ Department of Architecture, School of Architecture, Soochow University, Suzhou 215006, China; yohiarch@163.com (F.Y.); yeluseu@126.com (L.Y.)

² Department of Urban and Rural Planning, School of Architecture and Urban Planning, Nanjing University, Nanjing 210093, China; 522024360145@smail.nju.edu.cn (Y.Z.)

* Correspondence: yeluseu@126.com; Tel.: (optional; include country code; if there are multiple corresponding authors, add author initials)

Abstract: To promote of the rural revitalization strategy in China, this study attempts to summarize the gains and losses by the review of the design practice of rural buildings of the People's Commune in the late 1950s. Firstly, from the macro perspective, this paper gleans the relevant commune housing design cases in the Architectural Journal from 1958 to 1960 and summarizes the overall common design policies. Secondly, from the micro perspective, the paper analyzes the process of the investigation and creation through a concrete case. The paper concludes that the actual production and living needs of farmers must be taken into consideration in the process of the implementation of rural modernization, instead of simply putting the focus on standardized construction. Finally, the article points out the two characteristics of "rural modernity" reflected in the process of promoting rural modernization during the early stage of modern China: 1) collective wisdom and efforts; 2) combining local and foreign cultures. This article aims to provide a historical reference for current architects to carry out effective design practices in combination with rural development.

Keywords: Rural construction; People's commune; collective housing; courtyard; sideline

1. Introduction

1.1. Background

In contemporary China, the promotion of rural modernization has been a national strategic mission, especially after the issue of the first five-year (2018-2022) action plan for the *Rural Revitalization Strategy* by the Central Committee of the Communist Party of China and the State Council in 2018 [1]. The content of the plan covers almost all aspects, from the transformation of modern agriculture to the prosperity of rural culture. Additionally, the improvement of the rural living environment was included in the plan; this should be a point of discussion for contemporary planners and architects. Apart from the strategy of sanitation conditions improvement, the building of basic infrastructure such as roads, and water conservancy, the problem this paper focus on is that of the rural architecture, which directly affects the modern life of villagers. Modern life does not purely denote an increase in personal living space, or indicate a new architectural work built in a contemporary style with modern material such as steel and concrete just like in urban areas. Thus, the natural rural area should not become the base for capitalistic and ambitious subjective desire; a definite policy that instructs us on how to build and deal with the rural living environment should be in place, since the act of building sometimes denotes destruction.

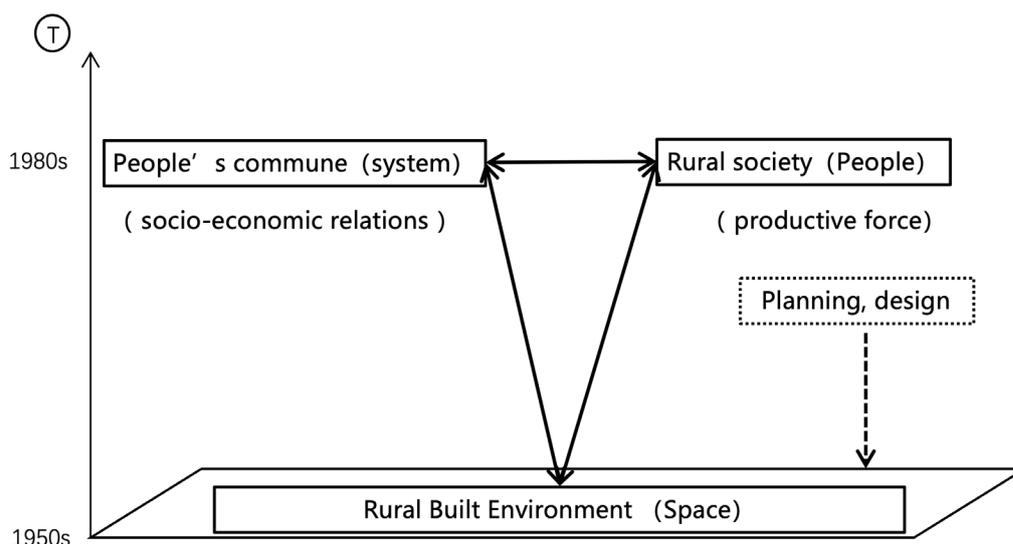


Figure 1. This is a figure. Schemes follow the same formatting.

In fact, most of the villages in China experienced modernization for the first time during the era of Mao soon after the founding of the PRC. As a result of the Great Leap Forward movement, the consequent development of collectivized agriculture led to the birth of the People's Commune in 1958. Similarly, in order to improve the rural environment, which was part of a fragmented smallholder economic society for a long time, the rural communes invested in large-scale mechanization, infrastructure, and industrial projects. On the other hand, the new lifestyle for villagers in the 1950s didn't stop at the import of modern production and living facilities such as tractors and telephones; it resulted in the effort toward a rural society of communization. It can be said that the "rural revitalization strategy" of 60 years ago was based on the conviction that communalism can realize rural modernization under the real condition of poverty. It was based on the simple logic that many hands make light work and finally the ideal life of villager turned to be the collectivization of living as a natural result, which also made the Chinese architects of 1950s conceive the idea of the new rural housing for commune life (Figure 1).

However, the collapse of the People's Commune system led to the indifferent attitude toward the architectural practice of this period in the field of Chinese modern architectural history. In fact, regardless of how the ideology influences the rural space, the history of Commune architecture design may teach us something about what architects should do during the process of rural revitalization.

How to deal with the urban-rural relationship and what the future of rural areas is are common issues in the current era of globalization. This study hopes that a review of the Chinese architects' experience of rural construction from the Mao era of the 1950s can make contemporary architects think about the future of rural areas worldwide.

1.2. Literature Review

Although studies on Chinese modern architecture were published formally just around the 1980s [2], the research on urban and rural practices in the collectivization period after the founding of the PRC has demonstrated an increasing trend in recent years [3, 4]. At the macro level, there are studies on urban planning under the Soviet Union's technical assistance [5] and industrial town planning during the Cold War [3]; at the meso level, there are studies on settlement planning [6] and people's commune master planning [7]; and at the micro level, there are studies on South China's architecture during the Cold War [8] and on the architecture of *Danwei* [9].

