SSRG International Journal of Civil Engineering
ISSN: 2348 – 8352 / https://doi.org/10.14445/23488352/IJCE-V9I2P105

Volume 9 Issue 2, 51-57, February 2022

Original Article

The Problem of "Short-Lived Architecture" in Contemporary China: Analysis on the Effects, Causes and Countermeasures

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Received: 12 January 2022 Revised: 15 February 2022 Accepted: 27 February 2022 Published: 28 February 2022

Abstract - *The problem of "short-lived architecture" in contemporary China is one of the major practical issues related to the high-quality development of the economy and the society as well as to the realization of modernization. It has attracted great attention in the world, but so far, there are few research results on this issue in academic circles, especially in economic circles. Based on the delineation of the empirical situation, this paper makes an investigation and analysis on the effect and causes of the short-lived architecture in contemporary China, and then put forward relevant train of thinking, countermeasures and basic essentials.*

Keywords - *Short-lived buildings, High-quality development.*

1. Introduction

1.1. Concepts and Overview

Architecture, in the verb form of Chinese, refers to the construction process of a real estate construction project, and in the noun form, it refers to the building formed by the construction. It is usually mentioned in the noun form by people. As a real estate building, its connection with economic and social life is obvious to us: as "hardware", whether it is public social infrastructure, a production site for production and business units, office conditions for the government and various institutions, or the material security of having a place to live for the members of society, its important meaning is self-evident. In the real world, in addition to having "basic and practical functions" for people to hold some activities, to inhabit, to shelter from wind and rain, and to prevent cold and heat, buildings will also be endowed with many functions, such as urban images (e.g. landmarks in central areas), religions worship (e.g. temples, churches), power manifestations (such as the ancient Forbidden City-style palace and the modern "state office buildings"), and so on, which are often combined with very strong functional characteristics in terms of form, aesthetics, art, and humanities.

Since China's reform and opening up, in the process of modernization development of "great strides to keep up with the times", the vigorous development process of the construction industry has logically emerged. The level of urban and rural construction, production and living standards has been significantly improved. The scale of construction and completion volume is unmatched in the world and has become an important supporting factor and an integral part of the "miraculous" development achievement of the world's second-largest economy in terms of economic aggregate and the world's largest manufacturing capacity. But it goes without saying that, along with the unavoidable characteristics of the "Civil Steel Economy Era" of the extensive growth of "economic take-off", the "short-lived" problem of the architecture in contemporary China is also quite prominent. In 2010, Mr. Qiu Baoxing, the then Deputy Minister of the Housing and Urban-Rural Development Ministry, pointed out that China was the country with the largest annual construction volume in the world, with an annual construction area of more than 2 billion square meters, and the consumption of cement and steel was more than 40% of the world's total volume. However, the average lifespan of the buildings can only last for 25-30 years, which is far lower than the requirements in the national General Principles for the Design of Civil Buildings that "the main structure of important buildings and high-rise buildings are durable for 100 years, and that of general buildings is 50-100 years" (People's Daily, November 1, 2010). Compared with the average life expectancy of the buildings in developed countries (74 years in the United States and 132 years in the United Kingdom) disclosed by Xinhuanet, the "short-lived" problem of contemporary Chinese architecture can be said it's extremely dazzling and disturbing. It can be seen that in terms of its so-called short-lived, one is relative to the industry standard in China, the other is relative to the international level. This is one of the major practical issues related to the high-quality development of the economy and society as well as to the pursuit of modernization. It has attracted great attention in the world, but so far, there are few

research results on this issue in the academic circles, especially in the economics circle. After briefly sketching the relevant empirical situations and cases, this paper will analyze and understand the effect and causes of the "short-lived" contemporary Chinese architecture in a framework and then explore the ideas and essentials for optimization and improvement.

2. Several Cases of "Short-Lived" Contemporary Chinese Architecture

In recent years, real cases that corroborate Mr. Qiu Baoxing's judgment of "short-lived architecture" can be found everywhere. In order to deepen the reader's impression, here are some reports that can be found on the Internet.

On May 18, 2004, the building of Wenzhou Bank of China, which stood in the prime area of Wenzhou, could not be put into use due to the unqualified main body, which led to the largest corruption case in the history of Wenzhou's financial system, involving more than 30 million yuan and 43 personnel. The building of Wenzhou Bank of China was demolished by directional blasting because the cost of comprehensively solving the quality problem far exceeded the cost of building a new building, and it became the highest "unfinished building" that was demolished by blasting in China that year.

