

# A Critical Discussion on the Role of Architectural Practice in Development of Rural China: For Living Sustainably

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## ABSTRACT

Worldwide sustainable development advocates sustainable living for all. The increasing architectural construction in China has become an irreversible force in rural development. Judging and conducting architectural practice based on analysis of living sustainably in rural China is urgently needed. The developing of rurality should show sustainability through the lenses of institutions, capital, and ecosystem services, with the aim of achieving well-being and maintaining ruralite-centred development. Such a perspective will facilitate the development of a conceptual framework of sustainable rural living. Architectural practices can advance sustainable living. Contextualisation sustainable living in rural China can identify the current needs of a decent and endogenous life, which is also open-source and universally beneficial to all. Prevalent problems in architectural practice in rural China such as house demolition, inefficient use, inadequate sustainable concern, and the recently unveiled top-down working pattern are challenged. An alternative framework of architectural practice pattern should be adopted to promote sustainable living in rural China. Such a framework should include context specification and should consider functional, procedural, material, and managerial sustainability.

**Keywords:** rural architectural practice, living sustainably, community empowerment

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## 1 INTRODUCTION

The rural architectural practice emerging in China over the last decade should be re-examined from the lens of sustainability because sustainable development has become a worldwide consensus for human development. China has promoted sustainable development as a national strategy since the 1990s, but modernisation and industrialisation remain the ultimate goal of development. The Sustainable Development Goals (SDGs) in 2015 signify the global movement towards sustainability. Given the announcement of SDGs and the inevitable domestic structural transformation, China intensifies its effort to reduce carbon emissions and advance balanced urbanisation. Thus, rural architectural practice requires extensive knowledge on sustainable rural development and must promote sustainable approaches. The broad concept of sustainability provides varied perspectives on particular contexts and needs. Rural life in China is discussed using a conceptual framework of sustainable living. Targeting this, appraisal on the current situation and the latest empirical results of rural architectural practice reveals the problems and limitations. The role of sustainable architecture practice is also contextualised.

## 2. LIVING SUSTAINABLY IN THE RURAL CONTEXT

### 2.1. Rurality and rural space, sustainability, and well-being

Rurality provides a scope for the development of a conceptual framework of living sustainably. Rurality is related to the physical or emotional characteristics that are interpreted and reinterpreted by people living or working in rural areas (Bosworth, Somerville 2013, Cloke 2003). These features guide ruralites' life, practice, and choice (Van Assche, Hornidge 2015). Three theoretical lenses are used to conceptualise rurality (Adapted from Bryant, Pini 2010, p.4-5): the functional lens refers to the rural land use, landscape, and identities of living on land (Cloke 2006); the lens of political-economy indicates the domestic relationships and global connections of rural places based on networks such as production, economic activities, social structure and relations (Cloke, Goodwin 1992, Friedmann, McMichael 1989, McMichael 1996, Redcliff et al., 1991); the lens of social constructionism shapes identities of place by rural idyll and the "interconnection between construction of rurality and nature" (Cloke 2006, p.21). These three lenses of rurality are applicable to a certain location, space, or place that support rural life. Location indicates specific topographic positions, whereas space pertains to human and non-human activities in a location; place possesses identities and boundaries which may be impermanent, permeable and blurred, indicating the socio-cultural and environmental values (Cloke 2006, Bosworth, Somerville 2013). A triad model of rural space (Halfacree

2006, p.51) includes rural localities, which are “inscribed through relatively distinctive spatial practices,” formal representations, which frame rurality “within the (capitalist) production process,” and everyday lives of the rural, which “incorporates individual and social elements (‘culture’) in cognitive interpretation and negotiation.” which emphasise “materiality, representation, and imagination” (Harvey 1996, p. 322) respectively when learning rural space.