Representative research that focused on this period include those by Lu [10] who systematically delineated the history of urban construction in China from 1949 to Lu analyzed in detail the mechanism, formation process and historical changes of the Chinese urban space from the Mao era to the era of reform and opening up, and proposed that contemporary Chinese urban space

originated from the special Chinese “unit” system. Additionally, Lu discussed the relationship between commune planning and western urban planning ideas and thought that it was the failure of the People’s Commune, due to the lack of modern building materials, that made Chinese architecture circles refresh their understanding of modern architecture. The focus of Lu’s studies was to criticize that the discussion of modernism should not only center on the Western world, and to call on the academic circles to pay attention to the modern architecture practice in third world countries [11, 12]. Zhao [13] selected the cover of *Architectural Journal* issued from 1958 to 1960 as the research object—from which the imagination of socialism in the Chinese architecture circle was reviewed during the Great Leap Forward period—and concluded that since the disintegration of the People’s Commune, the current Chinese academic field has not yet fully understood the architecture practice during the commune period. Ye and Huang [14, 15] regarded the top-down rural planning and design by architectural professionals as a phenomenon and sorted several large-scale rural construction movements on the basis of specialized people from the Great Leap Forward to the era of reform and opening up. The focus of these studies was how architects should respond to politics. Since the influence of the politics on the design of the People’s Commune was so strong, that to some extent, it made the professional knowledge invalid; Ye and Huang proposed that architectural professionals should take the initiative in the planning process in rural areas independently, despite it being the call of national will.

In recent years, case studies of the architecture design of the People’s Commune began to emerge. For example, Liu [16] carried out a history research on the planning and construction of the *Xushui* commune designed by Tsinghua University on the basis of precious historical archives, design sketches and other primary historical materials. Liu’s study especially enriched our understanding of specific construction details of the commune. Further, studies that focus on the designated architecture of communes include those by Jacoby and Cheng [9, 17, 18] and Feng and Cao [19]. Jacoby and Cheng analyzed the collective forms, which was represented by the People’s Commune and the *Danwei* system and discussed in detail the historical changes in the plan design of Commune houses. The focus of these studies is the discussion of the relationship between a collective system and its corresponding forms. Further, Feng and Cao focused on the canteen and assembly halls during the People’s Commune period and analyzed the architecture in terms of spatial paradigm, materials, structure, and decoration.

1.3. Purpose of the Study and Research Method

Generally, the design of the People’s Commune included almost three levels that ranged from macro to micro. These included the master planning of the commune, residential district planning, and the architecture design. Further, the architecture design consisted of public architecture such as a hall and canteen, and the house. Compared to public architecture, rural housing can largely reflect the characteristics of rural lifestyles and the impact of the communist system. This paper aims to clarify how rural commune housing was presented during the Great Leap Forward period from 1958 to 1960, and what the general strategies of the housing design were. Following this, through the analysis of the basic design means of the rural housing system, this study will try to summarize the merits and demerits of rural commune construction to guide the rural revitalization practice of contemporary architects. Particularly, the relationship between housing design and the rural lifestyle will be discussed in detail, because contrary to urban areas, rural housing sometimes had more functions, such as production, which was easy to ignore.

Firstly, to grasp the overall trend in the rural commune housing design, this paper systematically sorted out interrelated cases issued on the *Architectural Journal* from 1958 to For each case, an analysis was made on the basis of the following aspects: the descriptive design strategy (because some were just proposals and had no concrete drawing plan), and the characteristics of a concrete design plan. Following this, the general characteristics will be summarized from a macro perspective. Secondly, one commune case will be discussed in detail from the micro perspective on the design methodology of rural housing; its process will also be traced. Finally, through a review of the rural housing design of the People’s Commune period from the macro and micro perspective,

this paper will offer guidance to architects who have already participated or willing to take part in the construction of rural areas.

2. The General Strategies of Rural Housing Design of People's Commune

2.1. The Characteristics of Chinese Rural Lifestyle under the People's Commune System

A house is not just a physical place to live in; it is also related to the social structures and family relationships that surround it. As a new basic social organization, changes of farmers' production means and lifestyle under the People's Commune system will inevitably have an impact on the behavior of living. Of course, there are many studies on this topic in the field of history and sociology. An introduction about the general understanding of it is as follows:

Changes in rural lifestyle after the rise of the People's Commune system were just as Sato wrote in his book: *"in order to improve productivity, feudal scattered homes were disintegrated and collectivization life and residence was planned"* [20]. Actually, collective lifestyles were expanded to the whole country of China from This was, of course, a means to the improvement of productivity that enabled the previously dispersed labor force to gather and work together. However, it is worth noting the changes of the composition of the labor force, from which women who used to engage in domestic work were liberated, and encouraged to take part in social production. That is to say, the core conception of the Communist Party leaders was not just to unite people but also to increase the number of workers. As a direct result of this plan, housework such as cooking, childcare, and the nursing and caring for the elderly; that were undertaken by women in the past; needed to be undertaken by social institutions thereafter. Finally, public facilities which did not exist in the past started to develop in the vast villages. This was officially stipulated in the resolution as follows:

Public canteen, kindergarten, nursery, tailor group, barber, public bathhouse, welfare center, agriculture school, party school and so on, lead farmers to a happier collective life, further cultivate and exercise the collectivism thought of the farmers. (Quoted from "Resolution on the establishment of people's communes in rural areas" issued by CPC Central Committee in 1958.)

In brief, rural life under the People's Commune system turned to collectivism accompanied by the collapse of a traditional family-based lifestyle, which encouraged the architectural professionals of that time start to conceive a new housing plan for commune members (Figure 2).



Figure 2. Scenery of collective farming in 1950s [21].

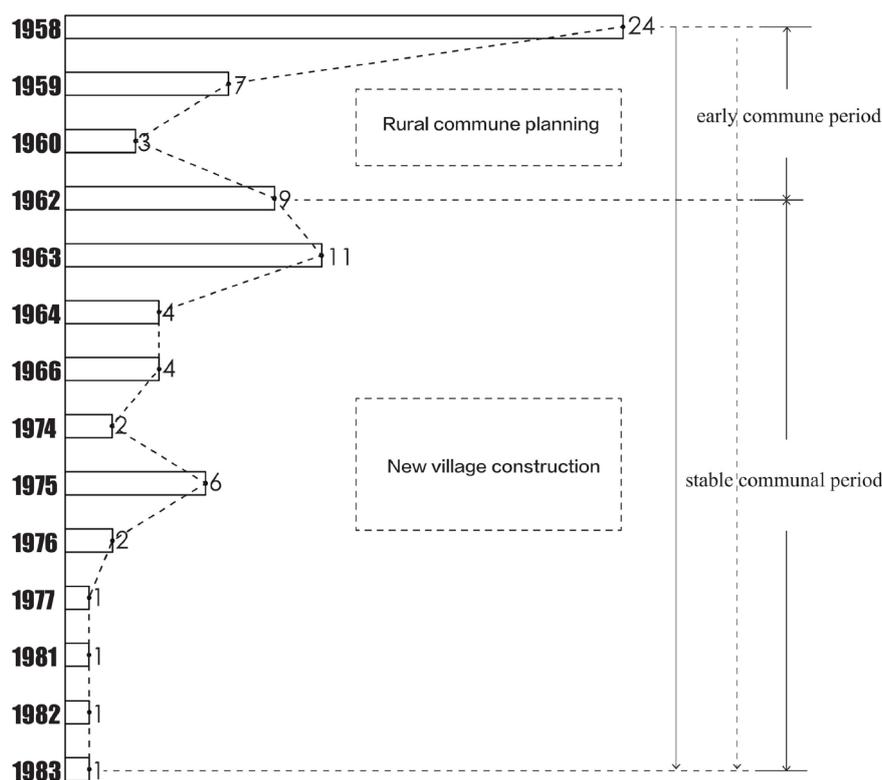


Figure 3. This is a figure. Schemes follow the same formatting.

