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The Rural as a Frontier of Expression in Contemporary Chinese Architecture.

Projects and Strategies to Mitigate the Hollowing of Countryside Settlements.

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Introduction

The paper explores architectural strategies and projects to reactivate depressed rural areas in China. After decades of urbanocentrism, research and practice in rural China has become a crucial topic, and it has been acknowledged to play a pivotal role in shaping new trajectories of contemporary design culture,

as witnessed by the recent Swiss Architectural Award 2022 given to architect Xu Tiantian (founder of the Beijing-based office DnA Design and Architecture), who has defined, and extensively explored, the concept of architectural acupuncture as the main driver of rural development in its environmental, aesthetic, cultural, social, and economic characters. Countryside development is receiving paramount attention in China, where political and cultural agendas promote rural revitalization as the core campaign to mitigate

Village hollowing can be seen as the other side of the coin of the binomial land taking and farmland shrinking. Its mitigation, control, and counterbalance are top priorities in the People's Republic of China. The reasons span from social and cultural to economic and demographic to environmental aspects, and the cross-disciplinary dilemma that derives calls for original and innovative approaches to revitalize the countryside. In China, design and planning fields have been acknowledged to play a leading role in reshaping rural-urban relationships and the related controversial transition. This paper discusses how some Chinese architects engaged in rural projects explored new

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architectural
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hollowing, China, rural
revitalization

possibilities of design expression. Representatives of a multitude, they tested local materials and traditional techniques in innovative ways, renovating design processes and architectural languages. Their engagement has generated a variety of approaches showcasing surprising solutions characterized by challenging attitudes toward standards, dogmas, and canons. In this way, they stimulated a vivid debate repositioning the role of designing at a global level. The paper puts forward an interpretative key to observe how Chinese architects envision the future of ruralities.

rural-urban disparities (Figure 1). Despite the recent efforts and achievements, the dramatic frictions between the urban and the rural areas are far from being narrow, remaining the main obstacle to inclusive nationwide development. The most evident vulnerability consists of population trends concerning not only the outflow migration fluxes toward big cities, often considered the largest in human history, but also the demographic structure, which shows young adults fastly disappearing from home villages.

The conflict between the necessities of

economic development and the protection of the local assets, both environmental and cultural, puts the countryside areas in a condition of fragility. At the same time, the countryside can be framed as a space for potentially forging new hybridized identities, released from the burdens of obsolete definitions of urban and rural. Indeed, as noted by Rem Koolhaas, in front of a “predictable accumulation of roads, towers, icons” (Koolhaas, 2020, p. 2) featuring new cities, the countryside has become a source of site identity.

The paper shows how architectural design and planning are contributing to emancipate the rural from its agricultural dependence to embrace more complex and integrated cycles of activities, such as leisure, health, productivity, market, and cultural services.

In this prospect, the research tries to answer questions like what contemporary forms of living and inhabiting rural areas can be envisaged to attract young adults to stay or even move to the countryside? How can the peculiarities of countryside habitats, including built and open spaces, be integrated into a project for a new rural living? What are the roles of architectural design and planning in forging contemporary landscapes? How can

The cover image of the post appeared on the webpage of The Architectural Review titled "China's shift from urban development to rural reconstruction,"

Fig.1
written by Austin Williams (2018).



design actions at different scales graft logics of metabolic reactivation, according to which punctual transformations can trigger broader revitalization processes?

The research grounds the need to tackle the complex problem of village hollowing and shrinking farmland, a severe issue in the People's Republic of China. The reasons span from social and cultural to economic and demographic to environmental aspects, and the cross-disciplinary dilemma that derives calls for original and innovative approaches to revitalize the countryside. Therefore, the paper explores how design fields play a leading role in reshaping rural-urban relationships and the related controversial transition.

Hollow villages in China. A paradoxical condition

Hollow villages are present worldwide and represent complex challenges to reduce land taking and, at the same time, prevent shrinkage of rural population and farmland. The phenomenon is observed mainly in social disciplines, such as geography, economy, sociology, anthropology, and urban planning. It is closely tied to the in-situ urbanization of the countryside and the migration outflows.

The notion raised in China in the early 1990s as a phenomenon embodying these essential features: a significant loss of farming areas due to the construction of dwellings, usually multi-story villas, in the fringe areas of

Figure 2. Village hollowing in a rural settlement of the Fujian Province. Buildings in relatively good condition currently vacant.

Fig. 2

Photo by the author, September 2017.



settlements; a decrease in the number of rural households due to migrations toward big cities; the abandonment of houses in the core parts of villages -not always because in of their obsolete conservation status. The combination of these three factors turns village hollowing into a paradoxical condition of the countryside, where the decrease in rural residents does not correspond to a slowdown of housing construction.

Village hollowing's driving forces embody economic, sociocultural, institutional-managerial, and environmental factors (Long et al. 2012a). As one of the market-oriented policies released form late 1970s, the Household Responsibility System established that peasants were "granted long-term land leases

and the opportunity to sell excess grain" (Tilt, 2010, 3), creating the preliminary conditions for small private investments. Indeed, the farmland in the villages' fringe areas started to be seen as a tank of land available for housing construction, which appeared to be more profitable than retrofitting the existing homes realized with perishable materials. Therefore, most of these capitals financed the construction of new dwellings, bigger and equipped with modern amenities, into which peasants moved, leaving old houses still on their property vacant (Figure 2) (Long et al. 2012b). Few investments were put in agricultural modernization, keeping farming productivity relatively low.

