

The 20th "China Urban Planning Discipline Development Forum"

And 2023 "UP (U n i t e d P l a n n i n g) Frontier Discipline Development"

The 2023 "Jinjingchang China Urban Planning Excellent Paper Award" award ceremony was successfully held

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On October 28, 2023, the "20th China Urban Planning Discipline Development Forum" and 2023 "UP (U n i t e d P l a n n i n g) Frontier Discipline Development" and 2023 "Jin Jingchang China Urban Planning Excellent Paper Award" award ceremony was successfully held. The forum is co-hosted by Jin Jinchang / Dong Jianhong Urban Planning Education Fund, Editorial Department of Urban Planning Journal, School of Architecture and Urban Planning of Tongji University, and Shanghai Tongji Urban Planning and Design Institute Co., LTD. This forum is also one of the frontier series activities of UP (U n i t e d P l a n n i n g) in 2023, focusing on the development of disciplines. And the forum, held on the last weekend of October, is also the UN-Habitat Urban October (Urban October) is part of the series of activities. This forum focuses on the theme of "Future Development of Urban and Rural Planning", and focuses on the subject

In the critical period, explore the core issues, frontier fields, innovative ideas and future direction of the development of urban and rural planning in the new period. This forum is the 20th anniversary of the discipline forum

It is also being held offline again since 2020. The forum adopted the form of combining online and offline, and live broadcast on multiple platforms such as China Urban Planning Network, WUPENiCity Video account, Tongji University School of Architecture and Urban Planning. The number of online viewers online was nearly 20,000, and the total number of views was more than 30,000 times.

The forum is divided into two sections: opening ceremony, award ceremony and theme report.

The opening ceremony on the morning of October 28 was held by the School of Architecture and Urban Planning, Tongji University Dean Professor Wang LAN presided over it. The opening ceremony first

reviewed the difficulties of the 20-year development of the discipline forum. Forget the journey, and played the video interview with Mr. Dong Jianhong, the founder of the forum, in 2013. Zheng Qinghua, president of Tongji University, and Li Xiangning, dean of the School of Architecture and Urban Planning of Tongji University, delivered welcome speeches on behalf of the university and the college respectively. Subsequently, Qu Changhong, deputy secretary-general of the Urban Planning Society of China, presided over the award ceremony of "2023 Golden Jingchang China Urban Planning Excellent Paper Award", and Wang Yajuan, deputy director of the editorial Department of Urban Planning Journal, announced the list of winners. Zhi-qiang wu academician of tongji university, southeast university, university of Illinois professor Zhang Tingwei, tongji university school of architecture and urban planning secretary Liu Song, li, xiang ning, dean, Wang Huilan, vice President of the Shanghai tongji city planning design institute co., LTD., zhang shangwu, dean, the urban planning newsroom Wang Wentong, Urban planning journal, director of the editorial department, the international urban planning deputy editor zhi-tao sun, the urban development research deputy editor chun-zhi Yang, the Shanghai urban planning editorial wang jing, deputy director of the western residential environment journal of academic guidance Li Yunyan, deputy editor of urban and rural planning Su Hailong guests awarded awards and MEDALS for the winners.

In the keynote report, Professor Zhang Shangwu, president of Shanghai Tongji Urban Planning and Design Institute Co., Ltd., Ltd., and Xiao Jianli, associate professor of Urban Planning Journal served as the academic hosts, respectively. 10 guests delivered keynote speeches.

Professor Duan Jin, academician of the Chinese Academy of Sciences and School of Architecture, Southeast University, is entitled "New Urban Design in the New Era"

The first part of the report summarizes the new demand for space quality in the background of the new era. First, spatial and location equality. The location difference and inequality of urban space exist objectively, and the planning and design have the obligation to strive for the equality of spatial location. Second, environmental and ecological balance. Urban space has produced many serious urban environmental and ecological problems, and it is important to implement urban design to specific populations and places and formulate measures for environmental and ecological balance. Third, subculture protection. As a social phenomenon of population settlement, subculture also produces the phenomenon of separation from space. Urban design should encourage the construction of subculture and neighborhood areas with land and community relationship, so that residents can have a sense of security, identity and sense of home. Fourth, we need to develop social space. In the past, the design of public space with a single service type was designed based on the common indicators of people, and the development of social space was designed according to its characteristics. By finding the spatial extension points of different communities and organizing social network relations in different ways, which is conducive to promoting communication and social stability.

The second part of the report introduces the new concept of human-oriented urban design. People-oriented urban design has been widely concerned in the world, and its thinking mainly include the following points. First, from material-oriented to people-oriented: the perspective from economic and social people to diverse groups, focusing on the differences of different groups; ideas from development and management to joint creation, it requires refined design and multi-subject consultation, participation and decision-making. Second, from morphological research to visual experience, Including: the deepening of the composition principle, With the development of modern graphic theory and related techniques, Expand the spatial graph relationship analysis to focus on the formation mechanism behind it, From the analysis of material geometry to the interaction with human research; Landscape visual science, Studying the visual influence pattern of different combinations of the enclosure conditions and morphological proportions of spatial morphology, The development of related disciplines and advanced experimental technology has provided technical support for deepening the research of diverse groups; The 3 D dynamic experience, By analyzing the sequence study of the spatial environment quality and the overall effect of shape and physical order, Using 3 d animation simulation, virtual reality and other auxiliary technologies to strengthen its analysis ability and application scope. Third, from the space characteristics to the site context, Including: pay attention to spatial and social places, The concept of "place" involves the material

geometry of space and social culture, historical events, and human activities, It has the characteristics of focusing on the relationship between human behavior and spatial environment; Focusing on the human cognitive imagery, Urban design should aim to meet people's cognitive requirements; Focus on human behavioral observation, To reveal the behavior law of human beings in the environment and its presentation in the spatial form; Focus on schema language methods, To strengthen the study of the spatial schema corresponding to human behavior and place emotion; Focus on historical context research, Add the historical and cultural elements into the urban space analysis.

The third part of the report proposes the design of new methods. First, the new methods of green urban design, including: pay attention to the green and low-carbon development concept, ensure the safety of life and environment, follow the objective law of natural ecology, and build the symbiotic relationship between man and nature; adopt the design strategy of ecological priority, ecological green base design, from green space index to ecosystem, and adopt appropriate technologies according to local conditions. Second, new technologies for smart development, including: the comprehensive application of digital technology, Make full use of the auxiliary analysis of digital model, the whole process of digital twin design, virtual simulation and 3 D real scene experience, To realize digital and information space management; The design and transformation of smart cities, The theoretical basis of smart city is the complex adaptation system theory; Smart city is a modular structure, Can systematize complex cities into relatively simple ones, and turn dynamic changes into relatively static conditions to perceive, calculate and feedback; The core technology of a smart city is smart computing, Integration of human social space, physical space and information space; There is also the transformation of the operation mode of smart infrastructure and the operation mode of intelligent management and service. The fourth part of the report proposes a whole-process urban design led by a new paradigm. According to the new requirements of the comprehensive total factor control of the territorial space planning system, the working boundary of urban design has also been expanded accordingly, breaking through the original urban construction area and covering the whole area of urban and rural space. First, the full coverage of multi-dimensional urban design, urban design thinking should be will