The development trends or needs of a certain area influence the perception of rural life and future rurality. Sustainable development became a primary development model worldwide because of its global appeal. Necessary adjustments help to match sustainability to differential development paths of countries and regions. Knowledge of sustainability should be grasped from perspectives of locals and experts, and consider locality while internationally learn, share, and innovate. In a bottom-up approach, sustainable living starts by adopting small changes in daily life (United Nations 2016), which are easy to practice by any individual. Increasingly interdisciplinary studies and practice continue expanding the concept of sustainability. Sustainability incorporates problems, solutions, and responses at a systems level, which contains three key concepts, namely, institutions, capital, and ecosystem services (Jacques 2014). Institutions indicate the rights, rules, procedures, and features of governance (Young 2013). Development efforts must be resilient to changes. Thus, governance must be capable of providing effective rules to coordinate differential participants and modify the inappropriate rules at a proper time. Capital determines livelihoods and living style and comprises natural, physical, human, financial, and social capital, among most of which can change with varying conditions (Ellis 2000, Jacques 2014). Ecosystem services, a component of natural capital, refer to the critical ecological goods and service for human life and society “in four types: provisioning, cultural, regulating, and supporting” (Jacques 2014, p.9): provisioning services address direct needs; cultural services meet the spiritual and recreational demands; regulating services provide stable spatial and temporal conditions; supporting services are crucial for the operations of other services. The interaction and evolution of elements of rurality and rural space within development can be determined based on institutions, capital, and ecosystem services.

Rural institutions, capital, and ecosystem services influence local life and livelihood through which sustainable lifestyle can be introduced. According to the theory of rural livelihoods, the diversification and access to capital and capital-based activities can help people learn more skills, broaden their minds, and promote regional economy, which in the long run improve healthy, self-recognition and self-esteem of individuals and stimulate them to obtain decent work and pursue life goals (Jahan 2015). Institutions and ecosystem services vitally enable people to access desired capital and develop activities. The well-being of rural residents should be the most important goal and evaluate criterion for improving rural livelihoods. Human well-being encompasses security, the basic material for good life, health, good social relations, and also freedom of choice and action (Millennium Ecosystem Assessment 2005). Rural areas usually suffer from the effects of industrialisation, such as environmental degradation, low economic competitiveness, and disintegration of moral values, which weaken the capacity of local development and result in dissatisfaction in rural life. Resilient approaches that provide universal basic social services and enhance opportunities and capacity for choice can promote happy and healthy living, particularly lifelong and cross-generation well-being (Malik 2014). Sustainable operation and optimisation of rural institutions, capital, and ecosystem services can maintain the provision of public goods, strengthen the capability of individuals and communities, and provide additional options on what and how lifelong development can be achieved.

## 2.2. Ruralite

The concept of sustainable living in the rural context must be established based on the scope of institutions, capital, and ecosystem services and the achievement of well-being. The stakeholders of rural sustainable living should then be prioritised. Stakeholders include permanent or the long-term rural residents, particularly the underclass, the vulnerable, and the marginalised population. Approaches of diversifying the rural economy by intensive agriculture, tourism or other forms of business usually ingratiate urban customers and benefit rural middle-class and urban-rural migrants who have a higher education level, favourable living conditions, and high disposable income to pursue non-farming jobs (Ribeiro, Marques 2002). Uncertainty is another factor that increases the vulnerability of rural residents. Sources of rural income are usually unstable. Market and climate influence agriculture. Rural tourism suffers seasonal non-income and non-employment. The growth of rural businesses depends on external investments. Also, climate change and catastrophes can easily alter rural life and production. A liberal market causes alienation between people and land in regions with low labour-intensive production regions, result in segregation of land function that may adversely influence sustainable rural landscape management (Vos,

Meekes 1999). Migration between rural and urban is highly affected by the changing conditions of social welfare and services in the two regions (He 2014) thereby causing instability of rural human capital. People who live most of their life in the countryside have the right to benefit from development fairly and equally.