On August 20, 2005, Yuxi Convention and Exhibition Center, a landmark building in Yongchuan, Chongqing, which cost 40 million yuan to build, turned into a pile of ruins under the power of 250 kilograms of explosives after only five years of use.

On October 15, 2006, Qingdao Hotel, which used to be a landmark building on Shandong Road in Qingdao, was demolished by blasting after only 20 years because it was designed like a residence, which paid too much attention to the appearance, but the internal structure was unreasonable, and the utilization rate was very low.

On January 6, 2007, Building 3 of the former Hubin Campus of Zhejiang University, because the campus land was sold as a whole for commercial development at a high price of 2.46 billion yuan, Zhejiang University needed to demolish all the buildings within the scope of the sold land to deliver the levelled land. The 16-year-old building built-in 1991 was blasted as a whole.

On January 7, 2007, the Qingdao Railway Building, known as "one of the landmark buildings in Qingdao" and one of the rare high-rise buildings at that time, was constructed due to the expansion of the railway station and the urban construction for the 2008 Olympic Games. This building, with a design age of nearly 100 years, ended its life after only 16 years of existence.

On February 12, 2007, Shenyang Wulihe Stadium, which was built with an investment of 250 million yuan and was known as the "Blessed Land of Chinese Football" for 18 years, was blasted and demolished. The land was auctioned with 1.6 billion yuan and would be invested with 1.9 billion yuan to build a new Olympic Center.

On February 20, 2009, Shenyang Summer Palace (the Citizens' Water Recreation Center), which was 15 years old (the construction cost of 200 million yuan when it was completed in 1994), was demolished due to the deterioration of its business conditions and was replaced by a new office building.

On June 16, 2009, the comprehensive training hall of Hubei Shouyi Sports Training Center, which has been used for more than ten years and was known as the "Cradle of Champions", was demolished by blasting as Wuhan will spend 20 billion yuan on building the Centennial Plan of 1911 Revolution. Before demolition, the sports facilities here were quite complete, and the equipment has been constantly updated in the hall. On February 6, 2010, Wuhu Hotel, a famous landmark in Nanchang, was blasted as a whole due to its large difference with the architectural design and planning of the five-star hotel, and it was only 13 years old.

At the end of 2010, the landmark Gloria Grand Hotel, located in the prime location of Jianguomen in Beijing and built just 20 years ago, announced its closure and demolition, and then a five-star "international business high-end hotel" was built there. On May 29, 2012, the new building of Luoyang Lingbo Beach Bathing Beach, which had been in use for only one year after its completion, was demolished due to hidden safety hazards in the building.

On March 12, 2020, Xinjia Hotel in Quanzhou, Fujian, which was built in 2013 (as a quarantined hotel in 2020 to fight the new crown pneumonia epidemic), collapsed, killing 29 people and injuring many others.

In fact, in addition to these bad cases of striking landmark buildings, there are also a large number of residential buildings, commercial buildings, tourist landscape buildings, etc., which were demolished in advance for various reasons within a short period of time after completion. Its number is difficult to count.

There are also many horrific collapse cases of the bridges, which belong to the broad category of architecture.

Qijiang Hongqiao, which was designed and built in 1994 and known as the No. 1 image project in Qijiang County, Chongqing, suddenly collapsed on January 4, 1999, killing 40 innocent people (18 armed police soldiers and 22 people), shocking the Chinese people.

On August 13, 2007, Dixi Tuojiang Bridge, under construction in Fenghuang County, western Hunan, collapsed, killing 47 people and injuring many others.

On May 17, 2009, the Hongqi Road Viaduct in Zhuzhou, Hunan Province, which was built in 1995 with a total length of 2,750 meters (the first large-scale viaduct running through the city centre in Hunan), collapsed during the intended blasting and demolition operation, causing 9 people killed, 16 people injured and 24 vehicles damaged.

On December 18, 2021, on the Edong Yangtze River Highway Bridge in Ezhou, Hubei, which opened to traffic in September 2010, a 500-meter-long ramp overturned and collapsed, resulting in 4 motor vehicles falling off and many people being killed or injured.