2.2. The General Strategies of Rural Housing Design

With the development of the agricultural cooperative movement, social organizations in rural China have gone through several different stages. Among them, the Great Leap Forward movement of 1958 promoted the establishment of the People's Commune nationwide. Initially, the lack of experience led to many problems in the operation of system until the publishing of the "Urgent instruction letter on current policy issues of rural people's communes" in Following that, the commune system, the fundamental rural administration unit which were divided into production brigades, and the production teams remained stable and lasted nearly 23 years until 1983 [22]. As discussed, the commune brought collectivized living to the traditional village, especially during the Great Leap Forward period. In this context, this study focused on the analysis of housing design for communes from 1958 to 1960 which was the early stage of commune system published in the *Architectural Journal* (Figure 3), which was the official publication of *Architectural Society of China*.

In order to understand the general strategies on housing design in the circles of Chinese architecture in 1950s, this paper extracted all related cases (1958-1960) and sorted them in Table Due to the planned economy of the time, the commune designers primarily hailed from universities and state-owned design institutes. The 17 commune cases were located at suburban areas around main cities such as Beijing and Shanghai. Considering the design specification, it may be observed that in order to meet the demand of collectivized living, most housing for commune members were designed in a pattern that was a combination of standard units that suited the goal of industrialization, which was also a measure to reduce construction cost. According to Table 1, the general design strategies can be concluded as follows:

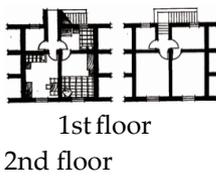
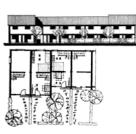
- Except for No.4, No.11, No.14, and No.16, the other commune housings had no kitchen in each household; they relied on the public canteen.
- Compared with the traditional bungalow, the two-story house were thought to be the ideal proposal to solve the contradiction between population concentration and limited economic condition.

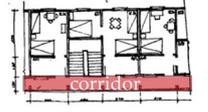
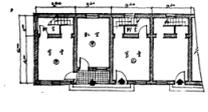
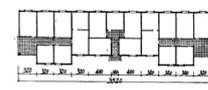
- (c) The living space per rural resident was specified and was no more than 10 m².
- (d) Except for No.10 and No.15, public residence plans were almost entirely linear shaped, which was easier to extend in the ground and had the advantage of easy construction. (Figure 4)
- (e) In terms of building structure and materials, most of the commune housing adopted the simple method with cheap, local materials such as brick, wood and mud to build, which was the result of the lower economic conditions at that time.

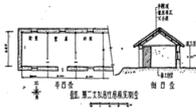
In addition to the common strategies listed above, the designers in some cases took the local natural conditions into consideration. For example, in case 7, 11 and 15, a side corridor for ventilation and heat dissipation was designed to suit in with the local weather conditions. In case 14, considering the local topography, designers proposed terraced houses to adapt to the sloping land. Thus, the designs had an edge of realism.

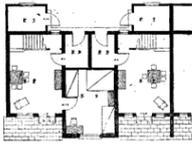
When the initial objective of affording a house for collectivized living and the final design strategies are considered, only (a) directly pointed to the aspect of collectivism while the others focused more on how to respond to the issue of standardization and cost-effectiveness, which was imperative considering the economic condition of China in 1950s. In brief, compared with drawing a special collective housing plan at the design level, how to provide a cheap and easily built public house in a short time was the essential problem faced by the architectural professionals of the time. Thus, the study will consider the case of a particular commune to try to trace its design process from a micro perspective in the next chapter.

Table 1. Analysis on the housing design of People's Commune from the Architecture Journal (1958-1960).

No.	Title of the commune	Design institution	Location	Summary of housing design strategy	Design plan	General information				Publication
						m ² /people	floor	kitchen	pattern	
01	Hongqi commune	Tsinghua university	Beijing	<ul style="list-style-type: none"> •The per capita living space was designated. •The house floor were two and four in the future. •Design two-floor "villa" for villagers. 	—	4	2	—	—	195809
02	Xiaozhan commune	Tianjing university	Tianjing	<ul style="list-style-type: none"> •Just for living and study. •The storeroom was wanted from the villagers. •Try to use local material like brick to build the arch structure which can not rely on the steel. 	 <p>1st floor 2nd floor</p>	3.7~5	2	—	Villa	195810
03	Caoyang New village	Shanghai urban construction bureau	Shanghai	<ul style="list-style-type: none"> •Separate housing for each household •Convenient collective life •One-storey and two-storey row house •Have storeroom for bicycles, farm tools. •Brick-wood structure 	<p>facade</p>  <p>plan</p>	8.5	1&2	—	Row house	195810

04	Qiyi community	Civil Architecture Design Institute of Shanghai	Shanghai	<ul style="list-style-type: none"> •Listen to the needs of farmers •Two-storey houses were wanted •Brick-wood structure, tile roof •Living room faced south was important •Linear shaped plan •Houses can be built by farmer themselves 	 Plan VI	5.3~7.5	2	Some has	Linear shaped plan	1958 10
05	Xianfeng community	Tongji University	Shanghai	<ul style="list-style-type: none"> •Two-storey row houses •Brick-wood structure •Has independent entrance each household •Without kitchen and toilet 		5.8	2	—	Row house	1958 10
06	Hongqi community of Qingpu county	Tongji University	Shanghai	<ul style="list-style-type: none"> •One-storey and two-storey row house •Has vestibule and backyard •Without kitchen 	 1st floor 2nd floor	—	1&2	—	Row house	1958 10
07	Longtan community	Southwest Industrial Architecture Design Institute	Chengdu	<ul style="list-style-type: none"> •Two-storey row house with side corridor for climate reason •Without kitchen •Has an anteroom for storage •The wall was built by brick 	 corridor	4	2	—	Row house	1958 11
08	Puzhuang community	Nanjing & Institute of Technology	Jiangsu Province	<ul style="list-style-type: none"> •One-storey and two-storey row house •Without kitchen •Has a room for storage •Brick-wood structure •Use old materials like tile and wood 		—	1&2	—	Row house	1958 11
09	Suicheng community	Planning and Construction Bureau of Hebei province	Hebei Province	<ul style="list-style-type: none"> •One-storey (40%) and two-storey house (60%) •Brick-wood structure •Use old materials 		4~6	1&2	—	Linear shaped plan	1958 11
10	Weixing community	South China Institute	Henan Province	<ul style="list-style-type: none"> •House was composed by different units 		3.5~4	1&2	—	Rectangle T-	1958 11