The beauty of artificial is organically embedded in the original beauty of nature, so that artificial and nature are integrated into an organic whole, and the rational layout of the whole natural landscape, spatial elements and living environment is realized. The traditional Chinese method of Yingcheng is to be dependent on the regional landscape form and the base feng shui environment, and carry out the overall design. The whole urban design method coordinates the overall spatial relationship between towns and villages and mountains, rivers, forests, fields, lakes, grass and sand, which is a return to the excellent traditional Chinese culture. Second, the whole process of multi-level urban design, combined with planning, design, construction and governance, to establish a set of urban design operation mechanism relying on the "five levels and three categories" planning system and connecting the use control. Performing regional coordination, protection and utilization of natural resources and cultural characteristics at cross-regional levels of metropolitan area, urban group; optimizing the resource and environment constraints at the overall planning level, improving the scientific nature, strengthening the leading role of public space in urban development, guiding the urban design at the next level and applying it, aiming to establish a "design view" to meet the multiple values

of nature, ecology, culture and aesthetics.

The report of Zhang Bing, director of the Bureau of Territorial and Space Planning of the Ministry of Natural Resources is "Some thoughts on the subject education of territorial and spatial Planning"

The first part of the report reports on the progress of the current territorial spatial planning reform. "Rules" reform is the CPC Central Committee and the State Council made major policy decisions, "the central committee of the communist party of China of the State Council about establishing national spatial planning system and supervise the implementation of several opinions set up the national spatial planning system of" four beams eight columns ", clear requirements" education department to strengthen the construction of national spatial planning related disciplines ". In October 2022, the CPC Central Committee and the State Council issued the Outline of National Territorial Space Planning (2021-2035). For the development of the industry, it requires "to accelerate the construction of disciplines and the training of planning professionals; strengthen the guidance of industry organizations, improve the professional qualification and qualification certification system, strengthen the construction of innovative talents and innovation platform, and strengthen international cooperation and exchange". Wang Guanghua, minister of the Ministry of Natural Resources, summarized the phased achievements of the planning reform: ① Completed the top-level design of the territorial space planning system, established the basic position of the territorial space planning in the national space governance system; ② the CPC Central Committee and the State Council issued China's first national territorial space planning of "multiple plans in one",

Forming a "China plan" for the sustainable development of territorial space; ③ The CPC Central Committee and The State Council personally plan, National, provincial, city, county, township five-level linkage, Active support from relevant departments, Complete the delineation of the "three districts and three lines", To adjust the economic structure, plan the industrial development, and promote the urbanization to build an insurmountable red line; ④ The overall promotion of local overall plans at all levels, planning, detailed planning and special planning compilation, Decisive progress was made in the "five levels and three types" of national spatial planning, Forming a statutory blueprint for the development and protection of territorial space; ⑤ To build a "map of the comprehensive national territorial space planning", The digital governance of territorial space realizes a qualitative leap; ⑥ We will accelerate the development of laws and institutional systems for territorial space, Promote the compilation, examination and approval, implementation and supervision of planning into the track of the rule of law; ⑦ Promoting the development of a technical standard system for territorial space, To provide technical support for the compilation, management, implementation and supervision of territorial spatial planning; ⑧ Strengthen the close connection between planning and land, To consolidate the legal status of the overall plans and detailed plans; ⑨ National spatial planning industry management gradually straighten out, The development of disciplines and personnel teams has continued to strengthen.

The second part of the report summarizes the overall situation of the research of planning disciplines. First, the current situation overview of discipline development. Since the reform of "multiple plans", the number of publications in the field of territorial spatial planning has increased significantly; the published journals show diversity; besides the connotation of territorial spatial planning, the extended research deepens, showing the trend of multiple fields and multidisciplinary integration; the attention on disciplines has gradually shifted from "urban and rural planning discipline" to "territorial spatial planning discipline". Second, the analysis of the current discipline development characteristics. Overall planning and in-depth research; expanding target areas and knowledge system. The development direction of disciplines is being integrated and reshaped. Third, the prospect of the discipline development trend. The continuous integrated development of disciplines has strongly supported the construction of the territorial space planning system. The Ministry of Natural Resources takes universities as an important force to participate in and undertake major basic research and scientific and technological innovation in natural resources and territorial space planning, and promotes the development of disciplines in the organic integration of "government, industry, university and research". At the same time, there are some practical problems in the development of the discipline, such as the contradiction between the development of the discipline and the theoretical system of territorial spatial planning with Chinese characteristics; the professional evaluation

mechanism of territorial spatial planning needs to be improved.

The third part of the report summarizes several issues in subject education. First, about the practice and education of territorial spatial planning. In practice the strategy of conduction layer by layer, deepen the refinement until cities and counties in national spatial overall planning, "three areas, three line", emphasize "number-line-figure", and the theoretical logic behind the practice, to subject educators depth excavation and active construction, make the planning practice, thinking and learning link, promote the development of national spatial planning discipline education work. The second is about the theoretical core of territorial spatial planning. Based on the reform practice of "multiple plans in one", it integrates the relevant planning theories and technologies centering on the land-space use, and constructs the theoretical system of land use planning in China. The third is about the relationship between urban and rural planning and territorial spatial planning. The development of disciplines should adapt to the process and requirements of territorial space planning reform. For the previous urban and rural planning, Strategic research on national, regional, urban agglomeration and urban and rural development will be further strengthened: on the basis of emphasizing the overall arrangement of the whole region under the concept of ecological civilization, The content of regional planning needs to be further improved; From the past focus on construction behavior and the construction environment, To transform to the implementation of the national development strategy and the development and protection of territorial space; Combined with the transformation of the national social and economic development model, From the external expansion of urban and rural development model to the connotation of development and the quality of development development model, The requirements for combining the protection of the natural ecological environment with high-quality urban and rural development has been further enhanced, Rural planning, urban renewal, urban design and fine urban and rural management will be further strengthened.

Finally, Director Zhang Bing pointed out that the key and difficulty in the establishment of the territorial space planning system lies in the "integration of multiple plans", which is a systematic, holistic and restructuring reform, and has formed a national unified, clear rights and responsibilities, scientific and efficient territorial space planning system. Under the background of the construction of ecological civilization, urban and rural planning disciplines need to learn from practice, through reflection, reflection, from practice the theme of "mining" theory research, break through multiple constraints, realize practice innovation and discipline theory innovation, promote, the construction and implementation of national spatial planning system, make our country's national spatial governance to new and higher level.