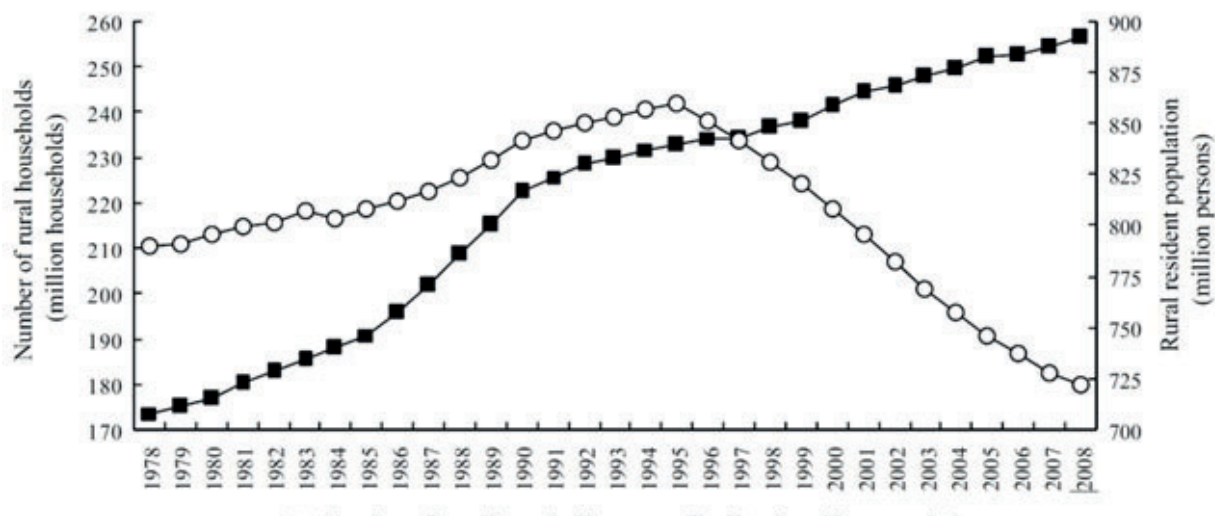
The dual social structure of Chinese society (Whyte, 2010; Qiang, 2019) played another fundamental role in village hollowing. The impossibility for migrant workers to settle legally in cities and access the services and rights of urban counterparts encouraged rural householders to keep dwellings and land even if idle since, in case of ill fortune, they would have provided a parachute to unemployed peasants, or what Marrucci called “the sunny side of the hukou” (2017, p. 49). In fact, once erected the new villas, households were afraid to get rid of the old ones, mainly due to uncertainties on property rights. Being free trade forbidden by the law, the “seasonal vacancy” or absenteeism became “a key factor in the disparity between the rural resident population and the rural housing stock” (Li, Wu, and Liu, 2018, p. 138). In particular, the existing system of land ownership prevented free trade of rural houses without clarifying what should be done of the land when the household migrated either temporally or permanently. Episodes of non-fair use rights trading by the villages’ heads have also been reported (Long et al., 2012a; Zhao and Zhang, 2017). Indeed, local governments have been interested in allowing the realization of new houses. According to the “Measures for the Administration of the Collection and Use of Land-Use Fees for Newly added Construction Land”, No. 117 document, promulgated by the

Ministry of Finance of China in 1999, 70% of the land-use fees for new constructions land would go to local governments (Long et al., 2012a). According to the government Land Management Law on rural housing, each male adult over 18 is entitled to one plot of land for personal constructing dwelling, including those who migrated. The fact that one household usually owned more houses indicated that the law was bypassed or violated (Liu et al. 2010). The law prevents property transfers since, officially, housing land belongs to the village community and is assigned to registered villagers at no cost to allow them to build a house. The land can only be transferred to other community members or authorities, for instance, government expropriating areas in turn for compensation. However, it has been proved that most of the time, the returns are unbalanced in relation to the new value of the land. Taking Fujian Province as an example, a discrepancy of 10 to 30 times has been found (Su, Tao, and Wang, 2013).

These social dynamics went hand in hand with folkloristic ones opposing old-housing trading, such as homesickness and superstition. For instance, a study pinpointed that “fengshui dictates that the eaves of a new house cannot be higher than the surrounding old houses; otherwise, this would offend the neighbors. To avoid conflict, the farmers tend to obtain a new piece of land for housing on the periphery

The change in rural settlement areas in the 1991–2005 period.

Fig.3
Long et al., 2012a.

