

Research on the Theme Evolution and Transformation Logic of Urban Renewal Policies in China

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Abstract: Taking 94 urban renewal policy texts as the research object, the LDA topic model is used to conduct topic identification and evolution of urban renewal policy texts and logical analysis of policy changes. Research findings show that China's urban renewal policies can be divided into three stages: the nascent stage, the growth stage and the development stage, and the policy system is constantly evolving and improving. Eight major themes have been identified, namely infrastructure and renewal, urban planning and intelligentization, housing and urban renewal, national policies and urban renewal, resource-based cities and green development, urban and rural planning and ecological construction, real estate and rental markets, and sponge cities and community services. The intensity of policy themes shows different evolutionary characteristics at various stages. Policy changes also present the logic of change, which includes the reconstruction of policy goals, the innovation of policy tools, and the transformation of the driving forces of change.

Keywords: Urban renewal, Policy change, LDA topic model, Theme mining.

1. Introduction

Since the reform and opening up, China has experienced the largest and fastest urbanization process in world history, with the urbanization rate soaring from 17.9% in 1978 to 67.0% in 2024. During this process, urban space has transformed from "incremental expansion" to "stock renewal", and urban renewal has gradually become a core issue in the modernization of national governance and the new urbanization strategy. As a typical area of policy-driven social change, the urban renewal policies at the central level not only reflect the core demands of economic and social development in different periods but also carry a profound shift in the logic of spatial governance. The iteration of policy discourse not only reflects the evolution of China's urbanization stage, but also reveals the value transformation of national governance goals.

Most existing studies analyze urban renewal from the perspective of policy content interpretation or case practice, without conducting a systematic quantitative analysis of the central policy text. The diachronic thematic structure of policy changes and its evolution mechanism have not been fully revealed. Traditional qualitative methods are difficult to capture the implicit semantic associations in the text, and at the same time, there is a lack of empirical support based on long-term data. For this purpose, this paper takes the urban renewal policy texts issued at the central level from 1984 to 2024 as the research object, introduces the LDA (Latent Dirichlet Allocation) topic model, conducts cluster analysis on the relevant policy texts, and explores the intensity of policy themes, theme fields, theme structures, and the logic of policy changes. It is expected that the relevant research conclusions can provide references for improving the urban renewal policy system in China and optimizing the governance efficiency of territorial space.

2. Review of Existing Studies

2.1 Research Progress in Urban Renewal

Existing research, based on the conceptual development context of urban renewal actions, has proposed a system framework for urban renewal actions [1]. China's urban renewal system has made certain progress in top-level design and local exploration, but there are still problems such as insufficient overall and strategic integrity and high financial pressure. It is still necessary to build a systematic and overall urban renewal system framework [2][3]. The governance mechanism of urban renewal has undergone a transformation from "renewal management" to "renewal governance", and a governance structure featuring collaboration among the government, the market and society has gradually taken shape [4][5]. In the process of urban renewal, many new urban construction concepts have emerged, such as the construction of sponge cities to enhance urban resilience and the quality of the living environment [6], and the renewal of smart cities with three paths and gradually evolving into a more comprehensive model [7][8], etc. Foreign research focuses on the application of technology in smart city construction, which intensifies surveillance capitalism and raises profound concerns about democratic values and citizens' rights [9]. At the same time, pay attention to the cross-integration research of urban renewal with other disciplines [10].

3. Research Design

3.1 Theoretical Basis and Research Methods

3.1.1 Policy paradigm Theory

The policy paradigm theory points out that policymakers usually adopt measures such as adjusting the overall policy goals, applying policy tools, and clarifying the arrangement of tool Settings to address and solve policy problems [19]. The differences in the adjustments of the three variables can constitute different sequence characteristics, thereby reflecting the different forms of policy changes. Based on this theory and in combination with the practice of urban renewal in China, this paper reveals the deep leap of the policy paradigm. Not only do the various stages of urban renewal

changes in our country reflect the policy paradigm theory, but also the construction of the LDA theme model, the identification of theme words, the evolution of theme intensity in each stage, and the logic of policy changes all reflect the changes in paradigm elements.

3.1.2 Research methods

This paper adopts the LDA (Latent Dirichlet Allocation) topic model to conduct topic mining and analysis of the text content of the central policy on urban renewal in China. The LDA topic model holds that each document contains several topics, and each topic contains several words. From the document to the topic and then to the words, a selection is made through a certain probability among the three layers, and the selection steps are repeated continuously to obtain the entire document [20]. This model is an unsupervised classical learning method and has been applied by many scholars in analyzing public policy texts of different fields and types [21][22]. Therefore, this study uses the LDA topic model to analyze China's urban

renewal policies in order to achieve the research purpose of this paper.

3.2 Data Sources and Selection

This study selected the policy texts on urban renewal released at the national level since the reform and opening up for analysis. It utilized the database of Peking University Fabao, the policy document database of The State Council, and the official websites of relevant national ministries and commissions such as the Ministry of Housing and Urban-Rural Development. The policy texts were searched with terms such as "old city renovation", "renovation of old residential areas", and "urban renewal". Relevant laws and regulations, planning opinions, notices, measures, regulations and other policies that can reflect the will of government departments were selected. Policy texts of the same type were excluded, and finally 94 policy texts were screened out for analysis (see Table 1).