The report title of Professor Wu Zhiqiang, academician of Chinese Academy of Engineering, chief editor of Urban Planning Journal, and School of Architecture and Urban Planning, Tongji University, is "Ten Key words for the Development of Urban and Rural Planning (2023-2024)"

Since the 18th Discipline Forum, the annual ten key words of the urban and rural planning discipline have been released to form the brand of the discipline forum. Wu announced 2023-2024 urban and rural planning discipline development ten keywords: "wisdom planning: AI can assign" "discipline development: architecture and knowledge development" "urban finance: urban resilience: sustainable" "urban combination" "spatial planning, refinement, optimization, scientific" "urban tolerance: aging and all age friendly" "planning industry: planner career development" "historical heritage: protection system" "urban and rural integration: elements flow" "collaborative planning: city circle". For details, see the top ten Keywords for the Development of Urban and Rural Planning Discipline (2023-2024) mentioned above in this issue.

The title of the report delivered by Professor Zhang Song, School of Architecture and Urban Planning, Tongji University, is "The Practical Process and Mechanism Reconstruction of Urban Protection in China"

The first part of the report briefly reviews the 40 years of famous city protection. China's history and culture

The famous city protection system has entered its 41st year, and it has basically formed a historical city with Chinese characteristics

The framework system of municipal protection. However, in the 1930s, the mainstream concept of society was basically to "improve", "rectify" or even "overthrow" the old city."Before the Anti-Japanese War, the scope and rate of the destruction of old buildings in China were more than the normal trend."At the same time," influenced by the wind of the art archaeology in Europe in the middle of the 19th century, the consciousness of ancient preservation was born from this."In 1948, Mr.Liang Sicheng of Tsinghua University presided over and compiled

the " Brief Catalogue of National Important Architectural Cultural Relics ", ranking " All Beijing City " in the first place, with the most important level. As is known to all, the Liang Chen Plan failed to play its due role. In addition to political and economic factors, there are also a few supporters in engineering technology and urban planning. Therefore, the Liang Chen Plan is "the pioneer for the protection of the ancient city".

The Ministry of Housing and Urban-Rural Development has organized the publication of two volumes of Demonstration Cases of Historical and Cultural Protection and Inheritance, hoping to summarize successful practical experience and recommend good practices to the administrative departments of famous cities, towns and villages. This year, the country has also accelerated the legislative process of the protection of historical and cultural heritage, including urban protection. The protection and activation of cultural relics and historic sites and historical buildings, the protection and revival of historical blocks and historical towns, and how to inherit regional cultural characteristics through architectural innovation, urban design and style control are all very important topics and practical directions. In 1982, the national historical and cultural city was published, which is not too late compared with the urban protection of European countries from the 1960s. The Venice Charter in 1964 involves the background environment of urban or rural areas

(settin g) Maintenance and management indicates that a preliminary

consensus has been reached worldwide. The second part of the report introduces the urban protection ideas in the European Charter.first,

The Bass Proposal promotes active protection. Europe is the pioneer in urban protection. In December 1954, the adoption of the European Cultural Convention in Paris, two of the conventions are directly related to the protection of cultural heritage. In 1961, the inclusion of protection was formulated

The preliminary draft proposal of the central commemoration of European Importance began to promote urban protection in Europe. In January 1962, the Council of Europe established the Committee for Cultural Cooperation (CCC). The CCC continues to expand cultural protection through cultural cooperation and adopts relevant motions and collective actions on cultural protection, including Recommendation 365, the CCC's three-year Action Plan, and Recommendation 589 for Conservation and rehabilitation memorials and Cultural Heritage of Areas. The 1966 Bath Proposal first states that the destruction of historic towns and villages has endangered the basic and irreplaceable features of European cultural heritage, and that these towns and villages must be rescued and protected. Secondly, emphasize the town protection as a whole of European culture. The historical and cultural protection of Europe is not just the memorials, but the "European culture" town as a whole. Reviewing several meetings of ministers in Europe, the focus of the urban protection in Europe ranges from monuments to buildings, and finally to the historical towns that formed "European culture". Local authorities are required to give priority and give full consideration to the preservation of ancient buildings and historical or artistic locations in the relevant urban and regional planning. Third, pay attention to the system of overall protection. The work of historical and cultural protection in Europe carried out early, covers a wide coverage and a perfect system structure. Many experiences are worthy of reference for China in improving and perfecting the environmental protection management mechanism. The core of the practice of urban cultural heritage protection in Europe is holistic protection (integrated conservation), which is a systematic measure, including policies, regulations, finance, planning, management, technology and implementation measures, practical actions and public participation.

The third part of the report puts forward the thinking on the reconstruction of the protection mechanism of famous cities in China. First, attach importance to cultural continuity. On June 2, 2023, General Secretary Xi Jinping stressed at the symposium on cultural inheritance and development that we should adhere to the integrity and innovation, and continue the historical context, pointing out that the Chinese civilization has "five prominent characteristics" of continuity, innovation, unity, inclusiveness and peace.³⁰ years ago, by Mr. Dong Jianhong and Mr. Ruan Yisan edited

The city cultural appreciation and protection, the relationship between ancient Chinese cities and cultural continuation is very good, think the long history of ancient Chinese culture and ancient never, now the historical phenomenon of urban decline, one of the important performance of ancient Chinese culture is the continuation of ancient Chinese urban planning system and the traditional and development. Second, establish the protection mechanism of urban cultural landscape. In order to better inherit the culture and build the urban culture protection mechanism, it is necessary to clarify the protection object. A historic and cultural city aims to preserve the historic cultural landscape of a

considered valuable city. The formation of cultural landscape is a long-term historical process, and each era has contributed to the development of cultural landscape. What a famous historical and cultural city should protect is the historically valuable urban "cultural landscape". According to Dong Jianhong and Ruan Yisan, a famous historical and cultural city can be defined as "a city with special cultural landscape value of urban cultural landscape". Therefore, the famous historical and cultural city should protect the historical and valuable "urban cultural landscape", and should not be limited to a few hectares of historical blocks and historical urban area. Third, pay attention to the organic protection of the overall urban order. How to build the urban protection system and mechanism, the European protection mechanism and practice exploration give a good reference. Europe attaches great importance to the educational role of culture and emphasizes cultural confidence. Through the establishment of a non-profit historical city protection association and its participation in the protection and management, the secular spirit and cultural space can unify the various nations in the European continent. The protection of urban culture in China should not only stay at the protection of cultural relics or important heritage. In the Liang Chen Plan, Liang Sicheng and Chen Zhanxiang emphasized the importance of the overall protection of the "unique magnificent order" and expounded the cultural value of the magnificent central axis of Beijing, believing that "this is a great heritage, and it is the most precious property of our people". Next year, the central axis of Beijing may be successfully included in the World Heritage List.

Finally, it is pointed out that attention should be paid to the urban protection education in the discipline construction. Historical city or territorial space culture is our cultural heritage. As an important part of sustainable China's urbanization and urban development, the thought of urban protection must be emphasized in the construction of planning discipline. In the discipline construction, it is necessary to strengthen the study and research of the basic concepts and principles of urban protection, the core values of protection, the historical development calendar of protection, the process and related actions, so as to promote the comprehensive development of urban protection theory and practice in China, and to make positive contributions to the inheritance and innovation of urban culture.