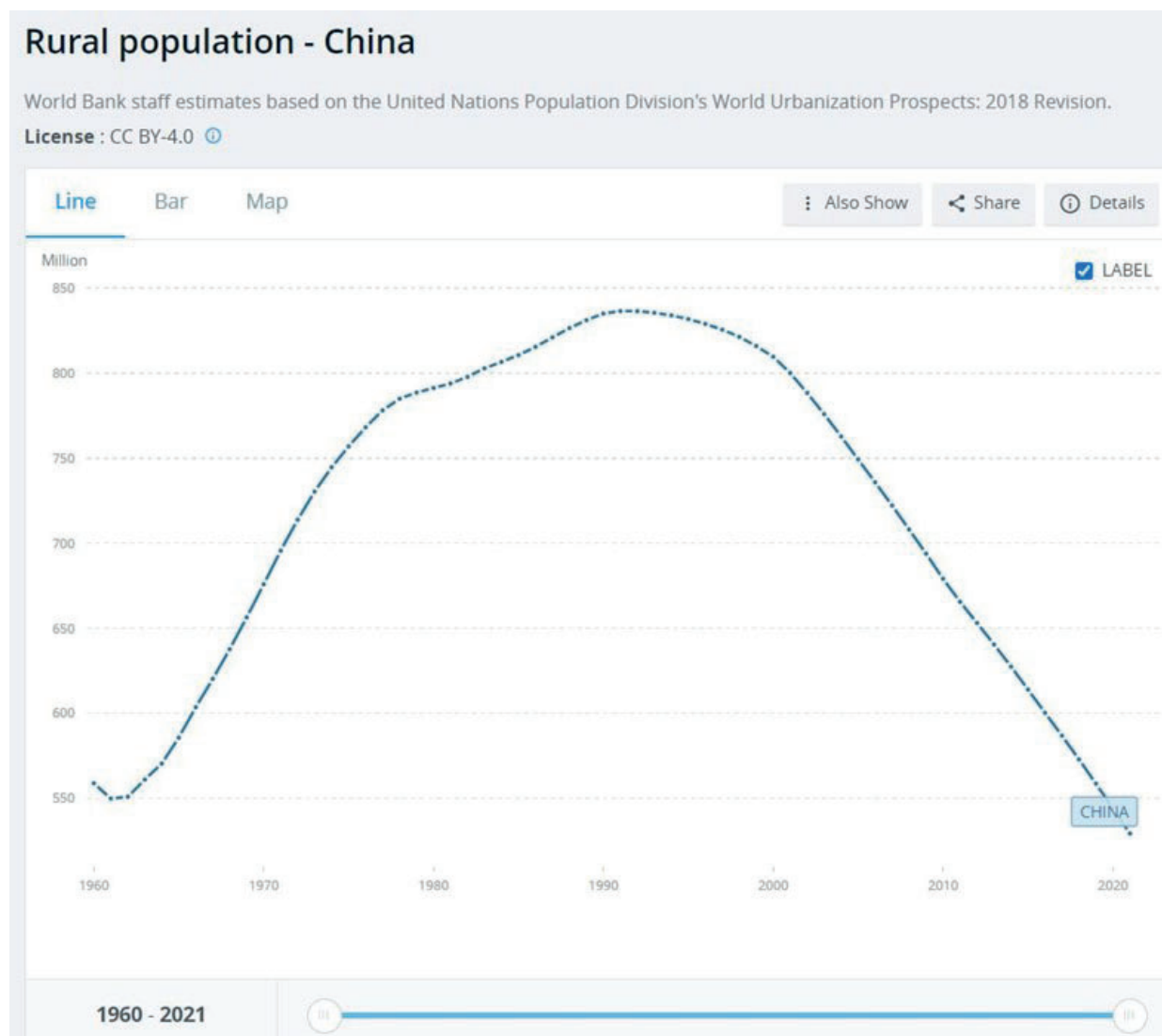


of the village instead of building it on the original land plot” (Sun, Liu, et Xu, 2011, p. 359). Moreover, the progressive erosion of the family model known as “four generations under one roof” and the consequent “triumph of conjugality over patriarchy” (Yan, 2005, p. 375) has stimulated the construction of smaller dwellings tailored to new family types that incentivized the occupation of arable land. Another factor was the obsolete conditions of road networks that prevented vehicles, such as cars or tractors, from reaching agricultural fields or even houses in the center of villages. Since new infrastructures were usually built externally to the settlement core, building new villas in the fringe areas embodied the most convenient solution. The difficulty in coordinating these impulses left this spontaneous development in the hands of private initiative, often concerned with taking immediate advantage. Finally, considering that, historically, buildings in China have seldom been conceived and realized to last forever, they have been cyclically reconstructed in relatively short time courses. The waste materials coming from

the demolitions have often been reused for constructing the new building, determining a recycling process. Due to its intrinsic characteristics, the introduction of concrete technology broke this form of circular economy and generated two inexperienced problems in rural China. First, the impossibility of reusing waste materials turned them into useless and troublesome legacies to get rid of. Due to the lack of appropriate infrastructure to collect them, they have been simply abandoned where they lay, affecting the overall perception of public spaces. The second problem concerned the property rights of rural lands. Soils still belonged to the villages’ cooperatives which, after the opening reforms, could sell the right to use for a determined period. Thus, there was no interest in realizing buildings that have to live longer than the time the law grants the use right. In addition, it was crucial to accelerate the construction process as much as possible to make full use of the acquired rights. Quickly erected houses built with poor techniques have mushroomed up. The abandonment of old dwellings and the construction of new ones are symptoms of this

Chinese rural population in million.

Fig. 4
Worldbank, 2023.



village hollowing phenomenon, a structural attitude of acquiescence towards land taking from both the private and the administrative realms. While the number of rural households has increased, the rural population and arable land have shrunk, the first at a dramatic pace. The net amount of rural residents has risen actually until the 1980s, stabilizing in the 1990s and vertiginously dropping from the 2000s. This parabola can be read as a consequence of Deng's domestic and foreign economic reforms. The hukou system, a regulatory tool enacted in the Maoist era to

plan the use of public resources and primary services, has to date, represented the control valve of demographic flows (Figure 4).

Nevertheless, if one observes the percentage of rural and urban populations, the picture that emerges is radically different, with a steady decrease of the peasantry in proportion to citizenship starting from the 1980s. Rural-urban migrations have been a global phenomenon, but the intensity of Chinese flux is so high compared to the other, USA for instance, that scholars usually address such migration with the biblical term of rural

Chinese and USA rural population in percentage.

Fig. 5
Worldbank, 2023.



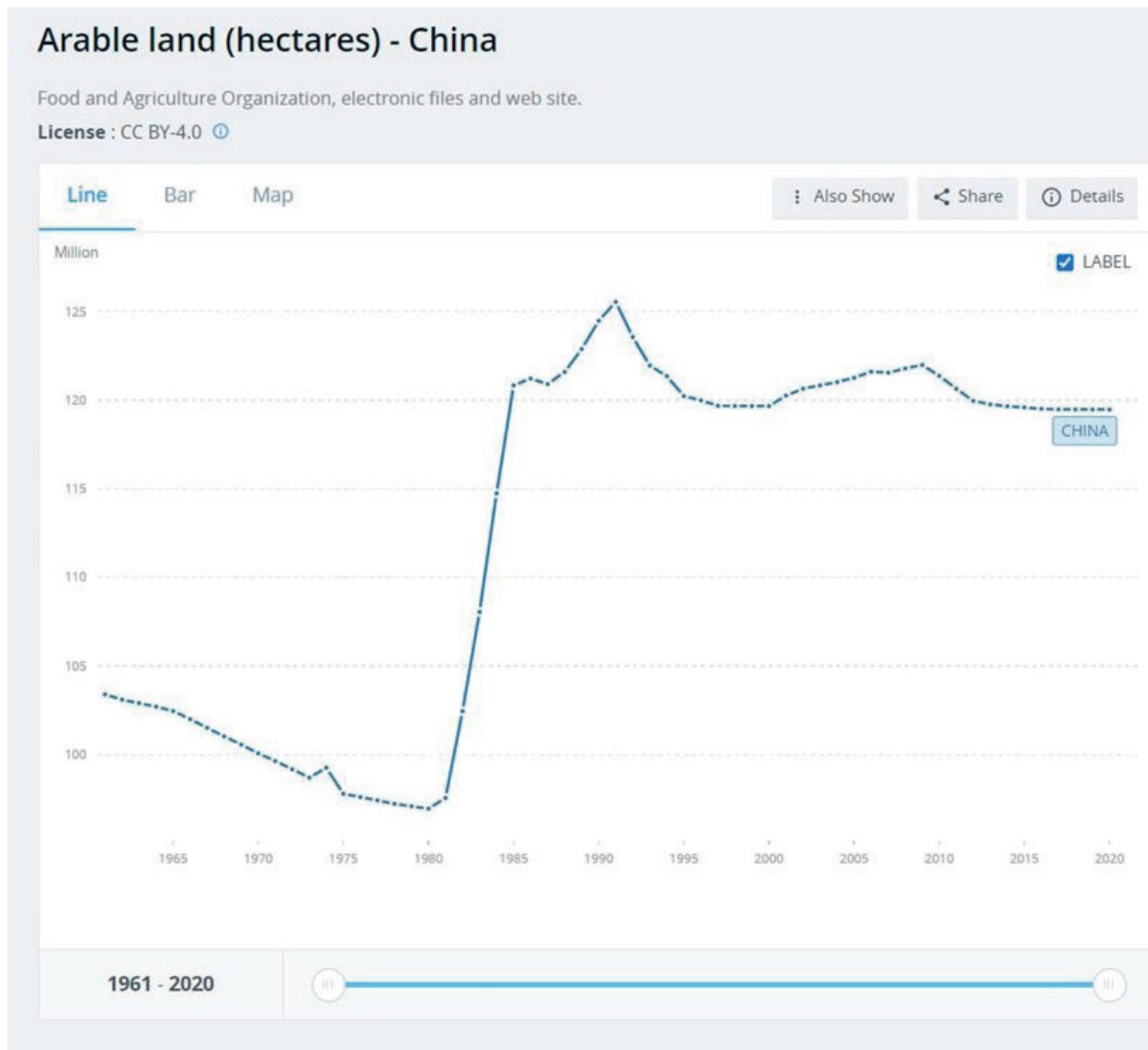
exodus (Figure 5). It has to be remarked that, in addition to the officially recorded change of status from rural to urban citizen, a massive amount of villagers moving to cities for working reasons have not obtained an urban hukou, remaining registered as rural citizens even though living in cities. These migrant workers do not access basic services reserved for regularly registered urban citizens. They are named a floating population, a category of people with anything but its labor force, moving from place to place or traveling back and forth between the recorded residence and the workplace. With their low claims and willingness to emancipate from an inherited and imposed rural status, they represent the engine of the Chinese economy which leverages its economic power on urbanization (Chen et al., 2014; Zhu, 2017). An article in the China Labour Bulletin (2022) estimated that “292 million rural migrant workers in China in 2021, comprising more than one-third of