	mun e	e of Technol ogy	vin ce	<ul style="list-style-type: none"> ●The plan has T-shaped, r-shaped and rectangle ●Each room has independent door 					shap ed r- shap ed plan	
1 1	Gong zhuan g com mun e	Urban Archite cture Design Institut e of Guang dong provinc e Planni ng and Constr uction Bureau of Gansu provinc e	Gu ang don g Pro vinc e	<ul style="list-style-type: none"> ●One-storey and two-storey row house (20%) ●Standardization ●Design side corridor for climate reason ●With kitchen and bathroom for custom reason ●Inheriting traditional architecture style 		4.5~7	1& 2	Ha s	Line ar shap ed plan	1958 12
1 2	Jinya ng Villag e com mun e	China Acade my of buildin g Researc h	Ga nsu Pro vinc e	<ul style="list-style-type: none"> ●Residential building should suit the people's need of collective life ●Houses should be fully equipped with infrastructure such as lighting, water supply, and electricity ●Houses face south and have garden for vegetable 	—	6	2	—	—	1958 12
1 3	Dingj i com mun e	Nanjin g Institut e of Technol ogy	Jian gsu Pro vinc e	<ul style="list-style-type: none"> ●One-storey row house(100m×3.6m) ●Gable roof truss built with wood and the wall were built with mud ●The material were from the local old houses ●Terraced house suited to the sloping field 		—	1	—	Row hous e	1959 01
1 4	Zhon ggong com mun e	China Acade my of buildin g Researc h	Sha ndo ng Pro vinc e	<ul style="list-style-type: none"> ●Each household has a separate bathroom and private courtyard to raise crops ●The style of local folk housed is considered ●Built with mud, brick and concrete 		—	1& 2	Ha s	Line ar shap ed plan	1959 01
1 5	Pany u com mun e	South China Institut e of Technol ogy	Gu ang don g Pro vinc e	<ul style="list-style-type: none"> ●Each house has side corridor to suit the weather ●Each residence is equipped with public auxiliary rooms such as kitchen, bathroom and storage ●Built with local materials 		8~10	2	—	Stan dard unit asse mbl y hous ing with vari	1959 02

									ous type s	
1 6	Chan gzhen g com mun e	Eastern China Industr ial Archite ctural Design Institut e	Shan gh ai	<ul style="list-style-type: none"> •Each house has kitchen and storage room •Each household has three large rooms •Residential units can be freely combined •All main rooms face south 		7.6	2	Ha s	Line ar shap ed plan	1960 03
1 7	Xush ui com mun e	Tsingh ua univers ity	He bei Pro vin ce	<ul style="list-style-type: none"> •Dormitory style residence •The house has local brick decoration element •Arch roof built with reed which is cheap •The cost of housing is very low 		—	2	—	Line ar shap ed plan	1960 04

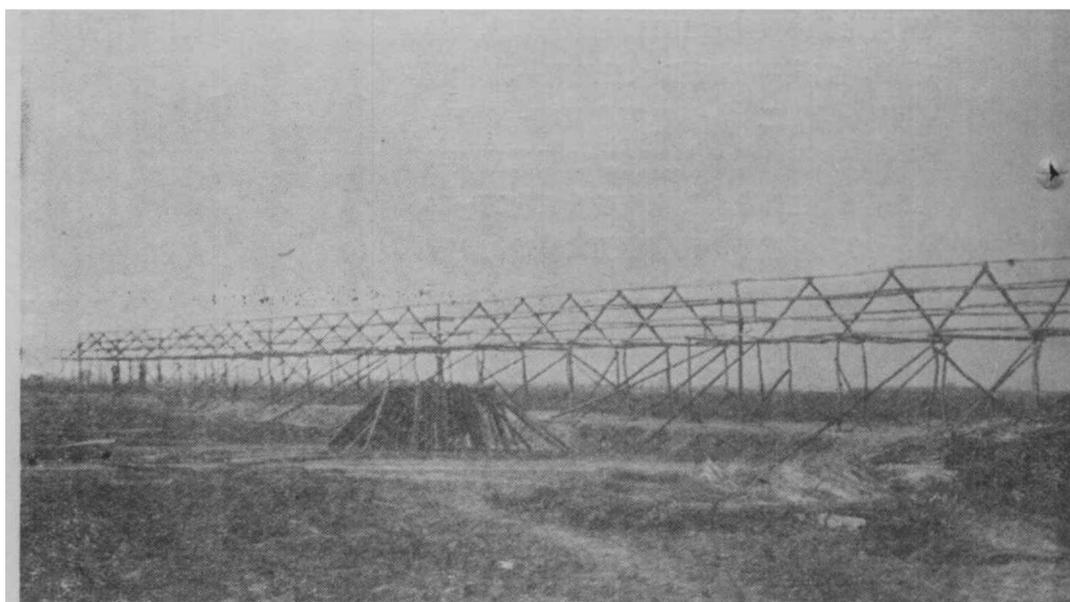


Figure 4. Commune housing under construction [23]. The rural commune housing design by the South China Institute of Technology

Listed in table 1 (case 10), the *Weixing* commune was the first founded People's Commune in China and was designed by South China Institute of Technology (SCIT). This study will try to trace its design process. The reason why the *Weixing* commune was selected as the discussion object primarily has to do with three points. Firstly, it was the representative pioneer case which was designated by Mao Zedong at the *Beidaihe* conference in Secondly, it was planned and designed by architectural professionals and the design plan was recorded in detail in the form of a report. Thirdly, the architectures of the *Weixing* commune administration center remain, and have been designated as national key cultural relics under the protection of the Chinese government.

According to the report edited by department of Architecture of SCIT [24], the planning and design process of the *Weixing* Commune primarily consists of two parts: investigation of traditional settlements in the Henan province, and the design proposal. The two parts will be introduced briefly as follows.

3. The Investigation of Existing Local Houses of the Weixing Commune

The SCIT design team investigated two rural residences of the Henan province in One included local vernacular houses and the other was the new collective housing designed and built by the local production team.