Table 1: Summary of Urban Renewal Policy Documents

Serial number	Title	Formulating authority	Effective date
1	Urban Planning Ordinance	State Council	1984/01/05
2	Notice of the Ministry of Construction, the State Price Bureau and the State Administration for Industry and Commerce on Strengthening the Management of the Real Estate Transaction Market	Ministry of Construction (renamed) State Price Bureau (abolished) State Administration for Industry and Commerce (abolished)	1988/08/08
3	Several Opinions of the Ministry of Construction on Strengthening Urban Comprehensive Development Work	Ministry of Construction (renamed)	1989/04/26
4	Urban Planning Law of the People's Republic of China	Standing Committee of the National People's Congress	1990/04/01
...
93	Notice of The State Council on Printing and Distributing the Five-Year Action Plan for Deeply Implementing the New Urbanization Strategy Centered on People	State Council	2024/07/31
94	Notice of the General Office of the Ministry of Housing and Urban-Rural Development on Strengthening the Quality Supervision of Construction of Affordable Housing and Resettlement Housing for Urban Village Renovation	Office of the Ministry of Housing and Urban-Rural Development	2024/12/20

3.3 Discovery of LDA Topics for Policy Text Content

3.3.1 Text preprocessing

In the LDA topic model, word segmentation and stop word removal are very important preprocessing steps. Therefore, this study constructed a custom dictionary based on the effective content of urban renewal policies. In the text and processing, the policy word list was first imported, and the jieba library was used to segment the corpus data set. Then, the segmentation results were continuously optimized by constantly improving the custom dictionary and expanding the stop word list of Harbin Institute of Technology. Then calculate the TF-IDF value of the words to filter out the words in the text that do not have recognition characteristics.

3.3.2 Determine the optimal number of topics

When using the LDA model for topic modeling, the first step is to determine the number of topics. The consistency score under different numbers of topics can be obtained by calculating the topic consistency. When the number of topics reaches the optimal value, the consistency score will reach the

highest value. The number of inflection points corresponding to the line graph of the consistency calculation results is the optimal number of topics. As shown in Figure 4, when the number of topics is 8, the consistency score is the highest.

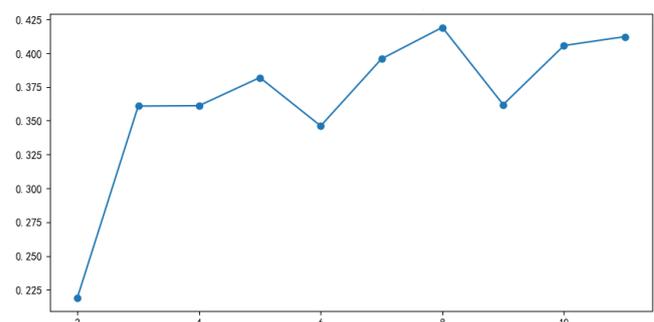


Figure 1: shows the calculation results of topic consistency

The LDA model was trained on the preprocessed policy text with the help of Python's gensim library, and the LDA topic model was visually displayed in combination with the pyLDAvis library, as shown in Figure 5. When num_topics=8, the boundaries between each topic were clear and the classification effect was good.