the entire working population.” The fact that the migrants are young adults also generates the problematic aging of the rural population. Formalized and informal migrations have determined a dramatic shrinkage of the rural population, causing a series of consequences on the sociocultural dimension of the countryside, its economic structure, and also the related eco-systemic services.

To shrink is not only the rural demography but also its arable land. Recent studies have remarked significant correspondences between rural-urban outflow migrations and agricultural change (Qin and Liano, 2016). In most cases, the agricultural change means the loss of arable land, which, in turn, impacts food security and autarchy. Considering that more than 21% of the world population can rely only on the 7% of cultivated land (Wang et al., 2018), the question Who will feed China (Brown, 1995) has raised concerns, especially in light of what has been labeled as the “Food-

.Arable land in China, in hectares.

Fig. 6
Worldbank, 2023.



Environmental-Development Trilemma” (Aubert, 2008, Long, 2014). However, there is no complete agreement between scholars on the loss of agricultural land since some say that urbanization determines a loss of cultivated land (Liu et al., 2014; Ge et al., 2019; Tan et al., 2005), while others think that the migration from rural to urban areas contributes to mitigating such loss as the per capita land consumption in urban areas is much lower than in rural land town areas (Deng et al., 2015).

According to the World Bank, Chinese arable

land shows a trend of moderate shrinkage if observed over the last years. But compared to the 1990s, the quota appears sensitively larger, especially compared to the overall population growth (Figure 6).

From the rural issues to a new role for design disciplines

In the early 2000s, Wen Tiejun positions on the “three Rural Issues” (三农问题 · san nong wenti), namely village sustainability, agricultural security, and farmers’ rights, became seminal for promoting a new season of policies and general engagement in rural



. International Bamboo Architecture Biennale “Genius Loci and Rural Construction,” Hangzhou.

Fig. 7

Photo by the author, May 2018.

development (Wen, 2001). According to Wen, the ongoing agricultural modernization was not sufficient to mitigate villages’ hollowing and rural-urban gaps. Wen stressed the necessity of exploring a more peasantry-focused and community-based rural development model. He remarked that the outflow of agricultural products from rural to urban areas, “compromising the property and income distribution system inherent in the small-scale peasant economy” (Wen, 2007), has generated inexperienced tensions and disparities.

The rediscovery of traditional values embedded in the countryside, such as kinship ties, cultural inheritance, and harmonious cohabitation with nature, has triggered a new ethos to create the socioeconomic conditions to return to the rural. One of the challenges

became how to unleash the rural from an idealized nostalgic realm, subaltern to urban hegemony, to embrace dynamism, vitality, and pragmatic settling opportunities. Climate vulnerabilities and environmental fragilities started being addressed and envisioned in developing strategies to prevent predictable risks and unpredictable calamities, such as floodings, droughts, or earthquakes. Such concerns paved the way for imagining a rural future contrasting demographic and farmland shrinkings. This type of revitalization has found fertile ground in cultural initiatives, often driven by design action at different scales.

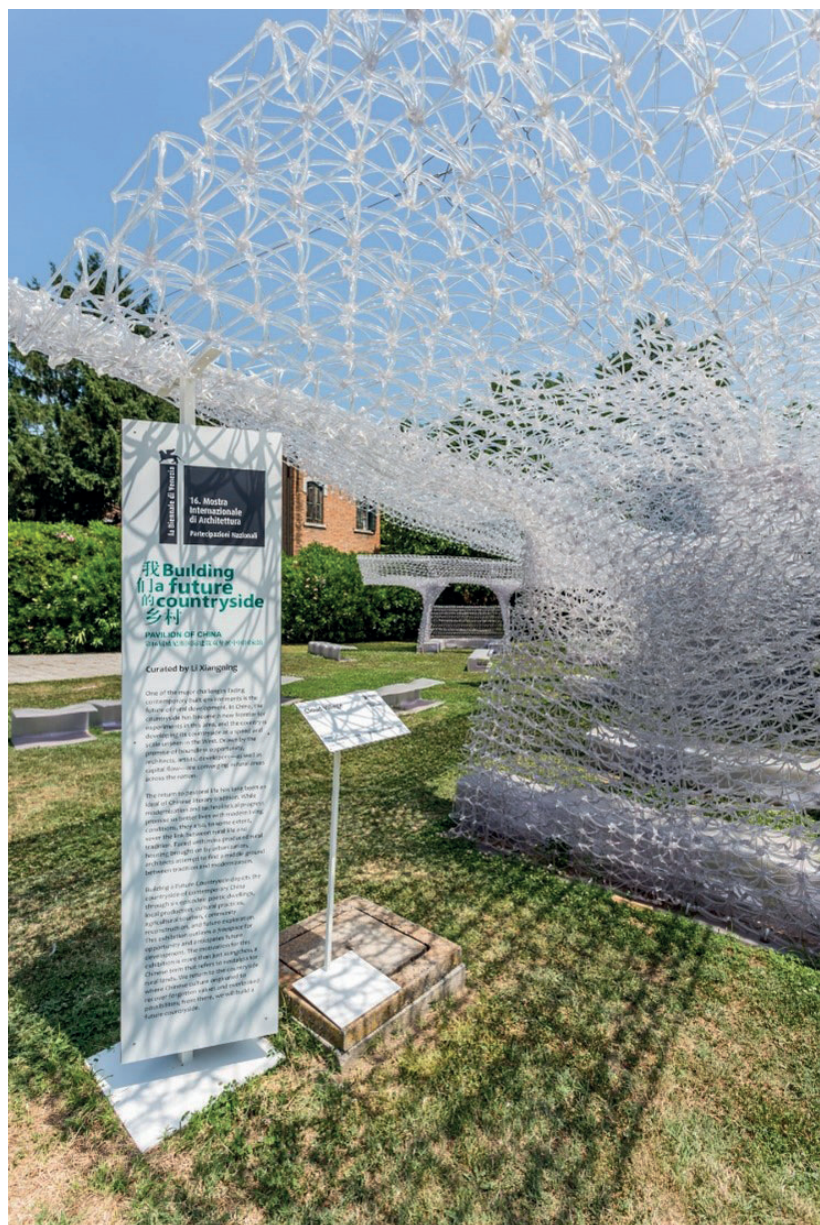
Initiatives have been taken at institutional levels, such as the Women-focused Rural Revitalization and Sustainable Development in Yunnan Province, China¹, which grounds on