The underground pipe network facilities, which should also belong to the generalized building category, are often rebuilt, reconstructed, or reconstructed by surface re-excavation and are ridiculed by the people that "the road should be equipped with zippers".

In addition, giant sculptures that can also be considered to belong to the general category of architecture have been frequently demolished after construction. In 2011, a huge stone statue, the "Daughter of the Yellow River" in Zhengzhou, Henan (24.15 meters high, equivalent to an eight-story building, with a base covering an area of more than 800 square meters), was demolished when it had just been built. Later, the "Statue of Guan Gong" in Jingzhou, Hubei, which was completed in 2016 with a cost of 173 million yuan (a net height of 48 meters, a height of 58 meters including the base, affixed with more than 4,000 pieces of bronze), was officially demolished and removed in September 2021 due to "its construction without approval", resulting in another demolition cost of 150 million yuan.

3. Analysis of the effect of "Short-Lived Buildings"

The phenomenon of short-lived buildings is obviously related to negative effects such as waste, accidents, tossing, the loss of life and property, and "failure to succeed, but more to fail", etc., which can be intuitively felt by people and criticized by public opinion. Some commentators on the Internet use the average life expectancy of 30 years for Chinese buildings, while that of the United Kingdom is 132 years for quantitative comparison, and think that a rough calculation of wealth loss amounts to 408 trillion yuan (WeChat "Dark View" Feb. 5, 2022). This data is, of course, impossible to be precise, but it is enough to show that the social cost behind this problem is huge.

For more research and analysis from the perspective of scholars, it is necessary to focus on deepening the understanding from two aspects of this issue's "contribution" to GDP growth and the damage to the comprehensive performance of the national economy and people's well-being.

3.1. "Contribution" to GDP and Interpretation of "Expanded Demand" from the Perspective of "Disaster Economics."

The short life of buildings brings about the process of economic activities with the basic trajectory of "construction – demolition – reconstruction". This contains three links of "tossing", but they all make "contributions" to the gross domestic product (GDP), no matter how many misfortunes, pains, unhappiness, and inconvenience are caused to the members of society due to the short-lived buildings in real life. It is always a plus factor in the GDP indicator of national economic statistics. This, of course, reflects the obvious limitations of the GDP indicator - it can only reflect the "added value" of the final results brought by economic activities in a certain period of time (the difference between the comparable value of the total goods and services provided by the main body of economic activities, and the cumulative invested goods and services). No matter construction, demolition, or reconstruction, each link only adds to this "added value" and cannot reflect the benefits and structural evaluation of economic activities in the same period. But it is very regrettable that so far, the major economies in human society have not been able to find a better indicator than GDP if they want to quantify the results of economic growth in order to compare themselves with themselves and with other countries.

Compared with the analysis perspective of disaster economics of disaster phenomena such as droughts, floods, and earthquakes, there is indeed room for interpretation of the "principle of mutual benefit and benefit" in a purely economic sense: if it does not involve the consideration of the people's lives, property, and happiness, as far as only the activity process brought about by "short-lived buildings" is concerned, similar to the forcing effect brought about by natural disasters, the frequent construction, demolition and reconstruction of buildings, which are mainly due to "man-made disasters", is also forcing "expanded demand" like natural disasters, which is also a bonus factor for economic prosperity. If we look at this "expanded demand" in combination with the analytical and cognitive framework of the Keynesian theory and place it in the "counter-cyclical" framework, it seems that its positive function of offsetting "insufficient effective demand" will be drawn. This analysis and understanding from the specific perspective that leads to absurd views are enough to remind us that if human society ignores people's well-being, emotions, and moral factors and only analyzes pure economic growth, it is possible to have a paradox opposite to "people-oriented" position and principle. From this, the following judgment can be deduced: the GDP growth indicators that have been characterized by extensive development in China in recent years obviously contain

"moisture" and "recessive losses" associated with this paradox. Of course, this also logically leads to why in the new stage of China's "leading the new normal" economic development, it is necessary to deny "GDP in command" and to emphasize "people as the core" to pursue "high-quality upgraded development", which has heavy practical significance.