The title of Professor Zhai Guofang from the School of Architecture and Urban Planning of Nanjing University is "Flood Resilience Response from the Perspective of Planning in the Background of Change: Key Concepts, Basic Thoughts and General Framework"

The first part of the report expounds the severe rain and flood disaster situation facing China under the support of climate change. At present, the global flood disasters have frequent and huge impact, causing serious casualties and economic losses. With the support of climate change, the rain and flood disaster situation in China is very severe. From the perspective of disaster factors: the average annual rainfall in China shows an increasing trend, and the semi-arid and arid areas in northwest China change significantly; due to the influence of greenhouse gas emissions, the sea level in the coastal areas continues to rise, and the existing flood control capacity of cities is challenged. From the perspective of disaster bearing body: China's urbanization rate is constantly improving, and the high concentration of population and economy leads to the increase of exposure. According to the results of scenario simulation analysis of a southern city, by 2050, the scale of affected population, construction land and damaged roads will be expanded, and a large number of rail transit stations will face the risk of inundation.

The second part of the report identifies the key concepts of rain and flood disaster resilience. Flood disaster is a risk with low probability, serious consequences and can be predicted in advance (LPH C event). Objectively speaking, any fortification standard is likely to be broken through theoretically. Therefore, resilient urban planning needs to improve the ability of cities to deal with disasters with small probability exceeding the standard on the basis of traditional urban disaster prevention planning. The first is to recognize the relationship between rain flood and rain flood disaster. Rainflood refers to the rainwater that forms runoff on the surface after the atmospheric precipitation exceeds the natural permeability of the underlying surface of the city. This part of rainfall is an important water resource in the city within the ability to manage rain

flood. But if rainfall exceeds the city's ability to manage rainflooding, it will adversely affect human society. Therefore, in the construction of resilient cities, on the one hand, we should fully understand the mechanism of rainwater formation and development, and on the other hand, the comprehensive ability of rainwater control should be continuously enhanced. The second is to clarify the differences between risk governance and resilience governance. Disaster risk consists of three factors: disaster factor, exposure and vulnerability. Due to the regular spatial distribution of disaster-causing factors, population and industry in cities, the disaster risk under the superposition also has clear spatial characteristics. This is the theoretical basis that territorial spatial planning can respond to disaster risk. The difference between risk governance and resilience governance lies in the different path, direction and focus of governance. Risk management starts from the natural phenomena such as rainfall and typhoon, analyzes and evaluates the negative effects of natural phenomena on human society, and then determines the corresponding governance strategies based on the acceptable risk level. Resilience governance starts from the ability of human society to respond to disaster-causing factors, and considers how to deal with nature. We should not only pay attention to the "fortification standard", but also discuss how to deal with rain and flood events that exceed the fortification standard. Finally, the understanding of climate change. Climate change refers to the climate change caused by human activities directly or indirectly changing the composition of the global atmosphere. In 2021, the UN IPCC Assessment report clearly states that future climate change is clear, unambiguous, unprecedented and irreversible, and the resulting extreme weather events will become more frequent.

The third part of the report is through Australia, Japan, Britain, the United States, the World Bank and the United Nations

And other detailed analysis of the international cases, Summarize the international experience for Chinese cities to improve the resilience of rainwater disasters, Including: ① rain flood disaster needs systematic management; ② Flood disaster risk cannot be completely eliminated, That is, there is no "zero" risk; ③ How to respond to rain and flood disasters beyond the fortification standards is the focus of the future; ④ Flood disaster requires both engineering measures and non-engineering measures, But the focus will be different in different stages of economic and social development; ⑤ Different stages of disaster (before, during disaster and after disaster); ⑥ Flood original drawing, rain flood risk map, land use planning, territorial space planning play an important role in the rain flood disaster management; ⑦ The formulation process of the rain and flood disaster response strategy, Including risk identification, risk assessment, resilience assessment, multi-scenario risk assessment safety target determination, response strategy formulation and other content; ⑧ Different participants such as the government, society, enterprises and individuals can play an important role in the rain and flood disaster management; ⑨ Climate change will exacerbate rain and flood disasters.

The fourth part of the report proposes the planning framework based on the five-dimensional system. The report notes that the response to rainwater and flood disasters requires a concept of resilience based on systems thinking. System thinking includes two aspects: first, subsystems of urban regional system, with complex interaction, jointly affect the ability of cities to cope with rain and flood disasters; second, city and city are part of a larger regional system, so they need to analyze their positioning and function at the regional scale. Resilient city refers to a city that can not only resist, absorb, adapt to external shocks and avoid damage in the face of external shocks such as rainwater, but also recover in time even if it suffers certain damage. Based on the above way of thinking, the management of rain and flood disaster resilience needs to comprehensively consider five key basic dimensions, such as target risk type, governance level, governance process, governance elements and response subject. The five key dimensions are integrated into the spatial planning system to form a rainwater resilient urban planning framework (PDC A) from the planning perspective. The framework covers four stages of planning, implementation, evaluation and revision, and each link needs to establish a multi-subject and whole-process "monitoring-evaluation-communication" mechanism. Among them, the planning process can be further refined as follows: firstly, complete the flood disaster risk list, flood risk assessment, flood toughness assessment and multi-situation risk assessment, and the second, formulate the resilient urban planning and construction target according to local conditions; finally, propose the spatial strategy corresponding to the target, and classified according to the priority. Each link of the planning also requires the participation of multiple subjects.

The title of the report by Chen Xiaohui, chief planner of the

Department of Natural Resources of Jiangsu Province is "Rural Space Governance under the Background of Urban-Rural Integrated Development"

The first part of the report summarizes the evolution and development direction of China's urban-rural relations. Since the founding of new China, the relationship between urban and rural areas has experienced the evolution process from rural China to urban China, and then to urban and rural China. Economically, since the reform and opening up, the income gap between urban and rural residents has been narrowing; in the infrastructure, traffic revolution, information development and urban and rural infrastructure have changed the urban and rural relationship; in the policy orientation, from urban and rural integration, rural and urban integration, comprehensive promotion and rural revitalization; the urbanization rate of some provinces, such as Jiangsu, has exceeded 70%, and entered the stage of urban-rural integration. On the whole, the national level has ushered in a new stage of rural self-development, and urban-rural integration is an inevitable requirement for the development of new urbanization. We should actively respond to the national strategy and explore and promote rural and urban integration development and reform.

The second part of the report analyzes the new characteristics and trends of rural development under the background of urban-rural integrated development. In terms of social structure, the flow of capital and personnel such as social capital entering the countryside and the villagers returning to the countryside impacts the traditional rural acquaintance society. The modern rural society has diversified group structure, and the traditional small-scale peasant economy moves to primary, secondary and tertiary industries

Integrated development has produced new rural business forms such as rural market and agricultural processing display to help the development of modern agriculture; in terms of functional structure, rural multiple functions and values are highlighted, rural areas undertake the supply of food and important agricultural products, ecological barrier and ecological products, protection and inheritance of local culture, and rural new economic carrier. In terms of settlement structure, rural settlement space is reshaped, the layout and adjustment of regional towns and villages are improved, and the internal space is updated to adapt to the changes of production and life style, and many new Spaces with strong local flavor, strong sense of The Times and high modernity appear.