the tentative applications of SDGs in a pilot village. On another plane was the proposal by Stefano Boeri for Slow Food Freespace, China's first Slow Village, presented at the 2016 Venice Biennial², a project that mixed enogastronomic and cultural tourism, following the philosophy of the Italian Slow Food Movement³. Dissemination initiatives encompassed a number of exhibitions, such as the Genius Loci and Rural Construction International Bamboo Architecture Biennale, held at Hangzhou's Academy of Fine Arts in 2018, where the theme was to use the form of architectural art to explore the path of sustainable development for Chinese villages in the future (Figure 7).

Another remarkable event was the International Conference "Regions on the Rise. Culture and Architecture as Drivers for Rural Development," from 8-10 November 2018 in Songyang County. The event was organized in cooperation between Songyang County Government and Aedes Architecture Forum & Network Campus Berlin. From the conference's webpage, it was possible to read that the focus was on the duality and interrelations between the urban and the rural, seeking to explore what culture and architecture can contribute to rural renewal in interplay with economy, spatial planning, infrastructure, and ecology. The goal of this international knowledge exchange of holistic strategies and

best practice examples was to discuss new concepts, which might ultimately establish a new rural confidence and identity as well as economic progress and reliability as major incentives to make people stay in or even return to the "hinterland."⁴

On a similar level can be placed the Chinese participation at the Venice Biennale of Architecture of 2018. The curator Li Xiangning interpreted the rural space as a place where architectural innovation could freely meet the cultural roots and shape a new path for the development of the countryside. The exhibition was structured in six parts, conceived as thematic vectors connecting the existing rural condition with the possible development scenarios. The six themes have been presented as follows. The Poetic Dwelling section explored how residence and farming-related production were the core functions of the countryside, without whose is not even possible to talk about the rural environment. The Local Production part considered the countryside as a domain of production and consumption after the release of forced collectivization. The Cultural Practices sector investigated how the integration of culture and creativity could drive rural development modes paying respect to values of tradition and identity. The Agricultural Tourism section emphasized the new possibilities arising from the tourism industry's growth. The Community



The Chinese participation at the 2018 Biennale of Architecture of Venice, Pavilion titled "Building a Future Countryside" (curator Li Xiangning).

Fig.7

Photo by the author, September 2018

would have been mutual, both shaping the other into new forms and concepts. In the curators' words (Zhang and Li, 2018: 5), ... one must also address the opportunities within rural construction: the flow of capital, evolution of technology, and new economic methods heralded by globalization, changes and advancements in rural production methods that have impacted the way people live, and the new possibilities that have been provided for rural construction. Could modern countryside develop a new model-one that cannot be found in cities -to guide architectural and social development?"

This fundamental question opens a new way to observe rural issues and the reciprocal role design culture play when practicing in the countryside.

Rural areas as opportunities of testing new design attitudes

In a recent talk ⁵, Zhang Lei, chief architect of Atelier Zhang Lei (AZL) and one of the protagonists working in the Chinese countryside, explained how his modus operandi varies according to contextual conditions. Featured by fewer regulations, he remarked that the countryside encompassed

Reconstruction part introduced the necessity of realizing service infrastructures, such as health centers and credit platforms. The Future Exploration part gave visibility to experimental technologies' possible role in shaping new hybridized identities for rural sites (Figure 8). Introducing the exhibition, the curators made a point remarking that the rural would have been not only a problem to solve by means of creativity but would also provide a fertile ground of exchange, inspiration, and learning to actors and agencies getting in contact with it. The relationships between design culture and countryside transformation

a cultural dimension released from the burden of urban codes, regulations, and requirements that generate design limitations. On the contrary, it puts designers in the condition of more freely experimenting with site relationships, buildings' typologies, and architectural languages (Bolchover et al. 2016). From this perspective, the rural became a compelling showcase for many Chinese architects eager to test cutting-edge design approaches, sometimes provocative, and gave them exceptional opportunities for stimulating international debate. Behind this favorable circumstance, we find the idea that creative sensitivity by architects, scholars, artists, intellectuals, and other figures helps to stimulate processes of rural revitalization by strengthening local development (Zhang, 2018; Bolchover et al., 2013). The Rural Revitalization Strategic Plan is just the last step of two decades of policies (Ahlers, 2014; China Development Research Foundation, 2017; Zhang et al., 2018; Chen et al., 2023) oriented to mitigate the rural-urban gap.

I suggest two angulations from which to address designing in the rural, which, far from exhaustively compiling the rich and growing spectrum of architects' understanding of Chinese countryside, put forward two conceptual polarities. Firstly, the encounter between designers and ruralities puts at the fore the notion of the vernacular as

an inescapable and often debated cultural position regarding unauthored architectures exposing canons and codes consolidated over time and practice (Zwerger, 2019). Lin and Devabhaktuni (2020) have recently revived Rudofsky's inductive aptitude towards anonymous housing (Rudofsky, 1964), questioning what "lessons can be learned from the 'spontaneous' self-builder" in our age and tracing "how they [unauthored houses] so unexpectedly manifest architecture's capacity to both register and enact changes to way of living". Secondly, the rural has been understood as a place where to test subjective assumptions, sensibilities, and inclinations. Some architectures, also endorsing high efforts to engage with local communities, envisioned the rural as a space of creativity, expressive of peculiar positions toward contemporary design.