3.2. The "Result Orientation" and the Concept of People's Well-being should be Emphasized in the Perspective of Comprehensive Performance

If a micro-analysis is conducted on the "cost-benefit" model for each case of "short-lived buildings", although the quantitative results (and not necessarily all losses) can be obtained, it is far from enough to correctly understand the effect of the panorama. If the "input-output" analysis of these cases is conducted from the perspective of macroeconomic growth, it is necessary to get rid of the aforementioned limitation of "measurement of growth by GDP" and to discuss and understand the important difference between the two concepts of "output" and "outcome".

In recent years, academic circles have paid more and more attention to the concept of "performance" in relation to the economic operation, especially economic activities related to public interests and people's well-being, government revenue and expenditure, the reasonable core of which arises from the strict distinction between the concepts of "output" and "outcome". Assuming that there is a certain "input", its output and outcome are likely to be significantly different. For example, the input of a certain quantitative scale of higher education leads to the number of graduates later, which is its output, and the overall employment adaptability, workability and academic level of these graduates are the outcomes, which is the core measure of "educational quality and achievements" that should really be valued. Similarly, in a period of time, the number of all construction projects completed under the "construction" project in the society and the scale of the GDP contributed is the "output", while the actual functions of these buildings, and the senses of applicability, gain, and happiness they brought to the public, and their comprehensive performance is the outcomes that are truly worth pursuing. Based on this, the reasonable measurement standard for architectural achievements from the perspective of comprehensive performance must be based on a humanistic standpoint and be closely integrated with the concept of people's well-being. Inevitably, the internal orientation of avoiding the short-lived buildings as much as possible should be taken. Understanding the negative effects of "short-lived architecture" and the pursuit of a better life for the people is "contradictory" — this is the essence of the negative conclusion we should draw from the analysis on the effects of "short-lived architecture".

4. Analysis of the Reasons for "Short-Lived Buildings"

The reasons for the formation of the phenomenon of "short-lived architecture" in contemporary China are indeed multiple and complex, but the analysis on the main causes can be summed to the following five aspects.

4.1. The Construction Quality of Buildings is Low

The problem of poor construction quality and its causes can be divided into two categories for specific analysis.

4.1.1. The Low Durability of the Building is Caused by the Low Level of Design and Construction Expertise

Here, on the one hand, there are subjective reasons, mainly the professional quality of design and construction personnel. For example, due to the lack of professional talents, those with insufficient qualifications are responsible for the project work, resulting in the problems of the design scheme and construction quality, which lead to the short life of the building. On the other hand, there are also objective reasons, mainly due to the constraints of national strength and development stage. There used to be design and construction standards for "simple buildings" and "old communities" in various places in China, which have become the standardized "model" for many occasions. After the reform and opening up, with the improvement of professional standards, the progress of professional personnel training and the improvement of social development, the subjective and objective conditions in this regard have been greatly improved, and the objective reasons for this have obviously tended to decrease.

4.1.2. The Low Level of Building Durability is Caused by Chaotic Management, Illegal Renovation, and Brutal Construction

In real life, as a subjective cause that should obviously be criticized, a large number of these occur in situations where subcontracting and supervision are not in place. For example, in the case of multiple rounds of subcontracting, it is easy to cut corners and use shoddy materials, resulting in "crunchy buildings" and "tofu slag projects" and so on. In the absence of supervision, it will lead to collapse accidents caused by illegal demolition and private demolition of load-bearing walls, the audacity to hollow out the side of the foundation, and so on.

4.2. The Design and Decision-Making Level of Relevant Land Development Planning is Low

As real estate, the actual materialization of buildings must be included in the highest possible and forward-looking national land development planning. How to complete a package of planning and design solutions for land development from the perspective of a "government area" is a prerequisite for any building to be "placed". Numerous facts have proved that once the "top-level planning" of land development is improper or wrong, the cost for correcting the

construction, especially for the completed buildings, will be enormous. A large number of short-lived buildings in contemporary China is the cost paid for such a situation (sometimes euphemistically called "paying tuition"). For the buildings formed by civil engineering in the government area, the decision-makers of the relevant top-level planning have a particularly strong influence on the actual life in China, but the personal level of such "critical few", who choose to determine the final plan in the process of land development with specific characteristics of "strong government" in China, is uneven. There are often a large number of those who have low relevant literacy and poor vision. The "will of the chief" is strong and changeable. After the change of the government leadership (often quite frequently), it is not surprising that "Secretary Zhang dug a pit and Secretary Wang buried" and "a blueprint cannot be drawn to the end". The follow-up mistakes, repetitions, and all kinds of cases of "removing and rebuilding" related to "short-lived buildings" that should not be done, but have to be done, are all related to this.