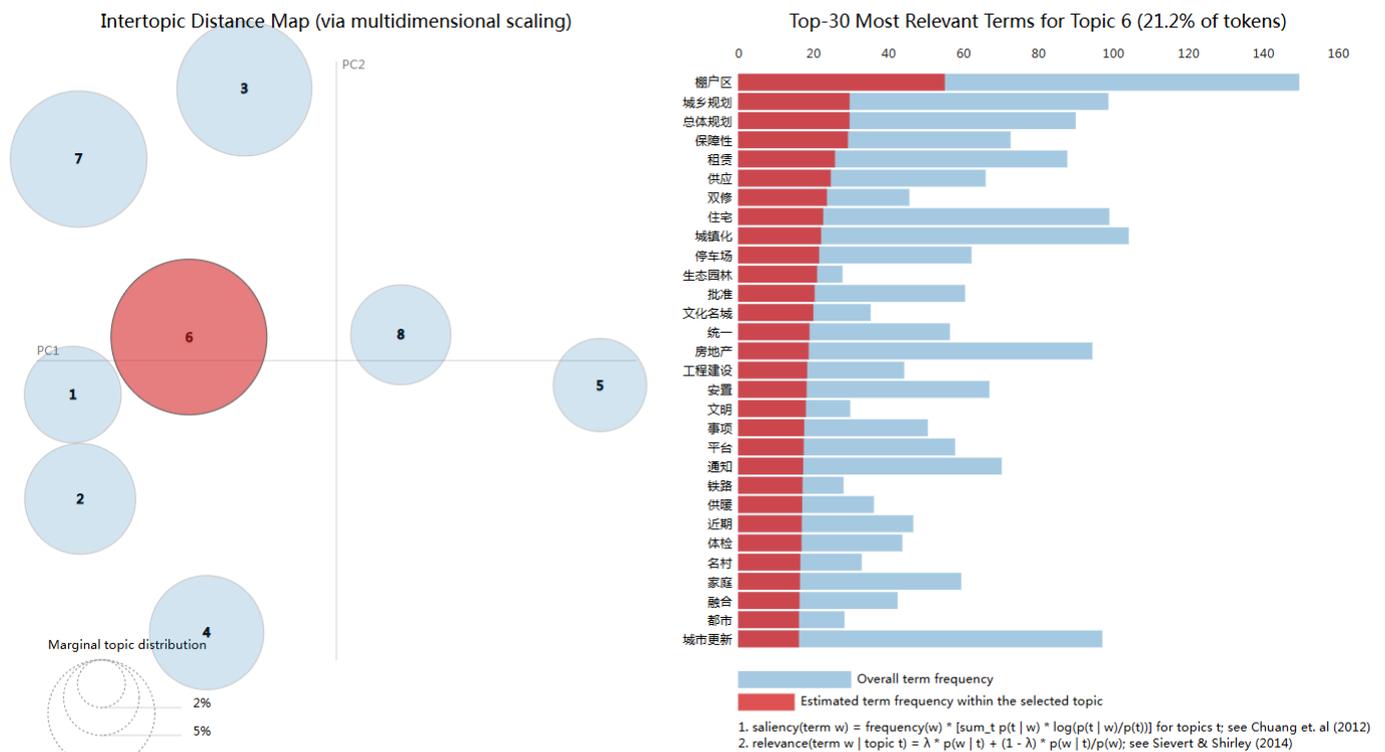


Figure 2: shows the top 30 subject terms with the highest overall relevance to Topic6

Table 2: Distribution of “Theme-words” in Urban Renewal Policy Texts in China

Subject Number	Theme identification	The top 10 high-probability feature words related to the topic
Topic 0	Urban infrastructure and renewal	Pipelines, consultation, physical examination, real estate, Bridges, shantytowns, the entire process, residences, urban renewal, networks
Topic 1	Urban planning and intelligence	Shantytowns, pipe galleries, pipelines, urban renewal, people-oriented, smart, intelligent, urbanization, pilot projects, urban and rural planning
Topic 2	Residential and urban renewal	Residential, urbanization, low-rent housing, urban renewal, garbage, pipelines, master planning, communication, family, pipe galleries
Topic 3	National Policies and Urban renewal	National, resource-based, urban renewal, landscaping, shantytown, time, renovation and transformation, sponge city, folk, urbanization
Topic 4	Resource-based Cities and Green Development	Pipelines, resource-based, landscaping, urban and rural planning, public toilets, heating, pipe galleries, climate change, pipe networks, gas
Topic 5	Urban and rural planning and ecological construction	Shantytowns, urban and rural planning, overall planning, security, leasing, ecological gardens, cultural cities, unification, real estate, engineering construction
Topic 6	Real estate and rental markets	Real estate, maintenance, parking lots, existing, energy conservation, leasing, parking, modification, houses, families
Topic 7	Sponge cities and community services	Sponge cities, communications, development and utilization, community services, renewal, shantytowns, rainwater, aging, Bridges, renovation and upgrading

Table 3: Distribution of “Document-Subject” in Urban Renewal Policy Texts in China

	Topic 0	Topic 1	Topic 2	Topic 3	Topic 4	Topic 5	Topic 6	Topic 7
0	0	0	0	0.21173	0	0.0844	0	0.70373
1	0.10498	0	0	0	0	0.18598	0.68088	0.29454
2	0	0	0	0	0	0	0.99984	0
3	0	0.45754	0	0.25271	0.12831	0	0.16131	0
...
90	0.265	0.08093	0.09508	0	0	0.55894	0	0
91	0	0	0.11119	0.62037	0	0.08415	0.18422	0
92	0	0	0	0.09871	0	0.90122	0	0
93	0	0.50216	0	0	0	0.47084	0	0.02693

4. Data Results and Analysis

4.1 Data Result

After the LDA topic model is trained, the probability distributions of the generated “topic-word” and “document-topic” are extracted. For the “topic-word” distribution, the top 10 high-probability feature words of each topic were sorted out. Based on the high-probability feature

words under each topic, the topic content was judged, and topic identification and marking were carried out. The topic summary results are shown in Table 2.

The “document-topic” distribution obtained from the LDA topic model training is shown in Table 3, presenting the distribution probabilities of different topics in each policy text. The larger the probability value, the greater the correlation. Based on this feature, one can quickly understand the most important thematic content of each policy document.