A selection of projects and strategies epitomizing the potential of designing in the rural

This paragraph selects and recalls six projects that have contributed to reshaping the relationships between design culture and rural development. Rather than completeness or exhaustiveness, the goal is to critically portray a complementary panorama, spanning from urgent actions needed in post-disaster situations to the will to trigger new economic

cycles to the exploration of radical attitudes toward disciplinary canons. Selection criteria do now aim at putting them on a comparable plane but to create a variegated picture of contemporary design approaches to rural development. The focus, therefore, goes to how countryside challenges are transposed into design briefs and blossom in architectural proposals sustained by transdisciplinary thinking. The design process recalled by these projects acts as the catalyzer in the above-mentioned Food-Environmental-Development Trilemma, unpacking design goals and methods and their supporting ideologies and pragmatic impacts.

At 14:28 on May 12th, 2008, the Sichuan Province was shaken by a tremendous earthquake that provoked more than 68 thousand casualties, at least 4.8 million people homeless, and an overwhelming amount of destruction. Recovery plans and programs followed, and many architects participated in the reconstruction process. The consequent emergency regime stimulated profound renovation in both envisioned design approaches and self-consciousness of the architect's role in post-disaster professional service. One is the project by Liu Jiakun, known as Rebirth Bricks (Bolchover et al., 2013). He defined a new production chain recovering aggregates from the countless wreckages as raw materials and, after sterilization,

combined them with shredded straws and cement, obtaining light and resistant brick. In his words, these recycled bricks represented not only a material revival but also a spiritual one. Indeed, in the first moment, the bricks were manufactured by local people using semi-automatic machines. Later on, a company was set up to produce the Rebirth Bricks on a larger scale. The project was shown in many exhibitions, including the Venice Biennale of Architecture of 2008, inaugurated a few days after the disaster. Rebirth bricks were used in several buildings, such as the Memorial Museum of 512 Wenchuan Earthquake, the Shuijianfang Museum, and the Novartis Research Institute of Biomedicine as well as in many unauthored constructions, proving how wastes generated by buildings' life cycles could be reintegrated into new construction processes, opening a new eco-friendly dimension in rampant Chinese urbanization. At the same time, the different versions of Rebirth Bricks, providing new construction materials, broadened the basic elements of the real estate market, offering new formal alphabets and syntaxes. At least at the beginning, Liu's contribution was more practical research about the potentialities of reusing debris as new building materials and required a lot of calculations, tests, and cost simulations. While Liu's design skills emerge over his striking career, in this

Rebirth Bricks. At first, the bricks were manufactured by local people using semi-automatic machines. Later on, a company was set up to produce the Rebirth Bricks on a larger scale

Fig. 9

Courtesy of Liu Jiakun Architects.



case, his intuition consisted in placing himself as a professional offering immediate and responsive knowledge, creating an opportunity within a dramatic historical moment. His expressivity manifested in a very pragmatic way, acting more on the materials' life cycle rather than on displaying personal sensibility or style (Figure 9).

Another compelling design experience after Sichuan Earthquake is the Jintai Village reconstruction by Rural Urban Framework (Schittich, 2019: 84-89; Li, 2018: 28-31; Bolchover and Lin, 2014: 173-178; Zhang, 2018: 154-159). To rebuild the two times collapsed houses – one after the tremors and one after a landslide – they elaborated, with the local community's engagement, a settlement for 22 families mixing urban and rural characters. The relatively high density created opportunities for materializing several, complex, and unexpected relationships between architecture and people. The deep integration with the surrounding territory, as well as the addition of roof gardens for cultivations above the reinforced concrete dwelling structures, featured the complex with a unique programmatic combination of spaces

mushrooming indifferently across the countryside. We find a balanced articulation of construction modularity and singular variation that elastically responds to the community's demands. The outcome is a hybrid-built form, readable both as a unitary gesture and a composition of small parts that find a point of equilibrium between landscape integration, environmentally responsive cycles of waste disposal and water usage, and a rearticulated community program (Figure 10). As a characteristic of its practice, RUF envisioned the project more as an "incremental process" rather than a finished image expressive of subjective sensitivities (Bolchover and Lin, 2014). A growing part of the population, alienated by an increasingly global and urban environment, is showing enthusiasm for experiencing rural life, which, as noted by Fei Xiaotong (1992), lays at the basis of Chinese society, at least in its traditional aspects. Many indicators prove how the rural tourism market attracts citizens for leisure or cultural purposes, creating demands for adequate infrastructures and facilities and, consequently, wider income sources and job opportunities. In general, arts, performances, exhibitions, and culture play a paramount role in stimulating



Jintai Village Reconstruction Project by Rural Urban Framework (Sichuan Province) exposed at the 2018 Biennale of Architecture of Venice inside the Chinese Pavilion, entitled “Building a Future Countryside” (curator Li Xiangning)

Fig. 10

Photo by the author, September 2018.

local economies and creating grassroots self-confidence. A plethora of plans and projects have operated in this direction, endorsing the potential of architecture as an agency for cultural-driven countryside development. With more than twenty projects in Songyang County, Zhejiang Province (Feireiss and Commerel, 2020, Schittich, 2019), Xu Tiantian is one of the leading architects applying design strategies to revitalize the rural. Her

work for Songyang County, in cooperation with the local communities, is helping to protect and showcase the vast and complex heritage of the Chinese countryside, including fragile structures and vanishing traditions. Recalling the concept of acupuncture, she is significantly contributing to the reactivation of production chains, art crafts industries, and sociocultural facilities, creating new possibilities for the peasants. An example



Hakka Indenture Museum by Xu Tiantian in Shicang Village (Zhejiang Province). The stoned walls were realized with traditional techniques generating interesting spatial features.

Fig. 11

Photo by the author, September 2018.

is the Hakka Indenture Museum, a peculiar building integrating local beliefs, ancient documents, and traditional construction techniques. The structure, conceived as part of the existing topography, features a sequence of open rooms and terraces that create an emotional path between the ridge of the mountain, where, according to indigenous mythology, the village's name originated, and the external scenery, a charming valley dotted with traditional houses and recent buildings. Skilled masonry experts trained several young workers during construction, who learned forgotten techniques for bridges and houses'

construction and contributed to reinvigorating practical knowledge of craftsmanship. (Figure 11).

Papa's Hostel, designed in 2015 by He Wei in Pingtian Village, is another interesting case (Wei, 2021). In Papa's Hostel, the existing structures in rammed earth walls and wooden carpentry have been consolidated without compromising the overall spatiality. To let the building host new life, architects inserted three small boxes, which are movable and translucent, transforming an obsolete dwelling into a youth hostel with international standards. The use of cheap and



**Papa's Hostel by He Wei in
Pingtian Village (Zhejiang
Province). Small and light
architectural elements
reorganize the interior space
and provide new transitions
between privacy and
publicness. interesting spatial
features.**

Fig. 12

Courtesy of He Wei.

light materials, like polycarbonate and wheels, secured a new spatial organization inside the volume without compromising the exterior walls. The new functional elements covered multiple purposes: they induced new uses, reorganized the space, granted a high degree of flexibility and ductility, being movable, transportable, and recyclable (Figure 12).