4.3. Insufficient "Advance Amount" for the Construction Scale of Important Infrastructure

For construction projects such as airports and expressways, which are of great importance to economic and social life, the "advance amount" in planning and design should be taken as far as possible out of necessary forward-looking considerations for their functions, which should be summarized as an objective law (refer to Jia Kang, Su Jingchun, Prospective Analysis and Understanding on the Supply Conditions of the Basic Infrastructure and Basic Public Service in Our Country, Research of Finance and Accounting, No. 1, 2013). But in real life, due to the limited understanding of relevant design and decision-making subjects, especially the constraints in the actual investment and financing capacity of the developing economies, there is often a clear gap between the supply capacity formed by the project and the growth and changes of the actual social needs, and then it has to be rebuilt, expanded, and renovated by repeated construction in a short period of time, which is represented by the short-lived features of the buildings on each round.

4.4. Failure of Laws and Regulations, Ineffective Error Correction Mechanisms, and Inconsistent Government Qualitative Approvals

In many specific cases, there is no problem with the construction quality, and the relevant land development and project construction compliance procedures also have clear laws and regulations to check. However, due to the violation of planning requirements in the plan of the construction project or its implementation, it leads to demolition, and short-lived results that had to be done later or that was delayed in the name of error correction. Among the cases that have been heard in recent years, the most impressive ones are the nearly 1,000 high-end villas in the Qinling area and several high-rise residential buildings on the bank of the Wuhan Yangtze river that was demolished for hindering the flow of floodwaters, and so on. During the construction and during a long period of time after the construction, no error correction has been seen, and when the actual error correction is reached, the cost will become heavier day by day. There is another situation: for example, the case of a large-scale residential community in the suburbs of Beijing that was finally identified as "small unauthorized property rights" and "illegal construction" was a case where its rationality was clearly affirmed and even praised by the grass-roots government several years ago, but later became an "illegal building" identified by the higher-level government, and was ordered to demolish by residents themselves and then forced to be demolished.

4.5. The Associated Corruption Issues

The short-lived buildings caused by chaotic management, wrong decision-making, disregarding of laws and regulations, failure to correct errors, and failure of the government to advance and retreat are often implicated in the background of corruption that has occurred at a relatively high rate in recent years. Taking bribes and trading power and money for personal gains will inevitably lead to loss of norms and short-lived buildings in many scenarios, causing great damage to public interests and people's well-being.

5. Discussion on Countermeasures, Thinking Ideas and Essentials

To sum up, the short-lived problem of contemporary Chinese architecture has huge negative effects that cannot be ignored. In order to reduce the probability of its occurrence and to strive to reduce and to avoid its negative effects, it is urgently necessary to adhere to the party's basic line of economic construction as the centre, to closely combine with the strategic modernization demands of high-quality, sustainable development in the new era, to form the countermeasures with the principles of taking a long-term view, down-to-earth, prescribing the right medicine, and solving both the symptoms and root causes, and to grasp the basic essentials.

We believe that the basic thinking idea to solve the problem of "short-lived architecture" in contemporary China should be to combine the three levels of institutional innovation, management innovation and technological innovation in the process of unswervingly advancing the great cause of reform and opening up. While recognizing the objective constraints such as the quality of human resources, professional level, talent quality, etc., more attention should be paid to subjective entanglement factors such as interest fetters, mechanism distortions, planning inaccuracies, and corrupt practices. For the main causes of the short-lived buildings, we should reform the system and mechanism with systematic thinking to promote advantages and to eliminate disadvantages, and fully open up the potential space for

optimizing management and improving the level of science and technology. Furthermore, in the fifteen-year period from our country's "14th Five-Year Plan" to 2035, effectively make Chinese construction projects approach and reach the international average level of building service life, so as to serve the strategic goal of "basically building socialist modernization".