4.2 Analysis of the Thematic Content of Urban Renewal Policy Texts

4.2.1 Urban infrastructure and renewal

The theme logo of Topic0 is “Urban Infrastructure and Renewal”. In January 2008, the Ministry of Construction issued the “Key Points of Work of the Urban Construction Department of the Ministry of Construction in 2008”, which pointed out that “guidance and supervision over the construction and operation of urban sewage treatment facilities should be strengthened” and “Research and construction of urban water supply emergency systems should be accelerated”. In June 2014, the “Notice of the Ministry of Housing and Urban-Rural Development on Accelerating the Construction and Renovation of Urban Roads and Bridges” emphasized “accelerating the improvement of the urban road network system” and “strengthening the maintenance and management of urban roads and Bridges”. In July 2022, the “Notice on Issuing the ‘14th Five-Year Plan’ for National Urban Infrastructure Construction” stressed “During the ‘14th Five-Year Plan’ period” With the goal of building a high-quality urban infrastructure system... Ensure that residents enjoy a complete infrastructure supporting service system.

The policy orientation of this theme is centered on systematic maintenance and modernization transformation, with a focus on addressing the aging of urban infrastructure and promoting the improvement of urban functions. Meanwhile, relevant administrative regulations focus on the scientific planning, efficient implementation and sustainable development of urban renewal, ensuring that urban infrastructure can meet the growing living needs of residents and the requirements of social and economic development. This reflects the policy goals of enhancing infrastructure resilience, optimizing public services and achieving networked collaboration.

4.2.2 Urban planning and intelligence

The theme logo of Topic1 is “Urban Planning and Intelligence”. The “Urban Planning Law of the People’s Republic of China” promulgated in April 1990 states that “the overall urban planning shall include: the nature of the city, its development goals and development scale...” “Professional urban planning and near-term construction planning.” In March 2014, the Central Committee of the Communist Party of China and The State Council issued the “National New-Type Urbanization Plan (2014-2020)”, which pointed out that “promote the application of intelligent information and new information services, and promote the informatization of urban planning and management as well as the refinement of social governance.” In June of the same year, the “Guiding Opinions on Strengthening the Construction and Management of Urban Underground Pipelines” pointed out that “plans for urban underground pipelines and other facilities should be scientifically compiled, the construction sequence should be reasonably arranged, and the integrity and systematicness of urban infrastructure construction should be enhanced.” In July 2024, the “Notice of The State Council on Printing and Distributing the Five-Year Action Plan for Deeply Implementing the New Urbanization Strategy Centered on People” emphasized “Deeply implementing the

urban renewal action...” Accelerate the improvement of the shortcomings in urban safety and resilience, and build livable, resilient and smart cities.

The representative administrative regulations and policy documents of various periods involved in this theme reflect the policy orientation of empowering urban planning with smart technologies and promoting the deep integration of urban renewal and new urbanization. At the same time, it focuses on promoting the scientific, precise and intelligent development of urban planning, aiming to enhance the efficiency and level of urban management and drive cities towards a more intelligent, green and livable direction.

4.2.3 Residential and urban renewal

The theme logo of Topic2 is “Housing and Urban Renewal”. In April 1994, the “Decision on Deepening the Reform of the Urban Housing System” pointed out that “the reform of the urban housing system, as an important part of the economic system reform...” Meet the constantly growing housing demands of urban residents. In April 2010, the Ministry of Housing and Urban-Rural Development and other departments issued the “Notice on Strengthening the Management of Low-rent Housing and Related Issues”, emphasizing “strengthening the management of low-rent housing to ensure fair allocation and effective use of low-rent housing”. In December 2021, the “Notice on Further Clarifying the Requirements for the Renovation of Old Urban Residential Areas” pointed out that “the renovation of old urban residential areas has helped a large number of residents in old urban residential areas improve their living conditions and living environment.” In June 2023, the “Notice on Further Strengthening the Safety Management of Interior Decoration and Renovation of Urban Houses” emphasized that “housing and urban-rural development departments at all levels should work with relevant departments to improve the management system and standard norms for decoration and renovation.”

This theme reflects the policy orientation of focusing on the improvement of affordable housing and living environment, and promoting the upgrade from “having a place to live” to “having a comfortable place to live”. At the same time, it reflects the policy direction and specific measures of our country in the fields of residential construction and urban renewal, concentrating on the key work areas such as housing, urbanization, low-rent housing, and urban renewal.

4.2.4 National Policies and Urban renewal

The theme logo of Topic3 is “National Policies and Urban Renewal”. In the “Key Points of Work of the Urban Construction Department in 2010” issued in February 2010, it was pointed out that “the healthy development of urban construction should be promoted through policy guidance mechanisms, reward and incentive mechanisms, and information monitoring mechanisms.” In June 2012, the “Notice on Issuing the Implementation Opinions on Further Encouraging and Guiding Private Capital to Enter the Municipal Public Utilities Sector” emphasized that “further encouraging and guiding private capital to enter the municipal public utilities sector is a need to adapt to the rapid development of urbanization.” In September 2018, the

“Notice on Further Improving the Retention, Utilization and Renovation of Existing Urban Buildings” pointed out that “the concept of urban repair and organic renewal should be adhered to to promote high-quality urban development.” In the “Guidelines on Planning and Land Policies Supporting Urban Renewal (2023 Edition)” issued in December 2023, it was emphasized that “exploration and innovation in planning and land policies for urban renewal should be carried out.”