3.1. Vernacular House of Qianwan Village

Qianwan village was a natural settlement that belonged to the first production brigade of the *Weixing* commune. The total population was 95 and the village covered an area of 1165 square meters. According to the report, the characteristics of the vernacular houses can be summarized as follows:

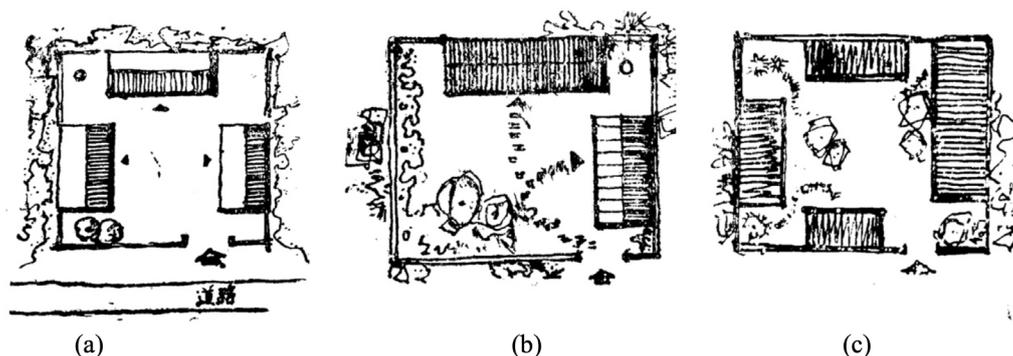


Figure 5. Three types of local houses in *Qianwan* village [24].

1. Layout and space composition: As figure 5 illustrates, there are three types of houses in *Qianwan* village. They are all courtyard houses with a garden in the center surrounded by independent rooms. There is a fence around the houses. This design was the result of top-down patriarchy under feudal society, as concluded by SCIT.
2. Location of entrance: Among the houses above, almost all the entrances are located at the east of the central garden, deviated from the central axis. This can effectively prevent dust from being blown into rooms by strong wind, wrote by SCIT.
3. A pigsty, chicken coop, and toilet were set in one corner of the courtyard.
4. The yard was generally used as a place for washing and drying clothes, and also a place for raising poultry and people to have a rest.
5. In general, the size of the room was around 10m in length, 4.5-5.5m in width, and the plan was divided into two or three areas with a kitchen in the corner.
6. The façade had simple axial symmetry and a gable roof. (Figure 6)

In brief, the characteristics of existing local houses in *Qianwan* village are akin to a Chinese traditional house with a courtyard as the center that organizes all aspects of life, which included the raising of livestock or cultivation of fruit trees. Under the system of the People's Commune, the ownership of property changed from private to public based the socialization principles. The courtyard in the local houses took on the role of being household sidelines in this case. This topic will be discussed in the next chapter.

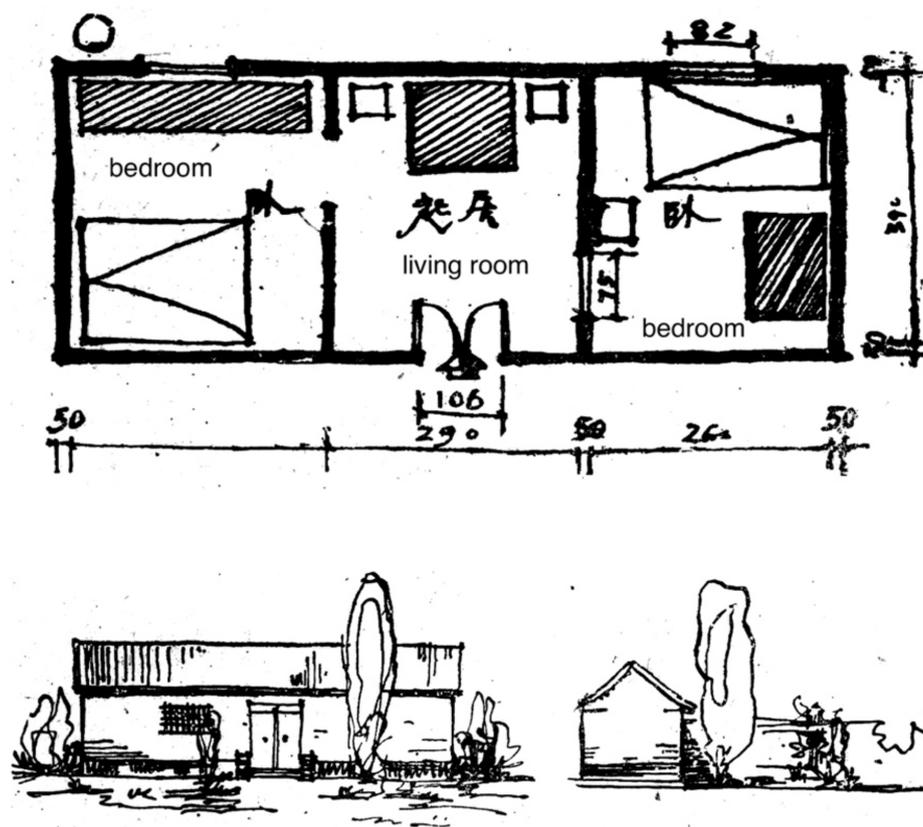


Figure 6. The typical plan and elevation of a local house in Qianwan village[24].

3.2. Collective house of the Longgou production brigade

The second house investigated by SCIT was a collective house built by commune members themselves in Just as the plan illustrates (Figure 7), it consisted of three buildings. The one in the north was for public activities such as production, meeting, and cooking. The one in the south was for sleeping and it consisted of separate rooms which all had an independent entrance. Moreover, there was an affiliated building for raising pigs and holding large-scale activities in the southeast. The total living area was 138 square meters; the per capita living area was 4.2 square meters. The collective house reflected the characteristics of collective life, which was akin to that of a mid-century monastery. And at the end of the report, it was the excellent model for future commune housing concluded by SCIT.