The third part introduces the practice of rural space governance under the background of urban-rural integration. First, to achieve a game of planning space, in the multi-level spatial scale to carry out rural space governance. Provincial territorial spatial planning at the regional scale level forms a systematic and differentiated rural spatial governance strategy in population urbanization, industrial development, rural space resource utilization, rural ecological environment protection, rural space style, appearance and rural settlement space development guidance. County scale level, Jiangsu province since 2005 to pay attention to county-rural layout, over the years fully understand village evolution law, combined with the national rural revitalization of war, slightly and rural living environment requirements, dynamic adjustment refinement village classification, public, policy intervention is more and more accurate, to determine the public service facilities, infrastructure, village construction, space form priority on the rules. At the district scale level, the focus will be on the planning of villages, demonstration areas of characteristic rural areas, and utilization of traditional villages, so as to form a joint effort of planning, construction and policies to promote the revitalization of contiguous rural areas. At the village scale level, the implementation of the rural revitalization strategy is supported through statutory village planning. Protection is the basis and development is the key, to promote comprehensive rural development, multi-dimensional coordination, rigid and elastic combination, so as to realize the total factor control of the whole region, and continuously strengthen the participation of villagers in the planning process. Second, focus on rural settlement space management. Jiangsu proposes to "build 1000 and 10000 beautiful livable villages": through the construction of beautiful and livable villages, a number of beautiful and livable villages with high quality, excellent environmental conditions, good public service and construction have been built to promote the comprehensive revitalization of rural areas through the construction of characteristic rural areas. Third, we will pay attention to industrial space governance. On the one hand, promote the comprehensive land consolidation to meet the demand of large-scale agricultural space; on the

other hand, build new rural industrial space based on location and resource advantages. Fourth, we will pay attention to improving rural ecological space. Drive industrial development through ecological restoration of abandoned mines, and improve rural ecological background through watershed ecological management. Fifth, smooth up the flow of factors of production between urban and rural areas. We will actively explore innovations in mechanisms such as sending talents to rural areas, land reform, reforming the market of collective land for business purposes, and transferring land with ecological protection.

The fourth part summarizes the general law of China's rural space governance, the key to rural development is the "people- -" coupling system, to scientific prediction part of the township, village population contraction, suburban rural population reflux state in the future of the rural population, judgment, rural smart contraction, settlement space compact future surviving rural settlements, and the size of agricultural coexistence, new agricultural management main body in the vigorous development in the future of rural industry and employment. We should firmly grasp the flow of population, capital, technology and other factors, how to show the value of rural land, ecological and cultural characteristic resources, and how to achieve shared multi-industry types and multi-subject linkage between urban and rural areas. The report summarizes that the rural development under the background of urban-rural integration development mainly presents the large-scale operation mode and the small peasant model in the new era of fine farming, and proposes that the future rural areas under the state of urban-rural integration are manifested in four types: serving agricultural production villages, traditional villages, new economy villages and suburban service-oriented villages. Under the background of urban-rural integration, the path of rural space governance should be overall planning, settlement remodeling, industrial restructuring, ecological restoration and factor circulation.

The report concludes with the direction of rural planning reform. Rural planning should be coordinated

The whole region pays attention to implementation and practicability, and gives full play to the important role of the spatial platform for coordinating the issues of "agriculture, rural areas and farmers", the grass-roots unit for coordinating and integrating various elements, and the consultation platform for coordinating the interests of all parties.

The report of Xiong Jian, party Secretary and vice president of Shanghai Institute of Urban Planning and Design, is "Analysis of the basic problems of territorial space planning in metropolitan areas"

The first part of the report describes the new progress of metropolitan areas in China. Metropolitan area is an important spatial carrier to implement the coordinated development of regions, participate in domestic and international double circulation and global competition, and plays an important role in promoting the process of China's urbanization. In recent years, the planning practice of metropolitan areas has been emerging constantly, especially during the 14th Five-year Plan period, the planning of metropolitan areas has entered a new stage of comprehensive promotion. At the same time, the theoretical research of metropolitan area and its planning is constantly enriched, the spatial connotation is constantly clear, and the significance of planning principles, technical methods, policies and governance has also been discussed.

The second part of the report points out the current metropolitan areas and planning problems. At present, there are some problems in the concept definition and planning of the metropolitan circle. Conceptual-cognitive aspects. There are disputes such as mixing regional spatial concepts such as "metropolitan area" with "metropolitan area" and "metropolitan area", and equate China's metropolitan areas with foreign commuting circles. Planning aspects: On the one hand, China's metropolitan circle development planning and spatial planning are in parallel, There is an overlap in the content, The relationship between the two cannot be simply defined as the difference between "non-space" and "space", But to combine with one another, The former should set aside interfaces for spatial planning, The latter should also restrain and guide the social and economic development; on the other hand, The connection and conduction relationship within the spatial planning of metropolitan areas are not clear, The spatial planning of metropolitan areas should be synchronized or prior the provincial and municipal territorial spatial planning, The reality is not the case, Therefore, it is necessary to sort out the connection relationship between the metropolitan area planning and the overall planning at all levels, Further refine the compilation and management requirements of special planning (including the planning of metropolitan areas).

The third part of the report analyzes the theoretical connotation of Chinese metropolitan circle in the new period. The definition of the connotation of the new era and new context should start from the essence of the region, combine the urban area, theory and metropolitan circle

theory, emphasize the functional value, pay attention to the spatial connection and promote the collaborative governance, so as to enhance the overall competitiveness of the region. According to the report, the connotation of Chinese-style modernization metropolitan circle includes three aspects: ① Functional connotation is a diversified functional circle that integrates the connotation of business circle, leisure circle and cultural circle; ② spatial connotation, convenient infrastructure connection and high-density factor flow between core cities and surrounding counties and cities; ③ Policy connotation is a spatial governance carrier that organically combines the national regional development strategy and local development demands. In addition, based on regional characteristics, the types of metropolitan areas in China can be differentiated according to the scale and functional level, development stage or policy intervention target, so as to explore the diversified development path of metropolitan areas.

The fourth part of the report aims to clarify the positioning and characteristics of territorial spatial planning in metropolitan areas. In terms of positioning, the territorial space planning of metropolitan area has the dual responsibility of development and coordination, which should strengthen the basic attributes of territorial spatial planning and integrate the characteristics of development planning. The territorial spatial planning of metropolitan area has four characteristics: ① Cross-domain coordination, solving cross-domain coordination contradiction is the fundamental purpose of metropolitan area planning; ② conduction hierarchy, the effective implementation of planning requires the implementation of spatial units at different levels; ③ subject diversity, the preparation of territorial spatial planning is an important platform for regional spatial governance; ④ implements action, and implements specific action projects. In terms of the relationship with the development planning, the territorial spatial planning of the metropolitan area needs to be consistent with its development goals, deepen the arrangement of spatial elements, and increase the recent action content to connect the development period; in the relationship with the provincial and municipal territorial spatial planning, the key is to solve the city

With the contradiction between cities, we pay attention to the spatial coordination of cross-border areas. Therefore, metropolitan area planning, after full demonstration, can deepen the existing planning at provincial and municipal levels, and supplement it in the form of special planning.