### 2.3. Role of rural architectural practice

Assessing the architectural effects on rurality is kind of moot because the current architectural practice is partially driven by rural residents' needs and problems in development, which also reflect and influence rurality. Rural architectural practice enables developers or builders to visually and rapidly realise their aspirations. The locals or outsiders shapes a location, space, or place, affects the evolution of rurality, and manifests through the spatial changes and transformations of rural lives. Thus, changes in rurality shaped by architectural practices to a certain extent indicate the willingness of rural residents to alter their lifestyles because they interpret rurality, but also show the imagination of rural life and interventions by the outside practitioners. The quality of built environment and rural landscape determines the quality of the well-being of ruralites, particularly their health, means of sustenance, functionality of the social and ecological system, and mental satisfaction. Rural architectural practice should help rural residents to optimise their built environment to enable them to live sustainably and achieve short- and long-term improvement of their well-being.

## 3. RURAL DEVELOPMENT AND LIFE IN CHINA

Rurality in Chinese context cultivates moderation and forbearance because rural life and society accept good or bad things as human nature, and such acceptance showcases the Chinese philosophy of perceiving and pursuing humanity (Village Diary 2013). Exploring Chinese rurality and rural identity entail following this nature of Chinese countryside because it roots the sense of belonging to rural residents who share a common social culture. Stories in a certain rural place that people remember and pass on indicate specific semiotic meanings. During decades of development after 1949, rural China is shifting from a society based totally on the familiar and a differential mode of association (Fei 1992) to a society with disassembled traditional social institutions and association based on mutual interests or profits (He 2013). The Chinese government dominates the country's rural development. The Three Rural Issue raised in the late 1990s identified the increasing poverty, unguaranteed rights of the peasantry, and their dissatisfaction with rural livelihoods, instability of agriculture, and food insecurity. To address these concerns, national policies have started enhancing rural development through rural governance reform, infrastructure and housing construction, industrial development, and urban-rural integration. Designated rural regions or groups receive sufficient political support and resources, whereas the less favoured areas or the marginalised groups are left behind. This situation results in the unstable expectation of rural life. Later, the improvement of social welfare in the rural areas accompanied by the decline of urban employment during the economic transformation gradually decreases the rural-urban migration (He 2014). The tendency of young adults to stay in villages increases rural human capital. Given this issue, life in the countryside should provide Chinese ruralites with increased choices on the means and direction of development, guaranteed rights, and increased capacity and confidence to grasp local development, which is, living sustainably in rural areas.

The constitutions of well-being can demonstrate the need to improve sustainable life in rural China, stabilise governance, and achieve balanced development. In contrast to the hard and disrespectful life in cities, when the physical living condition, infrastructure, and social welfare in the countryside are gradually improved, rural residents begin to aware of and pursue a decent life (He 2014). Decent living is achieved when the rights of rural residents are realised. Such realisation empowers them and also provides them with freedom, accessibility, and appreciation. Rural China must improve its endogenous life, respect diverse livelihood, and protect nature in response to the modernist development model and the top-down governance approach. The advocacy towards endogenous development in Europe (Woods 2011) emerges for rural China. However, Woods (2011) also states the three significant limitations of endogenous development model: first, the model is inefficient in foundational or structural disadvantaged areas where must be urgently improved; second, rural middle-class residents gain more benefits than the poor and vulnerable; last, this model strengthens rural elites and professionals and creates exclusion, internal inequalities, and oppressions (Shortall 2008, Árnason et al., 2009, Shucksmith 2000). Thus, promoting endogenous development in rural China needs critical contextualisation and adjustment. Also, updated knowledge and modern techniques must be made available to people and easy to be inherited locally. High-science low-tech rural architecture, which led by Edward Ng (Wan et al., 2011) and Hsieh Ying-Chun (2015), and public science services such as that provided by Public Lab (2016), are examples of researches and innovations cater to people.