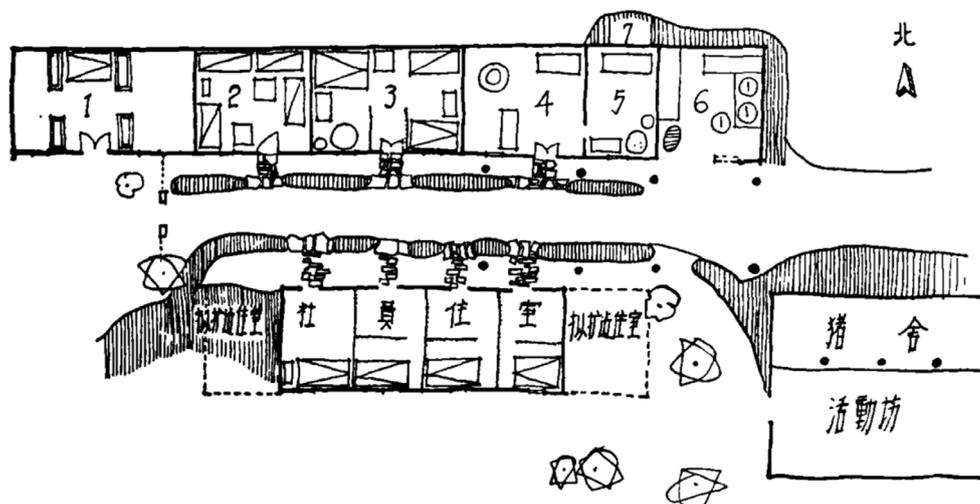
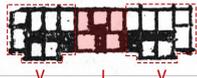
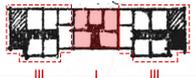
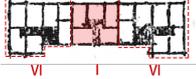
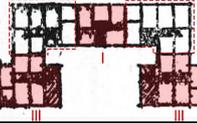
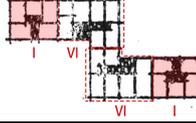


Figure 7. The plan of collective house of *Longgou* production brigade[25]. 1 henhouse 2 meeting room 3 bedroom 4 mill 5 captain room 6 kitchen 7 toilet.

Table 2. Analysis of the housing proposal designed by SCIT[24].

Residential Unit Plan	Collective housing plan	Types	Households	Living area(m ²)	Average living space(m ²)	Collective housing plan	Types	Households	Living area(m ²)	Average living space(m ²)
		I + V	17	205.8	12.1		I + III	15	205.8	13.7
		IV + IV	12	152	12.7		VI + VI	12	175	14.5
		I + II	15	181.8	12.1		I + VI	17	236.2	13.9
		I + III + VI	27	380.8	14.1		I + VI	22	297.4	13.5

3.3. The Rural Commune Housing Design by the South China Institute of Technology

4. Discussion

4.1. What Disappeared in the Design Blueprints for a Modern Rural Residential Building?

The design process of the collective housing of the *Weixing* commune by SCIT was introduced following the investigation of the detailed proposal from a micro perspective. It has been confirmed that the designers focused on the standardized production of housing through the combination of the flexible units; they have learnt from the local existing housing system. For example, along with ensuring collective life, the system can also provide an independent room for commune members' daily living. As apparent from the collective housing of the *Longgou* production brigade, the per capita living area was just the same. With regard to the exterior design, the gable roof, the simple façade, and the axial symmetry were all just like the traditional house in *Qianwan* village. This demonstrated a sense of respect for the regional architecture. However, an important regional factor was ignored in the process of changing from the traditional house under the feudal society to the collective housing in the communist society.

As mentioned earlier, the Chinese government in 1958 called for the establishment of People's Commune system to improve productivity to the greatest extent especially during the Great Leap Forward [26]. Despite appearing in cities afterwards, communes initially expanded in the rural area. It was no doubt that in the rural commune agriculture was the main means of livelihood. It can be said that under the backdrop of the public ownership of property and collectivization of labor, the traditional small-scale peasant economy turned to communism all of a sudden in the rural areas of China. Besides taking part in collective farming, farmers could also have their own private plots and run a household sideline like poultry raising, fruit tree cultivation and so on. This was the only private income of farmers; it turned out to be the most important source to encourage them to carry out production independently. Next, we will review the changes of relevant policies issued on the farmers' household sideline production by the Chinese government around 1958.

Due to the drastic and ideal policies in the initial stage, multiple problems have arisen in terms of the management of the People's Commune. Thus, the CPC Central committee promulgated an instruction called the "12 items on agriculture" in November 1960 [27]. The following are the items related to the private income of farmers:

(1) People's Commune, production brigade and production team as three administrative levels in rural areas, should have their own separate ownership. Among them, the production team is the basic administrative level. It is the basic system of the people's commune at the present stage.

(2) Against equalitarianism and the act of transferring labor force arbitrarily and the communist style.

(5) Commune members are allowed to operate a small amount of private plots and small-scale household sidelines.

(10) Rural markets should be planned and led to recover. The rural economy should be invigorated.

(quoted from "*Urgent instruction letter on current policy issues of rural people's communes*")

Just as the contents indicate, the "12 items on agriculture" attempted to correct equalitarianism and excessive collectivism in the management of communes. Particularly, article 5 and 10 reflected that the private economy in rural areas should be attended to again. Soon afterwards, the government published the official regulations in greater detail; they included the "Regulations on the work of rural People's communes (Draft amendment)" (60 items on agriculture) [28], which is similar to the constitution. Notably, among the regulations, the chapter on "members' household sideline" was included.

Chapter 5: Members' household sideline

(39) Members' household sideline of the People's Commune is a necessary supplement to the socialist economy. It is attached to the economy of collective ownership and economy owned by the people as a whole. It is their assistant. Under the condition of actively running the collective economy, not hindering the development of the collective economy, and ensuring the absolute advantage of the collective economy, People's Communes should allow and encourage members to use their remaining time and holidays to develop household sidelines, increase social products, increase members' income, and activate the rural market.

(40) Members of the People's commune may engage in the following household sideline productions:

- Cultivate private plots allocated by collectives.
- Raise pigs, sheep, rabbits, chickens, ducks, geese and other livestock and poultry, as well as sows and large livestock.
- Carry out household handicraft production such as knitting, sewing and embroidery.
- Engage in collection, fishing and hunting, sericulture, beekeeping, and other sideline production.
- Plant fruit trees, mulberry trees, and bamboo trees in front of and behind the house or in other places designated by the production team. These things belong to the members forever.

(41) The products and income of members' household sidelines are owned and controlled by members.

(quoted from "*Regulations on the work of rural People's communes (Draft amendment)*")

This demonstrates that the income and products of household sideline production as members' private economy began be protected by the law. Moreover, it stipulates the specific ways of household sideline production. It brings to question the policy on household sidelines with regard to the case of the Weixing commune. According to "Trial regulations of Weixing People's Commune"[29], it was stipulated in 1958 as follows:

On the basis of basically realizing the public ownership of the means of production, when members transfer to the commune, they should hand over all their private plots, and turn the private means of production such as homestead, livestock and trees into the public ownership of the whole commune, but they can leave a small amount of livestock and poultry, which are still privately owned by individuals.

(quoted from "Trial regulations of Weixing people's Commune", 1958)

It can be found that at the beginning of the establishment of the Weixing commune in 1958, homesteads, livestock, trees and other private means of production have all been publicly owned,

and the private economy almost no longer exists. As a result, farmers' enthusiasm for production reduced, and they cannot even maintain a normal standard of living.