The fifth part of the report puts forward the overall framework for the national spatial planning of metropolitan areas. To construct the overall framework of territorial spatial planning in metropolitan areas, we should first take problem orientation, goal orientation, collaborative orientation, spatial orientation and action orientation as the guidance, form the technical logic of "goal (index) - strategy-action-mechanism", and highlight the bottom line and synergy in technical thinking. In terms of spatial organization method, it emphasizes the combination of overall planning, protection and development, and puts forward the technical framework of "three systems and one mechanism". The "three systems" are: ① ecological pattern system, from spatial expansion to ecological space with anchorage security and resilience; ② urban function system, from scale level oriented to functional oriented multi-node division of labor; ③ spatial structure system, from "point-axis" spatial structure to open oriented network pattern. "One mechanism" means the hierarchical transmission mechanism, breaks the administrative barriers and explores the multi-level spatial collaborative transmission framework. In terms of regional spatial governance mode, the governance thinking should be emphasized, and the transformation of regional spatial governance mode should be driven by planning and implementation. First, first of all, we should maintain the combination of upper and lower levels, equal consultation and the participation of multiple governance subjects. Second, we should build a multi-level cross-border consultation platform and action plan platform, and finally, we should strengthen the policy mechanism and technical support for planning coordination.

Professor Xi Renhao, dean of the Development Institute of Tongji University and executive director of China Industrial Park Sustainable Development Alliance, titled his report "Practice and Theoretical Enlightenment of Collaborative Industrial and spatial Planning in the Park: Exploration of Chinese Park Modernization"

The first part of the report explains the three key concepts of the synergy between industry and spatial planning.

① Industrial planning: Within the geographical scope of the park, through guiding analysis, resource analysis, capability analysis, value analysis and continuous analysis, the leading industries of the park are selected, selected and positioned, formulate the corresponding development goals and paths, and carry out the overall layout of the park guided by the innovation ecosystem of the park. ② Spatial planning: According to the industrial planning of the park, make full use of the land and spatial resources of the

park, and transform the spatial elements and spatial functions of the park into the design of the corresponding spatial structure and spatial form. ③ Modernization of the park: in response to the material, space, spirit and the relationship between man and nature, to promote the transformation of the park to a modern park. Create a park with "four high" characteristics of —— industry with high degree of modernity, high integration degree of industry and city, high comprehensive utilization rate of land and resources, and high modern governance capacity. From the above three concepts, it can be realized that, based on the nature of the park, the present and future of the park, new requirements for the industrial planning and spatial planning of the park are different from the past.

The second part of the report introduces some application cases of industrial planning and spatial planning in the park. In the past practice of park planning, industrial planning and spatial planning are easy to fight for themselves, which has brought about a certain development bottleneck. Specifically, high cost, long time, poor matching and other problems jointly promote local governments, investors, experts, scholars and the public to have strong demands, hoping the integration of industrial planning and spatial planning. Through the two rules of the coordination of the three practice cases for a more vivid elaboration:

① From the negative case, some of the once popular characteristic towns, after the development of 8 years has produced a differentiated outcome, both more and more dynamic, but also more mediocre and even warned in the annual assessment, until directly eliminated cases. As the birthplace of the characteristic town model, Zhejiang also put forward "three questions about the growth of the characteristic town" to the park model of the characteristic town. —— Can the business dilemma be solved? Is the innovation level not strong enough? Can the city and people melt? These three questions respond to the planning of the park

the key to the question.^② From the positive case, in the planning practice of Wuhan Qingshan Red City Park, the importance of the coordination between the two regulations is recognized. Project in complete the first round of industry planning determines on the basis of mainly design industry, from the perspective of the second round of spatial planning, the planning scope respectively expand 100 m, makes the park and the Yangtze river, peace avenue, in promoting the industrial space expansion, solve the flow of people, logistics and letter, flow in the park, with abstract expression of "the door of the Yangtze river". From a bird's eye view, the structure of the project has changed from the original character "xi" to "zhong", and then highlights the character "Hua". Finally, back to the industrial planning, further clarifying the specific connotation of the design industry, so as to achieve diversified win-win situation while promoting the reduction of land transfer price. This is an effective coordination solution between industry and space.

^③ National commercial password industry base in Shanghai planning practice, as from scratch, into the new industry, the industry planning analysis, and to identify the formation of industrial cluster, on the basis of two bottlenecks, put forward to establish an authoritative commercial password detection and certification center, as well as the unified construction management of secret room two rules collaborative solution. The plan ultimately promotes the settled enterprises to reduce the construction and operation costs, and also reduce the difficulty of management. All these are inseparable from the mutual docking of industrial planning and spatial planning, and solve the problem of industrial planning through spatial planning.

The final part of the report summarizes the theoretical enlightenment of the coordination between industrial planning and spatial planning in the park: ^① the rationality of the coordination between the two plans. Park planning activist emphasizes intellectual reasoning and argumentation planning management model, and two rules synergy dialectical relationship illustrates, industry is the engine of space development, space is the carrier of the industry, from the perspective of unreasonable, analysis can find the current two rules synergy main obstacle lies in the management system and discipline differentiation, but the close relationship between the two should not be ignored.^② The legality of the two rules of working together. The Opinions of the CPC Central Committee and The State Council on the Establishment and Supervision of the Implementation of the Territorial Space Planning System strengthen the guiding and binding role of spatial planning on various special plans, which directly responds to the relationship between the two types of planning. The National Development and Reform Commission notice on Supporting the Construction of industry and city Integration Demonstration Zone mentioned that the integration of industry and city should not only the industrial development, but also the common development of urban space, and the road of revitalizing the city with industry, the city and the integration of industry and city. The two policy and regulation documents cleared the legitimacy of the coordination of the two

regulations.^③ Evolutionary logic of two-gauge synergy. The evolution of the development mode of the park has experienced a single leading industrial park 1.0 mode without cooperative relationship among enterprises, and enterprises have vertical

The 2.0 mode of the industrial chain park and the enterprises have the innovation cooperation gateway

The joint multi-integration park 3.0 stage. In the next step of evolution, the interaction and coupling degree with these industries and space must be considered, which gives rise to a new dimension of evaluation system. The number, area, distribution area, spatial layout, industrial form, park form, relationship form and other spatial elements of the park will become the key to the next evolution

evaluation.^④ The mode of two-gauge synergy. By building industry function and space matching of two-dimensional analysis framework, summarizes the two gauge coordination matrix, including industry function and space matching degree is low, industrial plant type park, emphasize the space matching degree to meet the needs of life industry center, and neighborhood center park, emphasize industrial functions including pilot and small production, and research and development type park, and industrial function and space matching

degree is high, both, production land, development, business, life and cultural exchanges of modern park.^⑤ The method of two rules. First, to increase the cognition of changing the disconnection between industrial planning and spatial planning by increasing the participation of relevant parties, actively forming a joint planning team, and cross-training between industrial and spatial planning; second, to change the disconnection between large-scale land planning and small-scale land planning to reduce or increase the proportion of industrial land used by industrial land in the park

Utilization rate, in the spatial planning to reflect the special needs of industrial development, in the spatial planning, to enhance the efficiency of the connection between the physical agglomeration and chemical agglomeration, through the open space, increase the communication places and organization of diversified social communication activities.