The relevant basic points, we believe that at least the following should be emphasized:

5.1. Actively Promote the Process of Legalization, Specialization, Standardization and Sunshine in China's Construction Industry and Related Fields with Institutional Innovation as the Mainline

Laws and regulations should be established as much as possible and then optimized and improved dynamically in areas such as land development planning, building construction and project operation, engineering supervision, construction project acceptance and quality assurance and accountability, PPP (in China, "government-social capital cooperation" namely) mechanism innovation, sponge city construction, and comprehensive pipe gallery construction. Deepen the reform in the field of fixed asset investment, develop information disclosure and public supervision mechanisms related to construction projects, and substantially optimize planning and decision-making mechanisms with the help of institutional innovation. For example, the innovation of the PPP mechanism is a reform that integrates the transformation of government functions, the complementary advantages of government and enterprises, and the innovation of financing and management models. Its combination of legalization, specialization and sunshine system elements will dilute the "rule of man", improve the norms, explore the potential and vitality, and improve the decision-making, construction and operation performance of major construction projects. And at the same time, it will inevitably help to correct the short-lived drawbacks of buildings.

5.2. Actively Promote the Upgrading of Planning, Optimization of Industry Norms, and Talent Cultivation Related to Management Innovation in the Chinese Construction Field

Actively discuss the scientific performance indicator system that "squeezes out water" and reflects "performance orientation" for GDP. For national land development planning, the forward-looking "one game" type of scientific planning from the whole country to each local government area should urgently sum up experience and lessons, learn from all the positive achievements of the development of human civilization, and dynamically optimize and adjust the overall layout of the main functional areas at all levels of the country, dynamically improve the feasibility of land development planning in local government areas, and improve the industry management rules such as the national standard system for the construction industry, focus on developing the performance evaluation mechanism and reward and punishment mechanism for construction projects before, during and after the event, and continuously cultivate the talents in planning, construction, management, and operation in order to significantly improve the professional level, quality management and comprehensive management level in the construction field, and to make high-level construction and operation management become one of the effective guarantee conditions to avoid short-lived buildings.

5.3. Actively Promote Digital Development, Green and Low-Carbon Development and the Application Process of New Materials and New Processes Related to Scientific and Technological Innovation in China's Construction Field

The new infrastructure is the hardware support for the development of the digital economy, and it should also become a model and demonstration of the integration of digital, green and low-carbon scientific and technological achievements and project construction. The traditional construction projects, such as bridges, public facilities, buildings, workshops, housing and other buildings, as well as the construction and operation of "the renovation of old communities" with huge application scenarios in China, should actively use digital scientific and technological achievements and green and low-carbon innovations worthy of recognition in the construction industry. For the resource recycling and comprehensive utilization of "construction waste" that is inevitable in the process of new construction, reconstruction and demolition, there are also many experiences that should be summed up and technical achievements worthy of reference and promotion, which should become an important part of relevant technological innovation, and comprehensively form the systematic engineering to prevent the short-lived phenomenon of buildings, and to improve the comprehensive supply performance of the construction industry.

5.4. Step Up to A Higher Level In Anti-Corruption and Upholding Integrity and Error Correction Mechanisms

The corruption issues related to the phenomenon of short-lived buildings have been contained to a certain extent in the process of the country's promotion of anti-corruption and upholding integrity in recent years. In the continued efforts to deepen its efforts, it should be based on the pursuit of "system anti-corruption", in which "power is in a cage of the rule of law". In terms of policy optimization and ideological education, a comprehensive effect will be formed on "being can't be corrupt, dare not be corrupt, and don't want to be corrupt". At the same time, the simple "one-size-fits-all" approach of demolishing any illegal buildings should be changed. In terms of error correction mechanism, an implementation plan oriented by the scientific attitude of "seeking truth from facts" should be sought. For example, for 39 illegal high-rise buildings on Haihua Island in Hainan, which were recently disclosed in the public opinion, Mr.

Meng Xiaosu, a senior person in the industry, has expressed his point of view: the coral reefs have been destroyed, and 39 buildings have been built. If they are all demolished, it will not help, and it will produce millions of tons of construction waste in the coastal area under the circumstance of making huge losses only. It is better to actively explore feasible solutions for the rational use of the existing buildings while making necessary fines and accountability to the parties concerned (refer to the WeChat account of Meng Xiaosu). —— This suggestion deserves attention and consideration when dealing with some cases related to short-lived buildings.