Through the review of the policies in the above-mentioned periods, it can be observed to have gradually shifted from absolute equalitarianism and collective economy to the reward of household sideline production under the People's Commune system.

When the traditional house in Qianwan village and the design scheme by SCIT are compared (Figure 8), although the designers provided a low-cost and economical collective housing scheme and learned from local buildings, one of the most important element in traditional houses has disappeared in the design proposal drawing—the courtyard in the center. Of course, in such a collective house, the imperfection of infrastructure such as water supply and drainage due to the economic conditions at that time will eventually make it difficult for the scheme to be built. The disappearance of the important role of household sideline production in traditional housing can be fatal—this study termed it the “courtyard of production”. This is not just a simple shift from traditional courtyard houses to modern standardized residential buildings; it reminds us that we cannot ignore the fact that the core of farmers' production and life has disappeared during this transition. However, in 1958, the then commune leaders, farmers and architectural experts did not realize this fact. If the situation of Chinese architectural circle at the time were reviewed, just as table 1 indicates, only two cases (No. 13 and No. 14) mentioned that there should be a place for household sideline production. This means that at that time, almost everyone focused on the production of low-cost standard houses and ignored the immediate production needs of farmers.

In September of 1962, Jin Oubu, then deputy secretary general of the Architectural Society of China wrote in an article called “Discussion on several problems in current rural housing design” as follows:

To do a good job in rural housing design is an important task for the current design work to support agricultural production.

Rural houses are generally composed of residential houses and courtyards. It should not only meet the requirements of the lives of farmers, but also meet their requirements on the part of agricultural and sideline production.

(quoted from “Discussion on several problems in current rural housing design”, 1962[30])

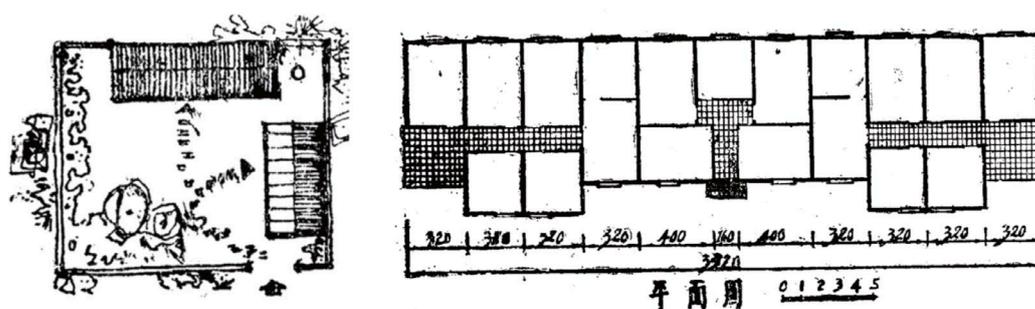


Figure 8. The comparison between the traditional house and the proposal designed by SCIT.

4.2. What Kind of “Rural Modernity” Is Reflected in the Design of People’s Commune Housing?

Some scholars summarize modernity in architecture as the new modern attributes brought to architecture in the process of changes, which is ultimately reflected in the change of the four main elements of the architectural system: technology, function, ideology, and system. We have already discussed the functions involved in the new life under the ideology of the commune, and the rural architectural “creation” in the commune period. Meanwhile, it was influenced by the architectural trend of the 1950s from the style to the level of creative thinking. Therefore, this paper focuses on the “modernity” reflected in the process of rural construction led by the people's commune system from the technical and institutional levels and tries to summarize its characteristics.

Leaving aside agricultural technologies such as mechanized farming and new planting methods, as far as spatial production is concerned, architectural technology involves materials,

structures, construction and equipment. The architectural system involves design, construction and management, etc., and according to Marxist theory, the transformation of the world involves the relations of production and the productive forces. Firstly, at the level of relations of production in communal spatial production, unlike the employer-employee relationship between the owner and the designer in the city, the communalization of the means of production and the corresponding distribution system - the supply system and the work-point system practiced in the rural communes have influenced and created a new type of relationship in the communal architectural production. This relationship manifested itself in the collective contribution of members to the work, joint use, and collective ownership, and even the participation of peasants in the design phase of the proposal. In other words, the production of physical space in the commune, like the construction of farmland, water conservancy, and other infrastructures, was part of the overall construction of the commune, and its "owners," "users," and "builders" were all members of the commune. Under the common goal of improving productivity and living a happy life, members of the commune in the spirit of self-reliance, form a new production relations belonging to this period: "collective wisdom and efforts".

On the other hand, what are the qualities of the technology used in construction, i.e., the productivity component, in addition to the people themselves and their organization. Generally, the core elements of productivity in construction are tools, materials and methods. First of all, as far as tools are concerned, they can be divided into construction tools, which are nothing more than traditional production methods, and equipment; although complete infrastructure such as lighting, water supply, and power supply were included in the housing plans in the villagers' voices and the designers' blueprints, "electrification" was still not realized under the circumstances of 1950s. It was replaced by passive, climate-specific adaptation strategies, such as the use of side porches to increase natural ventilation in hot climates, as showed in No. 7, 11, and Secondly, in terms of materials and methods, if the construction of rural buildings in pre-industrialized societies was based on traditional materials and corresponding traditional masonry methods, the introduction of the commune system modernized the technological aspects of building production to a certain extent, mainly through the use of new materials such as iron and concrete, such as the new truss structure presented in the building of the Great Hall (Figure 10 and 11). Above all, this is a low-tech strategy belonging to that special era, reflecting the quality of "combining local and foreign cultures". On the one hand, different from the traditional masonry methods that have lasted for thousands of years, the commune construction has its modernity, on the other hand, it is also very different from the modern materials and complete technology used in the same period of the production of iconic urban buildings, it is a kind of intermediate between traditional and modern.



Figure 9. Front elevation of *Weixing* Commune hall



Figure 10. Truss structure of *Weixing* Commune hall

5. Conclusions

In this study, the practice of rural housing design in a special period in China was reviewed. The Great Leap Forward movement, which started in 1958, led to the birth of a basic socialist organization in China's vast rural areas and this prompted Chinese architects in the 1950s to anticipate and outline the future of modern housing for villagers. This research illustrates that in the process of designing modern rural houses, architects at the time concentrated more on how to provide a standardized house suitable for the industrial production system and ignored the production needs of farmers, i.e., the courtyard.

Thus, this study suggests that architects pay more attention to the special land of the countryside when designing future rural buildings, and pay attention to the residences on a land that is totally different from that of urban areas. Modernity does not necessarily denote industrialization, nor does it necessarily denote the simple expansion of per capita living area. Its meaning should be derived from the actual production and living needs of farmers..