Lastly, rural development must be universally beneficial. SDGs emphasise fair and universal development, suggesting that the priorities of different groups should be addressed in a fair, timely, and continuous manner. The term universally beneficial means provision of benefits to different groups in the same developing process according to each specific need, while the results may differ that not all should meet a unified standard. Living sustainably for Chinese peasantry refers to decent living where one can endogenously live with open-source and universally beneficial development.

#### 4. RURAL ARCHITECTURAL PRACTICE IN CHINA

In China, the rural architectural practice has gradually arisen since the early 2000s due to the political and economic changes that aim to bridge the significant rural–urban disparity. Since 2005, the implementation of the New Socialist Countryside resulted in various cases of entire village relocation, large-scale residential demolition, and evictions. Thus, the official initiative of traditional village preservation established in 2012 and the Beautiful Countryside Construction movement enacted in 2013 advocated the conservation of rural locality and nostalgia. These actions encourage growing rural architectural practice by the third sector (Zhou 2016). Also, the saturated market of urban construction that proliferated because of rapid urbanisation but declined after 2013 (Hewitt 2016) impels architects to target rural regions. The permeation of market economy also results in the widespread rural construction. The rural symbols and meanings that satisfying rural consumers but detaching from rural residents and referent (Cloeke 2006) emerge during the modernist and market-oriented Chinese rural development. Certain rural areas with pleasant climate or environment face excessive commercial development. The new middle-class rural residents prefer building multi-storey houses with industrial materials as a display of affluence or a sop to urbanite. This feature also causes the marginalisation or elimination of remote, less favoured, or common villages. Rural architecture is currently one of the most crucial domains when intervening rural development in China.

The widespread and rapid growth of rural architectural practice focuses more on short-term results than on systematic development planning and long-term benefits. The obliterated conventional livelihood and lifestyles must be re-built through community engagement and organisation in new villages (Liu et al., 2015). However, this process is difficult because re-establishment entails substantial resources and significant time, and to adapt to new conditions and neighbourhoods usually fails. Foci of the government and the public on the inefficient use of new cottages remain inadequate. Various factors cause the vacancies and idleness of new village residences, including oversized or inconvenient indoor or outdoor space (Liu et al., 2015), the low comfort level of built environment, and improper land planning that are primarily attributed to urban bias or unconformity of rural life. A systematic strategy of rural construction in China based on investigation and experience of crucial projects was first proposed by China Architecture Design Group (2016) on a public forum under the theme of 'Remember the Nostalgia' by Architect Su Tong. Su firstly summarised the current problems related to rural construction in China as follows:

- Economic backwardness
- Social disintegration
- Ecological degradation
- Loss of identity and locality
- Fail to reach consensus between rural community, local government, and architect
- Convergence of business model (mainly refers to tourism and related services)
- Inadequate transmission of vernacular knowledge and tectonics

Similar to the findings of many current rural architectural projects, Su pointed out that the same externally supported architectural projects are inapplicable in all the areas in rural China. This finding means that bias may exist and project sites must be carefully examined and selected at an early stage. Su emphasised the market-oriented development supported by the external capital and based on the negotiations coordinated by local government, and stated the five stages under this rural construction strategy as follows:

- Intensive and professional investigation
- Identity clarification and planning initiation
- Localisation of development and spatial planning by targeting specific conditions
- Integration of multi-level and multi-element planning for operationalisation

- Space categorisation and design in line with three types of functions, namely, ordinary buildings, demonstrating and gathering buildings, and semiotic buildings and rural landscapes

The rural construction strategy proposed by Architect Su methodologically represents most perceptions on current rural construction in China and the future development, most of which are based on actual projects and other domestic experiences. However, challenges can be established through the lens of living sustainably in rural areas, which is discussed before. The rural construction strategy of Su is highly biased towards a top-down approach under which typical predicaments in land tenure or rural governance are easily compromised or avoided. This rural construction strategy lacks architectural innovations to sustain rural cultures and ecosystems. This strategy also implies urban bias to some extent in selecting sites, planning, designing space, and proposing development. Participation of rural residents is concerned in this strategy but inclines to requests local governments to persuade residents to accept plans and designs by architectural teams composed of outsiders. This process fails to enhance professionalisation of construction of the villagers or promote collective labour for bonding community.