6. Conclusion

For the problem of "short-lived architecture" in contemporary China, the purpose of the cognition based on a large number of cases and academic discussions is to point out its negative effects of causing huge social costs and to clarify its distorted and illusory "contribution" to GDP and its opposition to the humanistic position and principle. Adhering to the perspective of comprehensive performance should emphasize the "result-orientation" and the concept of people's well-being, and strive to comprehensively and deeply analyze the problem's relationship with the causes such as the low quality of construction, the low level of related land development planning, and "insufficient advance amount of construction scale" of the infrastructure, the failure of laws and regulations and ineffective error correction mechanisms, inconsistent government approvals, and corruption, etc., and then, should put forward practical countermeasures and essentials. The thinking idea is that In the development process of China's pursuit of modernization, closely combine institutional innovation, management innovation and technological innovation to solve the subjective and objective factors that cause this problem in a targeted manner and strive to make Chinese construction projects approach and reach the international average service life of the building in the next 15 years. The basic essentials include: actively promote:

- legalization, specialization, standardization and sunshine mechanism in China's construction industry and related fields;
- planning standards, industry norms optimization and talent cultivation in China's construction industry;
- digital and green low-carbon development of the construction industry in China and the application of new materials and new processes; and be committed to
- improving the level of anti-corruption and integrity and error correction mechanisms.

References

[1] Jia Kang, Su Jingchun, "New Supply Economics," *Shanxi Economic Press*, 2016.

[2] Jia Kang, Su Jingchun, "Prospective Analysis and Understanding on the Supply Conditions of Basic Infrastructure and Basic Public Service in Our Country," *Research of Finance and Accounting*, vol. 1, pp. 5-7, 2013.

[3] Jia Kang, "Discussion on the Effective Investment and Financing of Transportation Infrastructure under the Impact of the Epidemic," *Finance and Accounting Monthly*, vol. 15, pp. 3-8, 2020.

[4] Jia Kang, Su Jingchun, "Discussion on the Optimization and Efficiency Improvement of Top-Level Planning and Supply System," *Globalization*, vol. 8 pp. 15-39+133, 2016.

[5] Jia Kang, Su Jingchun, "The Optimization of the Top-Level Design of the Jurisdiction is the Best Rational Supply for the Government," *China Financial and Economic News*, 2016.

[6] Jia Kang, Su Jingchun, "Theoretical Basis and Case Practice of Western Urban Planning Economy: from the Perspective of Supply-Side Structure Management," *Sub National Fiscal Research*, vol. 2, pp. 4-10, 2016.

[7] Jia Kang, "The Upgrading and Development of New Infrastructure in Digital and Intelligent Innovation," *Economic Herald*, vol. 8, pp. 5, 2021.

[8] Qi Zhenqiang, "The Quality Management of Construction Projects," *China Machine Press*, 2004.

[9] Jia Kang, Su Jingchun, "Analysis on Ternary Paradox of Fiscal Distribution: Theory and Mitigation Methods," *SSRG International Journal of Economics and Management Studies (SSRG-IJEMS)*, vol. 6, no. 11, pp. 63-72, 2019. *Crossref*, https://doi.org/10.14445/23939125/IJEMS-V6I11P108.

[10] Jia Kang, Feng Qiaobin, "New Supply-Side Economics: Eliminations and Establishments," *SSRG International Journal of Economics and Management Studies (SSRG-IJEMS*), vol. 6, no. 5, pp.1-4, 2018. *Crossref*, https://doi.org/10.14445/23939125/IJEMS-V6I5P101.

[11] Jia Kang, Feng Qiaobin, "Rights-Ethics Public Goods: Based on the Expanded-Definition of Public Goods," *SSRG International Journal of Economics and Management Studies (SSRG-IJEMS)*, vol. 6, no. 8, pp. 17-28, 2019. *Crossref*, https://doi.org/10.14445/23939125/IJEMS-V6I8P104

[12] Jia Kang, "Carrying out the Goal of Modernization to the End through China's Reform and Opening-up - In Memorial of the 40th Anniversary of Reform and Opening-up," *SSRG International Journal of Humanities and Social Science (SSRG-IJHSS)*, vol. 6, no. 4, pp. 94-103, 2019. *Crossref*, https://doi.org/10.14445/23942703/IJHSS-V6I4P113.