Professor Niu Xinyi, School of Architecture and Urban Planning, Tongji University, professor's report is entitled "Digital Planning Technology —— from Data to Knowledge"

The first part of the report introduces the type and category of digital planning technology. The first step is to distinguish between digital technology and digital planning technology. Digital technology (digital technology) is the technology that uses computers and other digital equipment to process information, store, transmit and display information with digital signals. Big data, cloud computing, Internet of Things, blockchain, artificial intelligence, AIGC and other technologies are the most popular digital technologies in recent years. Digital planning technology (digital planning technology) It is the method of using digital technology in the planning, which is significantly different from that of other disciplines. Digital planning technology is divided into three purposes, such as analysis, simulation and decision-making. Analysis is a technique to analyze and judge the planned object. The analysis includes effects, factors, and mechanisms, and "diagnosis" is a typical analytical use. Simulation is a technique to simulate a programming phenomenon. Simulation mode includes simulation, simulation, "deduction" is a typical simulation use. Decision-making is the technique for making decisions on planning goals. Analysis and simulation are all for optimizing planning, and "decision-making" is the core content of planning. Three types of uses: analysis, simulation and decision-making of digital planning technology correspond to different stages of the planning process.

The second part of the report reviews the evolution of urban modeling (urban modeling) technology, spatiotemporal big data planning technology, and artificial intelligence planning technology one by one. Urban modeling technology is generated for decision-making use, but currently it has evolved into simulated use. The evolution of the application mode of urban modeling technology is determined by the characteristics of the planning discipline itself. Urban modeling technology is regarded as a prediction tool of urban spatial change, and more as a laboratory of urban evolution simulation. analog use has become the mainstream use of current urban modeling technology. Urban modeling technology is driven by knowledge, and models are built based on "knowledge". Rule-based models are to express knowledge in a white box. Knowledge-based city models actually do not complete the decision support purposes. Data-driven technology has also emerged in urban modeling

technology. CA and ABM do not rely on "knowledge", and the data-driven city model based on data-driven model cannot achieve decision support purposes. It is only a simulation technology. Whether it is "knowledge-driven" or "data-driven", the current urban modeling technology fails to fully and effectively meet the needs of three uses, such as "analysis", "simulation" and "decision-making", especially for decision-making purposes. Spatiotemporal big data planning technology has been responsible for analytical purposes since its inception, which can effectively solve the analysis of space and activities, but cannot be used for simulation and decision-making purposes. Spatiotemporal big data planning technology needs to change from "diagnosis" of urban space to "prediction" of urban space and then support planning decision. This is the core deepening direction of the research of spatiotemporal big data planning technology, which cannot be solved simply by using spatiotemporal big data. The spatiotemporal big data planning technology is always "data-driven", which excavates information from data, and then finds new phenomena and verifies existing knowledge from information. Spatiotemporal big data cannot be used for simulation and decision-making. To mine the spatial and temporal laws and evolution laws of urban activities and explore the mechanism of activities from spatiotemporal big data is to obtain "knowledge" from "data", but this cannot be solved simply by using spatiotemporal big data. AI planning technology starts out for decision-making purposes and can also be used for analytical purposes,

But it's more about planning goal decisions. It started with "knowledge-based" planning technology, and recently developed "data-based" planning technology. Whether it is "knowledge-driven" or "data-driven", the current AI planning technology does not fully and effectively meet the needs of the three uses, such as "analysis", "simulation" and "decision-making", especially the decision-making use. The characteristics of planning disciplines determine that AI planning technology is difficult to be "knowledge-driven" (knowledge extraction is difficult), nor that it cannot only rely on "data-driven" (black box knowledge). The third part of the report analyzes digital planning technology trends from both "digital based" and "knowledge based" aspects. Traditional planning techniques have always been "knowledge-driven",

Is a "knowledge-based" planning technology. Digital technology has brought about "data-based" technology and data-driven technology paradigm, which makes the planning discipline appear "data-based" planning technology. Data-driven brings the problem of "black box knowledge", which enables "data-based" planning technology to be better used for analytical and simulation purposes, but not yet for decision-making purposes. Decision use planning technology has always been the pursuit of planning discipline. The criticism of rational planning has already told us that there are obvious problems in the "knowledge-based" decision-making in traditional planning technology. Digital technology brings "data-based" planning decision technology."black box" knowledge is generated by data, and "black box" knowledge is used for planning decisions. Digital planning technology needs to move towards "from data to knowledge", driven by both data and knowledge. Existing technology has been able to produce "black-box knowledge". If we can further learn the "white box knowledge" from the data, then the use of the "white box knowledge" for planning, analysis, simulation, and decision-making should be a reliable and trustworthy technical approach. Based on the common drive of data and knowledge, the key is from "data to knowledge", and the more clear expression is from "data to white box knowledge", "white box knowledge" drive analysis technology, simulation technology and decision-making technology. Therefore, the trend of digital planning technology is the "data and knowledge" -driven digital planning technology, which needs to solve the key of "from data to knowledge". Using digital technology to learn planning knowledge from data is a feasible way from "data" to "knowledge".

In the end of the report, it is concluded that digital planning technology is the method of using digital technology in planning, and it undertakes three types of uses such as analysis, simulation and decision-making in the planning process. At present, the digital planning simulation and decision-making technology in the modeling and prediction stage, scheme formulation and scheme selection stage still need to be broken through. The future trend of digital planning technology is to drive "data and knowledge", among which the frontier is to solve "from data to knowledge", use digital technology to further

learn and extract the "white box knowledge" of planning discipline from data, and use "white box knowledge" to solve the use of planning analysis, simulation and decision-making. It is necessary to realize that the current emphasis on digital planning technology and the exploration of intelligent planning theory is not a setback towards "rational planning". The future digital planning technology of the breakthrough of "from data to knowledge" will continue to support human-centered planning.