Author Contributions: Conceptualization, F.Y.; formal analysis, Y.Z.; resources, F.Y.; data curation, F.Y ; L.Yand Y.Z.; writing—original draft preparation, F.Y.; writing—review and editing, F.Y and Y.Z.; supervision, L. Y; funding acquisition, F.Y. All authors have read and agreed to the published version of the manuscript.

Funding: This research was funded by the National Natural Science Foundation of China (Grant number: 52308028) and China Postdoctoral Science Foundation, No.73 General Fund (Grant number: 2023M732538) .

Data Availability Statement: No new data were created or analyzed in this study. Data sharing is not applicable to this article..

Acknowledgments: In this section, you can acknowledge any support given which is not covered by the author contribution or funding sections. This may include administrative and technical support, or donations in kind (e.g., materials used for experiments).

Conflicts of Interest: The authors declare no conflict of interest.

References

1. Rural Revitalization Strategy (2018-2022). Council, C. C. C. a. t. S., Ed.; 2018.
2. Zhao, C. Re-discussion on the view of time and space for studies of Chinese modern architecture. *The Architect* **2020**, (01), 92-95.
3. Tan, G.; Gao, Y.; Xue, C. Q. L.; Xu, L. 'Third Front' construction in China: planning the industrial towns during the Cold War (1964–1980). *Planning Perspectives* **2021**, 36 (6), 1149-DOI: 10.1080/02665433.2021.1910553.
4. Zhang, Y.; Schoonjans, Y.; Gantois, G. The emergence and evolution of workers' villages in early New China. *Planning Perspectives* **2023**, 39 (1), 153-DOI: 10.1080/02665433.2023.2222286.
5. Li, H. Soviet specialists's urban planning technical assistance to China, 1949–*Planning Perspectives* **2022**, 37 (4), 815-DOI: 10.1080/02665433.2022.2071757.
6. Xiang, B.; Zhao, M. A Brief Review of the Residential Planning of Chinese People's Commune. *Journal of Urban and Regional Planning* **2020**, 12 (01), 93-106.
7. Yu, F.; Nakatani, N. Research on the Methodology of Regional Planning in the Design of People's Commune. *Journal of Architecture and Planning (Transactions of AIJ)* **2019**, 84 (766), 2669-DOI: 10.3130/aija.84.2669.
8. Gao, Y.; Xue, C. Q. L.; Tan, G.; Chen, Y. From South China to the Global South: tropical architecture in China during the Cold War. *The Journal of Architecture* **2023**, 27 (7-8), 979-DOI: 10.1080/13602365.2022.2154821.
9. Jacoby, S.; Cheng, J. Collective Forms in China: An Architectural Analysis of the People's Commune, Danwei, and Xiaoqu. In *The Socio-spatial Design of Community and Governance: Interdisciplinary Urban Design in China*, Jacoby, S., Cheng, J. Eds.; Springer Singapore, 2020; pp 17-69.
10. Lu, D. Remaking Chinese urban form: Modernity, scarcity and space, 1949-2005; Routledge, DOI: 10.4324/9780203001196.
11. Lu, D. Third world modernism: architecture, development and identity; Routledge, 2011.
12. Lu, D. The SAGE Handbook of Architectural Theory. SAGE Publications Ltd, 2012; DOI: 10.4135/9781446201756.
13. Zhao, Y. The covers of Architectural Journal and the socialist fantasy during the Great Leap Forward. *Architectural Journal* **2014**, (Z1), 58-63.
14. Ye, L.; Huang, Y. Design down to village again: A study of rural construction in the early years of reform and opening period, 1978-*Architectural Journal* **2016**, (11), 10-15.

15. Ye, L.; Huang, Y. Process study of design-down-to-village from 1958 to 1966 and the influence analysis of subject and object. *The Architect* **2017**, (06), 91-99.
16. Liu, Y. The planning and construction of the People's commune in Xushui in 1958: historical records of the practice of rural construction by the department of architecture of Tsinghua University during the Great Leap Forward. *Time + Architecture* **2019**, (06), 138-DOI: 10.13717/j.cnki.ta.2019.06.024.
17. Cheng, J. Spatial design as political manifesto: The design proposals of China's People's commune 1958-*New Architecture* **2018**, (05), 29-33.
18. Jacoby, S.; Cheng, J. Collective forms in China: People's commune and Danwei. *New Architecture* **2018**, (05), 5-11.
19. Feng, J.; Cao, H. Eating together, meeting together: canteens and assembly halls in rural southern China during the era of the People's commune. *Time Architecture* **2021**, (03), 34-DOI: 10.13717/j.cnki.ta.2021.03.008.
20. Shinichiro, S. *People's Commune*; Hagane Press, 1959.
21. Strong, A. L. *The rise of the Chinese People's communes*; Iwanamishinsyo Press, 1960.
22. Zhang, L. Farewell Ideal-Research on the System of People's Commune; Shanghai Renmin Press, 2016.
23. Architectural history teaching and research group, N. I. o. T. Make do with whatever is available, from local to foreign, building new residential areas on the original basis. *Architectural Journal* **1959**, (01), 7-9.
24. Department of Architecture, S. C. I. o. T. The planning and design of the first grassroots community of Weixing commune, Suiping county, Henan province; Guangdong People's Publishing House, 1958.
25. People's commune planning and construction investigation and research team, D. o. A., South China Institute of Technology. The planning and design of the first grassroots community of Weixing commune, Suiping county, Henan province. *Architectural Journal* **1958**, (11), 9-13.
26. Committee, P. L. R. C. o. C. P. In *Selected compilation of important documents since the founding of PRC*, Vol. 11; Central Party Literature Press, 1994.
27. Committee, P. L. R. C. o. C. P. In *Selected compilation of important documents since the founding of PRC*, Vol. 13; Central Party Literature Press, 1996.
28. Committee, P. L. R. C. o. C. P. In *Selected compilation of important documents since the founding of PRC*, Vol. 15; Central Party Literature Press, 1997.
29. Jia, Y. Apotheosis of the politics in rural area during the Great Leap Forward period-research on the Chayashan Weixing Commune, Henan Province; Intellectual Property Publishing House, 2006.
30. Jin, O. Discussion on several problems in current rural housing design. *Architectural Journal* **1962**, 09, 4-8.

Disclaimer/Publisher's Note: The statements, opinions and data contained in all publications are solely those of the individual author(s) and contributor(s) and not of MDPI and/or the editor(s). MDPI and/or the editor(s) disclaim responsibility for any injury to people or property resulting from any ideas, methods, instructions or products referred to in the content.