The policies and regulations involved in this topic reflect the macro guidance and strategic deployment of urban renewal at the national level in our country. Through top-level design, it coordinates the renewal actions and strengthens the local implementation and innovative practice of central policies. The relevant plans aim to guide each region to formulate differentiated urban renewal strategies based on their own characteristics and development stages, achieving all-round progress in the economy and society, and demonstrating the features of standardized policy systems and collaborative efforts among multiple stakeholders.

4.2.5 Resource-based Cities and Green Development

The theme logo of Topic4 is “National Policies and Urban Renewal”. The “Regulations on Urban Planning” released in January 1984 mentioned that “urban planning must effectively protect and improve the urban ecological environment”. In December 2007, The State Council issued the “Several Opinions on Promoting the Sustainable Development of Resource-based Cities”, which pointed out that “greater support should be given to the sustainable development of resource-based cities, especially those with exhausted resources.” In November 2012, the “Guiding Opinions on Promoting the Healthy Development of Urban Gardening and Greening” pointed out that “the housing and urban-rural development (gardening and greening) authorities at all levels should actively promote urban gardening and greening work from the perspective of strategy and overall development.” In December 2013, the “National Sustainable Development Plan for Resource-based Cities (2013-2020)” emphasized that “promoting the sustainable development of resource-based cities requires overall planning and coordinated advancement.”

The policy orientation reflected in this theme is to promote the low-carbon transformation of resource-based cities, break the deadlock of “urban decline when mines are exhausted”, and focus on achieving the goals of ecological restoration, industrial greening and the resilience of the urban and rural living environment. In addition, it advocates the development path of innovation-driven and innovative industries, and uses scientific and technological innovation as the engine to drive the transformation and upgrading of the entire region.

4.2.6 Urban and rural planning and ecological construction

The theme logo of Topic5 is “Urban and Rural Planning and Ecological Construction”. In July 2008, the “Regulations on the Protection of Historical and Cultural Cities, Towns and Villages” issued by The State Council pointed out that “the relationship between economic and social development and the protection of historical and cultural heritage should be properly handled”. In March 2011, the Outline of the 12th

Five-Year Plan for National Economic and Social Development pointed out that “We should actively and steadily promote urbanization, optimize the layout and form of urbanization...” Constantly improve the quality and level of urbanization. In March 2017, the “Guiding Opinions on Strengthening Ecological Restoration and Urban Repair Work” emphasized that “further efforts should be made to strengthen urban planning, construction and management, address ‘urban diseases’, and enhance urban governance capabilities.” In December 2024, the “Notice on Strengthening the Quality Supervision of the Construction of Affordable Housing and Resettlement Housing for Urban Village Renovation” pointed out that “specific requirements should be clearly defined in light of actual conditions, and effective measures should be taken to strengthen the quality supervision and management of the construction of affordable housing and resettlement housing for urban village renovation projects.”

This theme reflects the policy orientation of restricting development behavior with ecological red lines and promoting the intensive utilization of urban and rural space. It focuses on the coordinated development of urban and rural areas, the inheritance of historical and cultural context, and the construction of ecological civilization. It covers the renovation of shantytowns and the compilation of overall planning, while encouraging the exploration of new paths for urbanization.

4.2.7 Real estate and rental markets

The theme logo of Topic6 is “Real Estate and Rental Market”. In August 1993, the Ministry of Construction issued the “Opinions on Strengthening Macro Management of the Real Estate Market and Promoting the Healthy and Sustainable Development of the Real Estate Industry”, emphasizing that “in response to the prominent problems existing in the real estate market, further deepen reforms...” Promote a moderate growth in urban residential construction. In June 2010, the Ministry of Housing and Urban-Rural Development and other departments issued the “Guiding Opinions on Accelerating the Development of Public Rental Housing”, which pointed out that “Local people’s governments at all levels should strengthen organizational leadership...” Ensure the smooth implementation of public rental housing work. In August 2016, the “Notice on Further Improving the Planning, Construction and Land Use Policies for Urban Parking Lots” jointly issued by the Ministry of Housing and Urban-Rural Development and the Ministry of Land and Resources pointed out that “special plans for urban parking facilities should be scientifically compiled...” Accelerate the construction of urban parking lots and gradually alleviate the problem of difficult parking.

The policy orientation of this theme is to regulate the order of the real estate market, cultivate a healthy and sustainable rental system, and protect the legitimate rights and interests of consumers from infringement through a series of measures, which reflects the goals of market risk prevention and control, rationalization of living costs and activation of existing resources.