National engineering survey and design master, China urban planning design institute, professor li xiaojiang report title is "mitigation and adaptation: two major areas of climate change" report combined with four consecutive years of China environment and development international cooperation committee on climate mitigation and climate adaptation of several policy research projects, from "urban climate mitigation and green development" "urban climate adaptation and security toughness" two aspects, discussed The future path of green development and security and resilience of Chinese cities under climate change. The first part of the report is a study on "Urban climate mitigation and green development" share. In 2021, the Opinions of the CPC Central Committee and The State Council on The Complete, Accurate and Comprehensive Implementation of the New Development Concept and achieving carbon Peak and Carbon Neutral work specifically mentioned "improving the quality of green and low-carbon development in urban and rural development". China's territorial space planning, urban and rural construction field " double

The two core difficulties of the carbon " strategy are: one is the continuous consumption level of urban and rural residents, the high consumption and carbon emissions; the second is the pressure of the huge demand increment of intercity passenger transportation and urban agglomeration supply chain. In the current our country energy consumption demand and urban carbon emissions continue to rise, urban and rural residents consumption increase and structure upgrade, under the background of the goal of urban green development: through green technology innovation and real, shi, booster green production mode and way of life become social mainstream choice, the construction of green, color prosperity, low carbon intensive, recycling, fair inclusive, safe and healthy beautiful city, for the world sustainable development with "Chinese samples". Urban green development is not just an improvement in the traditional concept environment field. The report shares the four research results of the research team on urban green development in recent years: ① Urban green technology innovation and promotion. In the major green technology support research of the 14th Five-Year Plan, the research team proposed 20 major green technologies in six fields, including water treatment and water resources, clean and sustainable urban energy, improving urban transportation, developing green buildings, optimizing land use and planning, and urban food production and supply. Among them, the research paid special attention to China's food supply is highly dependent on imports and urban food production and safety. In the field of urban food and food production and safety, three key technologies were put forward: food safety information monitoring and tracking technology, vertical agricultural technology, and digital food platform technology. Fragmented agricultural land in the city is the best land for the future development of modern agriculture, urban agriculture, three-dimensional agriculture and mechanical agriculture. ② Community green renewal under the "two-carbon" goal. An empirical research on carbon emissions, including data from four aspects: energy, transportation, municipal administration and living standards, has found that there is a large gap between per capita carbon emissions between cities and communities. In terms of the green and low-carbon path of Chinese cities and communities, it needs not only the integration and utilization of green technologies and other aspects, including green technologies, green equipment and green materials, but also the development of green lifestyle. A green lifestyle is not about saving money or "no use" back to the era of poverty, but about reducing energy and resource consumption with a better way of life and innovative green technologies.③ Carbon reduction in the metropolitan area passenger transport system and green transportation. At present, the passenger transportation level between Chinese cities is only 1 / 20 of that of developed countries, and it will be a huge incremental demand in the

future. The project discusses the spatial scenarios of five kinds of travel in densely populated areas, and studies the passenger flow between big cities. Traditional transportation constrained by time cost, cost, this study increased the demand for comfort and privacy considerations and carbon emissions, from, the four aspects analyzes the different people in the process of inter-city travel on energy and carbon emissions, summarizes the whole spectrum of distance scale travel scenario carbon reduction strategy and effect. The follow-up research will also pay more attention to the further research on the green development of transportation, that is, the local production and consumption in the circulation of consumer goods in dense urban areas (Life-oriented logistics and its supply chain security).④ The Zero Carbon Demonstration Project of the Boao Forum for Asia in Hainan Province. The project focuses on the four major fields of regional zero carbon, resource circulation, environmental nature and intelligent operation, and carries out construction exploration through 18 implementation projects in seven types of technical measures. After the transformation, the demonstration zone can be carbon neutral in the operation stage, and at the same time, it will contribute more than 2,000 tons of carbon reduction to the Boao Special Planning Zone every year. In view of this project, two hopes for benefit assessment are proposed: first, to continuously track and evaluate the effect of the "carbon reduction" of the project; second, the second is to analyze the investment cost of the project to determine whether it can become a replicable and popularized zero-carbon demonstration project in the whole life cycle.

The second part of the report is a sharing of research on "urban climate adaptation and safety resilience". Climate adaptation may be a much more important responsibility in the course of global warming. While there is a high overlap between climate adaptation and safety resilience, climate adaptation does not equal all safety resilience issues. The National Climate Adaptation Strategy 2035, the United Nations gas

The Panel on Change and the 2022 Climate Adaptation Gap Report both stressed that climate adaptation is more urgent than ever before and that effective and innovative measures are far from sufficient. The report begins with sharing three case studies of the research team: ① A comparative study of safety resilience between the Yangtze River basin and the international Great river basin. The study is divided into two phases: through the comparative study between the Yangtze River and the big river basins of the world, exploring the possible effects of climate change on hydrology, including the water cycle, river water temperature, and the influence of extreme weather; the second phase analyzes the climate change phenomenon and disaster risk characteristics, the disaster exposure of population economy, and the overlapping effects of common disasters and unusual disasters, and puts forward the disaster threat and coping strategies of climate change in different regions. ② Study on climate change and disaster risk in the Jialing River Basin. The study shows that the Jialing River basin is underdeveloped, with the coexistence of drought and flood, drought and flood. Jialing river middle and lower reaches of the future development is facing extremely complex challenges, both to regional climate change, all, environmental protection, energy consumption and emissions challenges, and to meet the rapid development of resources and energy demand, so watershed governance should adopt both flood fighting, drought, waterlogging prevention, power generation, urban and rural water security, shipping, biodiversity "multi-objective comprehensive solution". ③ Study on climate change and disaster risk in the Taihu Lake Basin. In terms of climate change, the biggest problem in the Taihu Lake basin is the sea level rise after global warming. In the influence of urban development and development, the local flood control and drainage construction in the region intensifies the flood pressure in the lower reaches of the basin, and the change of the underlying surface caused by the development of cities and industries in the region aggravates the formation of flood in the basin. Based on the research, three comprehensive policy suggestions are put forward for the Taihu Lake basin: the coordinated response mechanism of flood control and drainage; the coordination of surface management around the lake to improve the regulation and storage capacity of the basin; the traditional wisdom of water control to protect the "great heritage of Taihu Lake water system".

Finally, the report proposes some strategies to improve the resilience of urban security. First, actively carry out the analysis of hidden dangers of urban safety resilience, including: ① safety problems of urban development mode; risk of ② residential land and high-rise housing; safety problems of ③ underground space development; safety and disaster risk of ④ urban village / urban-rural junction; ⑤ disaster emergency guarantee; ⑥ secondary disaster control. Second, improve urban security toughness should be multidimensional thinking, to combine long-term adaptation strategy and short-term impact strategy, to, from the traditional probability analysis method to multi-factor situation analysis method, to study urban and rural, settlement improve the resilience of historical

experience, absorb the successful experience of the history of natural solutions. From the perspective of planning, urban safety resilience strategy should be considered from the following three aspects: ① Overall planning level: disaster risk research and safety resilience assessment; layout optimization based on safety resilience; strengthening the construction of disaster prevention system; and targeted disaster prevention countermeasures and measures in different regions. ② Detailed planning level: promote the reform of detailed planning functions and preparation methods; improve the main indicators and control contents of the detailed control plan; and strengthen the safety control of underground space and mixed function development. ③ Urban renewal: differentiation strategy for different renewal types; strengthen the disaster prevention performance and security of renewal areas and buildings. In addition, climate adaptation in the river basin also involves many other issues, including gender differences, vulnerable groups, living status and welfare effects, and the disaster prevention capacity of rural areas and backward areas, and so on. In the future process of China's urban development, whether it is green, low-carbon or safe and resilient, we should continue to learn from developed countries, walk out of the comfort zone of rapid development, and do both climate mitigation and climate adaptation at the same time!

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