Another interesting case is the academic exercise carried out by C.C.M. Lee and his students at the Harvard University Graduate School of Design. Assuming the Building a New Socialist Countryside program as the starting condition, according to which new concentrated settlements should replace the atomized rural structure based on families as units of production and consumption, the goal was to define new design concepts featured by high-density layouts able to maximize the availability of agricultural land.

He provocatively called the experiments of rural construction *The Countryside as a City*, remarking the ambivalent ethos put by leadership elites and grassroots communities. The outcomes highlighted a variety of approaches showcasing surprising solutions, in some cases radicalized to ideological positions, but always imbued with challenging attitudes toward standards, dogmas, and canons (Lee, 2015) (Figure 13). The last experience here recalled is the In-Bamboo Community Cultural

Cover of the book *Taiqian*.

Fig. 13

The Countryside as a City edited by C. C. M. Lee,
(2015) Harvard University Graduate School of



Center, designed by Archi-Union Architects in 2017 in Chongzhou (Sichuan Province). Here is not the social-driven program to suggest design innovation but is the digital fabrication method, empirically implemented to test the possibilities offered by customized industrialization of architectural components. The building, a multi-functional infinity-shape (∞) pavilion totally prefabricated and assembled in 65 days, is the result of a long-lasting and ongoing research project aimed at exploring new tectonic relationships between form, material, and structure, tracing a possible reinterpretation of research threads connected with critical regionalism (Frampton, 1983) (Figure 14). The Mobius-shaped structure and

cladding are conceived to minimize the carbon footprint, featuring a 70% light prefabricated steel frame and being finished with traditional ceramic tiles.

The project proves how digital tools can reframe the role of architectural design in exploring culturally specific approaches to tectonics, material usage, and expression in general and is representative of a new vanguardist movement of designers employing digital techniques in both creative and realization processes. Such an approach, which is rapidly spreading across design practices worldwide, questions the essence of architectural authorship. Either reinterpreting tradition or opening new language possibilities, automatic



In-Bamboo Pavilion's model, project by Archi-Union in Chongzhou (Sichuan Province) Jintai Village Reconstruction Project by Rural Urban Framework (Sichuan Province) exposed at the 2018 Biennale of Architecture of Venice inside the Chinese Pavilion, entitled "Building a Future Countryside" (curator Li Xiangning)

Fig.14

Photo by the author, August 2018.

or semi-automatic fabrication processes result in fascinating how they inject new life into building codes as a combined effort of man and machine. One result is the reconciliation of design and construction, which, thanks to the information-technology networks, proceed together from the early steps of the process (Yuan and Wang, 2018: 94-101). In Archi-Union understanding, digital tools are not just innovative because of pioneers of

unexperimented *modus operandi*, but also because they envision new alliances between advanced and low-tech methods, opening a new dimension for vernacular architecture.

Design-driven culture can bring fresh ideas to revitalize the country

Of the six projects presented, Rebirth Bricks and Jintai Village addressed the rural as a place to repair after catastrophic events, envisioning architecture as socially and

economically committed tool in the hands of both administrations and villagers. The second two cases, the Hakka Indenture Museum and Papa's Hostel, framed the rural as a place to discover by enacting architecture as an agency for unveiling traditional layers impressed on territories and built forms. The last examples, The Countryside as a City and the In-Bamboo Community Cultural Center, put the rural as a place to reinvent by freeing design disciplines from conventions and codes to push radical ideas at extreme consequences.

These projects witness Chinese design culture sensitivity in dealing with transient rural contexts in an era of demographic shrinking. Responding to peculiar demands, they are paving the road for an innovative approach to site transformation if compared with the majority of countryside development projects (Semprebon, 2022). Designers let the location inspire them in order to smartly operate on it, fueling a fertile dialogue between the legacies of the past encompassing inherited typologies, construction techniques, and countless traditional elements, and the peasantry's dreams of economic and cultural emancipation, a social engagement, and, more in general, the will of pro-actively participating in the national rejuvenation of the country. Far from covering the spectrum of emerging design attitudes in rural China, the three domains synthesized in this paper offer an interpretative key to

observe how Chinese architects envision the future of ruralities. They demonstrated that priorities' renegotiation might lead to unexpected successful experiences that can positively impact people's life. For example, debris recycling solicited to rethink the production chain to repair local communities after catastrophic episodes, also offering new expressive possibilities. The houses' reconstruction in Jintai tested a new scheme of cohabitation, concentrating dwellings according to more integrated community programs. They both addressed the rural as a place to repair after catastrophic events, envisioning architecture as socially and economically committed tool in the hands of both administrations and villagers. The discovery of fragile rural China can pass through both the realization of cultural facilities and the business possibilities offered by the intelligent retrofitting of traditional buildings, as happened in Shicang and Pingtian. These two cases framed the rural as a place to discover by enacting architecture as an agency for unveiling traditional layers impressed on territories and built forms. New forms of ruralities were evoked by the academic design proposals from Harvard's GSA, formulated on the basis of effective policies, just fueled with accents of radicalism, and taken to their extreme consequences. At the same time, new encounters between digital fabrications

and traditional low-techs offered cutting-edge construction methods and the possibility of renovating formal alphabets. The last two projects put the rural as a place to reinvent by freeing design disciplines from conventions and codes, bringing fresh ideas to inner fragile territories. These design experiences ultimately contributed to redefining contemporary Chinese architecture, inaugurating a fertile season featured by new negotiations and alliances between social, economic, political, and cultural values.