4.2.8 Sponge cities and community services

The theme logo of Topic7 is “Sponge City and Community Services”. In April 1989, the “Several Opinions of the Ministry of Construction on Strengthening Urban Comprehensive Development Work” pointed out that “the construction of new areas and the renovation of old cities should mainly adopt comprehensive development methods...” “Establish the leading position of comprehensive development in urban construction as soon as possible.” In October 2015, the “Guiding Opinions of The General Office of the State Council on Promoting Sponge City Construction” emphasized that “the goals and specific indicators for sponge city construction should be determined in accordance with local conditions...” We must effectively enhance the capacity of cities for drainage, flood prevention, flood control and disaster prevention and mitigation. In January 2022, The General Office of the State Council issued the “Notice on Printing and Distributing the ‘14th Five-Year Plan’ for the Construction of Urban and Rural Community Service Systems”, which pointed out that “strengthening the construction of urban and rural community service systems...” Make full use of digital technology to empower and reduce the burden on the community, and improve the quality and efficiency of services.

The relevant policies and regulations under this theme aim to promote and apply the concept and technical means of sponge city construction to enhance the city’s flood control and drainage capacity as well as water resource utilization rate. At the same time, they focus on improving the quality of life for community residents, improving the supporting construction of various public service facilities, and meeting the diverse living needs of the people. This reflects the improvement of community resilience through the concept of sponge cities. The policy orientation for building a friendly community service network.

4.3 Analysis of the Evolution of Theme Intensity in Urban Renewal Policy Texts

To further explore the evolution process of the theme intensity of urban renewal policies in China, this paper conducts an evolution analysis of the themes generated based on the LDA model and uses the theme intensity calculation method to analyze the core theme contents of each stage. Essentially, the intensity of a topic is a probability, with its value generally ranging from 0 to 1, used to measure the degree of attention a topic receives. Topics with higher intensity can be called hot topics.

Table 4: Distribution of Theme Intensity in Various Stages of Urban Renewal Policies in China

Theme	Stage	Embryonic stage (1984-2000)	Growth stage (2001-2012)	Development period (2013-2024)
Topic 0	Urban infrastructure and renewal	0.062300725	0.06364255	0.108268875
Topic 1	Urban planning and intelligence	0.017287182	0.063517944	0.1271995
Topic 2	Residential and urban renewal	0.140778072	0.144160982	0.151047257
Topic 3	National Policies and Urban renewal	0.150977459	0.116491443	0.139839379
Topic 4	Resource-based Cities and Green Development	0.085944381	0.09152669	0.06018814
Topic 5	Urban and rural planning and ecological construction	0.138558877	0.297203337	0.208119602
Topic 6	Real estate and rental markets	0.328460674	0.154902273	0.118992188
Topic 7	Sponge cities and community services	0.075628879	0.071830945	0.086341357

During the nascent period (1984-2000), the distribution feature of the theme intensity of China’s urban renewal policies was the old city renovation dominated by economic efficiency. At this stage, relevant policies and regulations are centered on economic drive, with a focus on addressing the issues of housing shortage and backward infrastructure. The intensity of the themes indicates that Topic6 “Real Estate and Rental Markets” and Topic3 “National Policies and Urban Renewal” are dominant, and policy tools are highly dependent on administrative instructions and land development. For instance, in 1989, the “Several Opinions on Strengthening Urban Comprehensive Development Work” promoted the “comprehensive development” model, and in 1993, the “Opinions on Strengthening Macro Management of the Real Estate Market” proposed to accelerate the reform of housing commercialization. Among the secondary themes, Topic2 “Housing and Urban Renewal” initially explored housing security through the pilot program of low-rent housing, while Topic5 “Urban and Rural Planning and Ecological Construction” mentioned ecological protection in the “Regulations on Urban Planning” released in 1984, but due to the singularity of policy tools, its practical effect was limited. Overall, the policies and regulations of this period were driven by “land finance”, emphasizing the transformation of physical space, while social equity and ecological goals had not yet become core concerns.

During the growth period (2001-2012), the theme intensity was characterized by equal emphasis on people’s livelihood security and ecological restoration. With the acceleration of urbanization and the manifestation of social contradictions, the policy focus has shifted to social equity and systematic governance. Topic5 “Urban and Rural Planning and Ecological Construction” rose to the top with a theme intensity of 0.297 during this period. In 2007, the “Several Opinions on Promoting the Sustainable Development of Resource-based Cities” marked ecological restoration as a national strategy. Topic2 “Housing and Urban Renewal” alleviates the unfair distribution of housing resources through shantytown renovation projects. The emerging theme Topic1, “Urban Planning and Intelligence”, has begun to take shape, and the concept of smart cities was introduced into pilot projects after 2010. Meanwhile, the Topic6 “Real Estate and Rental Market” has intensified its regulatory efforts due to overheated markets. Policy tools have transitioned from single administrative instructions to marketization, but technological empowerment has yet to be widely adopted. At this stage, the policy shows the characteristics of the initial synergy of the “economic-social-ecological” goals, but still faces the challenges of insufficient tool innovation and deviation in local implementation.