More generally, most current architectural practice in rural China fails to consider the multi-dimensional aspects of sustainability. Most practice acknowledges the values of vernacular tectonics and traditional knowledge but barely contribute directly to the inheritance of vernacular architecture by local generations. Simplifying problem-oriented methods produces a common construction style and similar features in different rural areas and results in the loss of vernacular knowledge and techniques. The knowledge exchange and local education during the architectural practice are scarcely noticed. Mature planning strategies and climate change preparedness at a bottom level are not systematically provided. The locals usually cannot sustain the contributions of architectural practice on social and environmental dimensions. And the economic functions of new-built space serve less except rural tourism and concomitant services. In terms of professionalisation, weaknesses indicated currently primarily relates to the inadequate capacity to plan and design sustainable built environment. Interdisciplinary cooperation and study of instruments for assessing, maintaining, managing, and operating rural built environment has been seldom conducted. From another angle, all these limitations also inspire the alternative approaches.

## 5. ALTERNATIVE FOR CHINA'S RURAL ARCHITECTURAL PRACTICE TOWARDS LIVING SUSTAINABLY

General strategies proposed for the identified issues in rural China construction are developed below. A well grasp of a rural space depends on deep experiencing the local through lenses of materiality, representation, and imagination. Based on a proper understanding of the local, innovation and practice in rural architectural will enhance the spirit of place, reduce urban bias, and modify capitalist or materialist orientation. Sustainable architectural practice in rural must gradually apply bottom-up approach. Investigations and engagements should figure out the situations and working patterns of local institutions, capital, and ecosystem services and then scrutinise possible opportunities to change local mind and build cooperation during designing and constructing. This approach should allow the locals to express their opinions and respectfully provide them low-cost but sustainable choices according to their ability and resources when they encounter problems in sustaining decent life. A local consensus of ecological conservation is crucial, though difficult to establish, based on which architectural tectonics obtain evolution sustainably. Attempts of adopting a systems level on the local and regional social-economic changes help to identify local priorities and adjust architectural approaches. Allowing rural residents to dominate architectural practice is possible, which requires learning from the locals and subsequently encouraging them to learn. Architecturally targeting sustainable well-being should particularly enable the left-behind rural groups or regions to improve their way of living and shape particular sense of place and belonging endogenously. A framework of local architectural practice pattern is proposed by contextualising sustainable living in rural China, which is described below:

- **Context specification:** Establishing the concept or idea of design for the local by spatially and temporally reflecting on the past, grasping its potential of development and enhancing foresight;
- **Functionally sustainable:** Planning and designing space while appreciating locality, showing accountability of increasing engagement and developing potentials;
- **Procedurally sustainable:** Improving local human capital, maximising usage of local resources, exchanging or generating knowledge, and transmitting culture and value while planning, designing and building;

- **Materially sustainable:** Choosing materials that showcase identity and care for habitat, challenging consumerism, and exploring more ways of reusing or recreating;
- **Managerially sustainable:** Operating projects cost-effectively, advancing social connections and community participation, and catalysing governance breakthroughs.

## 6. CONCLUSION

Dynamic changes occur in rural areas in China because of decades of rapid industrialisation and urbanisation. A proper perception of Chinese rurality provides architectural facilitators practical directions to grasp local contexts and establish understandings. Learning rural institutions, capital, and ecosystem services in a certain place will promote the engagement with local networks and establish proper bottom-up approach as a response. To help rural residents perceive well-being ensures that rural architectural activities concentrate on enhancing the capacity and providing access for the locals to lead and maintain a sustainable life. A methodological discussion establishes an alternative framework for the rural architectural practice pattern in China that specifies context and considers functional, procedural, material, and managerial sustainability. More theoretical supports and empirical strategies should add to improve this architectural practice pattern further.

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