Bibliografia

- Ahlers, A. 2014, *Rural Policy Implementation in Contemporary China*, New Socialist Countryside, Routledge, New York.
- Aubert, C. 2008, Food Security and Consumption Patterns in China. The Grain Problem, «China Perspectives», vol. 74, n. 2, pp. 5-23.
- Bolchover, J. et al. (eds.). 2013, *Homecoming: Contextualizing, Materializing and Practicing the Rural in China*, Gestalten, Berlin.
- Bolchover, J. et al. 2016, Where is the Rural in an Urban World? «Architectural Design», vol. 86, pp. 6-13
- Brown, R. L. 1995, *Who will feed China?* Earthscan, London.
- Chen, R. et al. 2014, The impact of rural out-migration on land use transition in China: Past, present and trend, «Land Use Policy», vol. 40, pp. 101-110.
- Chen, X. et al. 2023. *Rural Revitalization in China. A Socialist Road with Chinese Characteristics*, Springer, Singapore.
- China Development Research Foundation. 2017, *China's rural areas. Building a moderately prosperous society*, Routledge, London and New York.
- China Labour Bulletin. 2022, Migrant workers and their children, «China Labour Bulletin», < <https://clb.org.hk/en/content/migrant-workers-and-their-children>> (06/2023).
- Deng X. et al. Impact of urbanization on cultivated land changes in China, «Land Use Policy», vol. 45, pp. 1-7.
- Fei X. 1992, *From the soil. The foundations of Chinese society*, Berkeley, University of California Press.
- Feireiss Kristin and Commerell Hans-Jürgen (eds.) 2020, *The Songyag Story. Architectural Acupuncture as Driver for Rural Revitalisation in China*. Projects by Xu Tiantian, DnA_Beijing, Park Books, Zurich.
- Frampton, K. 1983, Towards a Critical Regionalism: Six Points for an Architecture of Resistance, in Foster, H., *The Anti-Aesthetic*, Culture Bay Press, Washington, pp. 16-30.
- Ge, D. 2019, Coupling analysis of greenhouse-led farmland transition and rural transformation development in China's traditional farming area: A case of Qingzhou City, «Land Use Policy», vol. 86, pp. 113-125.
- Koolhaas R. 2020, Ignored realm, in AMO; R. Koolhaas, (eds.) *Countryside, a Report*, Taschen, Koln, pp. 2-3.
- Lee, C. C. M., (ed). 2015, *Taiqian. The Countryside as a City*, Harvard University Graduate School of Design, Cambridge MA.
- Li, X. (ed.). 2018, *Building a Future Countryside*, The Image Publishing Group/ACC Art Books, New York, NY, USA.
- Lin, J. and Devabhaktuni, S. 2020, *As found houses: experiments from self-builders in rural China*, Applied research + design publishing.
- Liu Y., et al. 2010, The process and driving forces of rural hollowing in China under rapid urbanization, «Journal of Geographical Sciences», vol. 20 n.6, pp. 876-888.
- Liu, Y. et al. 2014, Key issues of land use in China and implications for policy making, «Land Use Policy», vol. 40, pp. 6-12.
- Li Y., et al. 2018, Land consolidation for rural sustainability in China: Practical reflections and policy implications, «Land Use Policy» vol. 74, pp. 137-141.
- Long H., et al. 2012a, Accelerated restructuring in rural China fueled by 'increasing vs. decreasing balance' land-use policy for dealing with hollowed villages, «Land Use Policy», vol. 29, pp. 11-22.
- Long H. et al. 2012b, The coupling characteristics and mechanism of farmland and rural housing land transition in China, «Journal of Geographical Sciences», vol. 22 n.3, pp. 548-562.
- Long, H. 2014, Land consolidation: An indispensable way of spatial restructuring in rural China, «Journal of Geographical Sciences», vol. 24, n. 2, pp. 211-225.
- Marrucci, G. 2017, *Cemento rosso. Il secolo cinese, mattone dopo mattone*, Mimesis, Milano-Udine.

Rudofsky, B. 1964, *Architecture without Architects*, MOMA Press Release, New York.

Qiang, W. et al. 2019, *Societal development in rural China*, Palgrave MacMillan, Singapore.

Qin, H. and Liao, T. F. 2016, Labor out-migration and agricultural change in rural China: A systematic review and meta-analysis, «*Journal of Rural Studies*», vol. 47, pp. 533-541.

Semprebon, G. 2022, *Rural Futures. Towards an urban(ized) peasantry in the Chinese countryside*, Lettera Ventidue, Siracusa.

Su F. Tao R. and Wang H. 2013, State Fragmentation and Rights Contestation: Rural Land Development Rights in China, «*China & World Economy*», vol. 21 n.4, pp. 36-55.

Sun H., Liu Y., Xu K. 2011, Hollow villages and rural restructuring in major rural regions of China: A case study of Yucheng City, Shandong Province, «*Chinese Geographical Science*», vol. 21 n.3, pp. 355-363.

Tan M. et al. 2005, Urban land expansion and arable land loss in China – a case study of Beijing-Tianjin-Hebei region, «*Land Use Policy*», vol. 22, pp. 187-196.

Yuan, P.F. and Wang, X. 2018 From Theory to Praxis: Digital Tools and the New Architectural Authorship, «*Architectural Design*», vol. n°88, pp. 94-101.

Wang, J. et al. 2018, Spatial shifts in grain production increases in China and implications for food security, «*Land Use Policy*», vol. 74, pp. 204-213.

Wei, H. 2021, *Thinking and making architecture in rural China*, Design media publishing, London.

Wen, T 2001, Centenary reflections on the 'three dimensional problem' of rural China, «*Inter-Asia Cultural Studies*», vol. 2 n. 2001, pp. 287-295.

Wen, T. 2007, Deconstructing modernization, «*Chinese Sociology and Anthropology*», vol. 39 n. 4, pp. 10-25.

Whyte, M.K. 2010, *One Country, Two Societies. Rural-Urban Inequality in Contemporary China*, Harvard University Press, Cambridge, MA, USA.

Williams, A. 2018, China's shift from urban development to rural reconstruction, «*The Architectural Review*», < <https://www.architectural-review.com/essays/chinas-shift-from-urban-development-to-rural-reconstruction> > (06/23).

Zhang, X. 2018, *Beautiful Villages. Rural Construction Practice in Contemporary China*, Images Publishing, Victoria, Australia, 2018.

Zhang X. et al. 2018, *China's Rural Development Road*, Springer, Singapore.

Zhao, Q. and Zhang Z. 2017, Does China's 'increasing versus decreasing balance' land-restructuring policy restructure rural life? Evidence from Dongfan Village, Shaanxi Province, «*Land Use Policy*», vol. 68, pp. 649-659.

Zhu, X. 2017, Impact of the Household Registration System on Farmers' Rural Housing Land Use Decisions in China, «*Land*», vol. 6 n. 4, pp. 1-12.

Zwenger, K. 2019, *Vernacular Architecture: A Term Denoting and Transporting Diverse Content*, «*Built Heritage*», vol. 4, pp. 14-25.

Note

¹ See: <https://www.undp.org/china/projects/sdg-pilot-village>. Accessed July 2023.

² See: <https://www.stefanoboeriarchitetti.net/en/project/seeds-of-culture-slow-village/>. Accessed July 2023.

³ See: <https://www.slowfood.it/>. Accessed July 2023.

⁴ See: <https://www.regionsontherise.org/>.
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