The intensity characteristics of policy themes during the development period (2013-2024) can be summarized as the

deepening of sustainable development and technological empowerment. The “National New-Type Urbanization Plan (2014-2020)” released in 2014 and the “Outline of the 14th Five-Year Plan and Long-Range Objectives Through the Year 2035 for National Economic and Social Development of the People’s Republic of China” released in 2021 proposed to “implement the urban renewal action” to promote a comprehensive upgrade of policies. Topic1 “Urban Planning and Intelligence” and Topic0 “Urban Infrastructure and Renewal” have become dominant. Technology-intensive projects such as smart pipe galleries and sponge cities have been widely implemented. For instance, in 2015, the “Guiding Opinions on Promoting Sponge City Construction” strengthened the construction of climate adaptability. Topic7 “Sponge Cities and Community Services” enhances service resilience through community digital platforms. However, the priority of Topic4, “Resource-based Cities and Green Development”, has relatively declined due to the refinement of low-carbon transformation. At this stage, the policy objective has expanded to a four-dimensional synergy of “ecology - culture - people’s livelihood - technology”, and tool innovation highlights multi-party governance and digital empowerment, marking the establishment of a high-quality development model.

4.4 The Logic of Policy Changes

4.4.1 The reconstruction of policy goals

The changes in policies often reflect the evolution of policy goals. In the early stage of reform and opening up, urban infrastructure was seriously lagging behind, and it was urgent to stimulate economic vitality through land development. During this period, urban renewal policies followed the logic of “incremental expansion” dominated by economic efficiency. The core policy objective was to rapidly promote urbanization, alleviate the housing shortage problem, and release the economic value of land. For instance, in 1989, the “Several Opinions on Strengthening Urban Comprehensive Development Work” proposed the “comprehensive development” model, promoting the parallel development of new district construction and old city renovation. During this period, urban renewal overly relied on land finance, leading to social conflicts and ecological damage.

To alleviate the above-mentioned problems, the policy goals of urban renewal in the growth stage focus on a dual shift of social equity and ecological restoration. The goals have been upgraded to balance economic growth and social equity, address the decline of resource-based cities and the differentiation of housing, and the problems of shantytowns left over from the reform of state-owned enterprises and environmental pollution incidents have also forced policy transformation. Issues such as the renovation of shantytowns, the construction of low-rent housing and the provision of affordable housing have been incorporated into the core of policies. While a series of policies have achieved results, some projects have also encountered the problem of “imbalance between demolition and construction”.

The new urbanization strategy proposed in 2014 calls for “people-oriented” approaches. The carbon neutrality goal put forward in 2020 drives green transformation. Urban renewal

policies during the development period aim at sustainable development and modern governance, coordinating ecological, cultural, livelihood and technological empowerment to promote high-quality development. In 2016, the “Several Opinions on Further Strengthening Urban Planning, Construction and Management” clearly defined the concept of organic renewal. In 2021, the “Outline of the 14th Five-Year Plan” dedicated a chapter to deploying the “Implementation of Urban Renewal Actions”, strictly controlling large-scale demolition and construction. Urban renewal policies have shifted from “space production” to “value creation”, emphasizing community resilience, cultural identity and digital governance.

4.4.2 Innovation of policy tools

The evolution of urban renewal policy tools in our country has undergone a transformation from a single administrative instruction to the collaborative innovation of market-oriented, socialized and technological tools. During the period when administrative instructions guided “incremental expansion”, policies mainly relied on administrative compulsory tools, promoting large-scale demolition and land development through government instructions. For instance, the Urban Planning Law of 1990 granted the government the power of compulsory demolition, which was characterized by fiscal appropriation dominance. Central special funds supported the renovation of dilapidated houses and infrastructure projects, and carried out comprehensive urban development. The policy tools during this period were single and dependent on land finance. During the period of balancing economic growth and social equity, policy tools have focused on market-oriented exploration and people’s livelihood orientation, innovating market-oriented financing tools through the introduction of development-oriented finance and tax and fee reductions for shantytown renovation projects. In 2007, the “Several Opinions on Solving the Housing Difficulties of Low-Income Urban Families” clearly defined the construction goals of low-rent housing and promoted the system of affordable housing. Policy tools have shifted from single administrative instructions to “government-market” collaboration. Since 2013, policies have focused on coordinating ecological protection, cultural inheritance and modernization of governance to promote high-quality development, and policy tools have shown a complex feature. Social participation tools such as the community planner system and digital consultation platforms promote public participation in decision-making. Technology-enabled tools such as Guangzhou’s city-wide information model platform and artificial intelligence-assisted demand forecasting make the basis for relevant decisions more scientific. Policy tools have evolved from relying on administrative instructions in the early stage, introducing market tools in the middle stage, and integrating social participation and technological empowerment in the later stage, thus forming a multi-party collaborative governance framework of “government - market - society - technology”.

4.4.3 The driving force behind policy changes

The changes in China’s urban renewal policies are deeply rooted in the interaction among the urbanization process, the reform of the land system, the technological revolution and

the mutual learning of global experiences. The reverse push effect of the urbanization stage is particularly significant: from 1978 to 2000, the average annual growth rate of urbanization was 1.02%, and the paid land use system released dividends, supporting the rapid expansion of new areas. After 2013, the urbanization rate exceeded 65%, and the policy shifted towards the “three old” renovation and the redevelopment of inefficient land. The path dependence of land system reform has run through the entire process. The technological revolution has reshaped the governance paradigm. For instance, the near-zero energy buildings in Suzhou Industrial Park have reduced carbon emissions by 12,000 tons annually, demonstrating the deep integration of low-carbon goals and technological empowerment. Domestically, we draw on the British community trust model to revitalize the Yangpu Riverside area in Shanghai and promote Singapore’s “vertical greening”. The “government coordination + market operation” model of Shenzhen’s export to the outside world has influenced the urban village renovation in Vietnam and Indonesia. Globalization and mutual learning of local experiences have driven each other in a two-way way. The interweaving of institutional environment and external driving forces not only restricts the boundaries of policy choices but also provides experimental soil for innovation, jointly promoting the leap of urban renewal in China from “scale-driven” to “value creation”.

5. Conclusions and Suggestions

This study, by collating the national-level policy texts on urban renewal in China from 1984 to 2024 and in combination with the implementation time nodes of major policies, found that the phased characteristics of the policy texts are obvious. It can be divided into three periods: the nascent stage (1984-2000), the growth stage (2001-2012), and the development stage (2013-2024), during which the policy and legal system gradually becomes more complete.

By conducting thematic content mining on the relevant policy texts of urban renewal in our country, it is found that the policy themes can be summarized into eight aspects. Namely, Topic0 “Urban Infrastructure and Renewal”, Topic1 “Urban Planning and Smartification”, Topic2 “Housing and Urban Renewal”, Topic3 “National Policies and Urban Renewal”, Topic4 “Resource-based Cities and Green Development”, Topic5 “Urban and Rural Planning and Ecological Construction”, and Topic6 “Real Estate and Leasing”. The themes of “Market” and “Sponge City and Community Services” on Topic7 are clearly classified, indicating the development direction of urban renewal policies.

The theme distribution characteristics of policy texts in different periods also show phased changes. The evolution of the theme intensity and the logic of policy changes in China’s urban renewal policies are essentially the dual transformation of national governance goals and tool innovation. From the perspective of goals, it has undergone a stepwise leap from “economic efficiency - social equity - sustainable development”, which is an inevitable requirement of the evolution of the urbanization stage and the upgrading of people’s demands. From the perspective of tools, it presents a complex transformation of “administrative instructions - market-based incentives - multi-party governance”, with

technological empowerment and institutional innovation becoming the key supports. From the perspective of the driving forces of change, the urbanization process, the reform of the land system, the technological revolution and the experience of globalization interact and learn from each other. The institutional environment and external driving forces jointly promote the evolution of policies.

Based on the above conclusions, this paper puts forward several suggestions, with the aim of providing references for further improving the urban renewal policy system in our country:

First, establish a dynamic and adaptable “policy toolbox” mechanism. For urban renewal projects of different types of cities and at different development stages, a differentiated combination of policy tools should be formulated. For instance, for the renovation of old residential areas, policy tools such as fiscal subsidies, tax and fee reductions, and floor area ratio rewards should be mainly adopted to encourage the participation of social capital and enhance community participation and co-construction and co-governance. The protection of historical and cultural cities mainly relies on policy tools such as planning control, financial support, and technical guidance, with an emphasis on the inheritance and revitalization of historical and cultural heritage. The renovation of urban villages mainly relies on policy tools such as land policies, property rights system reforms, and resettlement and compensation, taking into account both economic and social benefits.

Second, strengthen digital governance capabilities and ethical regulations. By leveraging big data, cloud computing, artificial intelligence and other technologies, a digital platform for urban renewal is constructed to achieve information sharing, data analysis and decision support. While promoting the digitalization of urban renewal, a sound data security management system is established to ensure the security of urban renewal data and the privacy of personal data are not violated. At the same time, improve ethical regulations, that is, formulate ethical norms for urban renewal, clarify the rights and obligations of all parties involved in the urban renewal process, and prevent problems such as data abuse and algorithmic discrimination.

Third, innovate market-oriented and socialized financing models. Encourage social capital to participate in urban renewal, explore financing models such as issuing special bonds for urban renewal and establishing urban renewal funds to broaden financing channels. Explore new market-oriented financing methods and attract social capital to participate in urban renewal to innovate financing approaches. At the same time, a sound risk prevention and control mechanism for urban renewal should be established and improved to prevent financial and social risks.

Fourth, improve the mechanism for public participation and rights protection. Establish and improve the mechanism for public participation in urban renewal, such as conducting public consultations and hearings to listen to public opinions and suggestions; Establish a public participation platform for urban renewal to facilitate the public’s understanding of urban renewal information and their participation in urban renewal

decision-making. Encourage community self-governance and co-construction and co-governance, and give full play to the role of communities in urban renewal. At the same time, it is necessary to establish and improve the mechanism for safeguarding public rights and interests, ensure the public's right to know, right to participate and right to supervise, and guarantee that urban renewal is open and transparent. Establish and improve the public complaint and appeal mechanism to ensure that the channels for the public to reflect problems are unobstructed.

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