

# International Sustainable Community Achievement Case Collection of Shuangjing, Beijing, China

国际可持续发展社区双井成果案例集



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CCUD

**International Sustainable Community Achievement Case Collection of Shuangjing, Beijing,  
China**

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# Catalogue

## I. Project Overview

<b>1.1 Project Background</b>	2
1.1.1 Sustainable Development Goals and Sustainable Development Communities	2
1.1.2 Policy Background at National, City and District Level	2
<b>1.2 Overview of Shuangjing Sub-district</b>	3
1.2.1 Overview of The Pilot	3
1.2.2 Big Data Assessment Results on the Situation of Sustainable Development of Shuangjing	5
1.2.3 The Sustainable Development Action Plan of Shuangjing	6

## II. Objectives and Methodology

<b>2.1 Objectives and Vision of Shuangjing Practice</b>	8
<b>2.2 Methodology and Approach</b>	9
2.2.1 Shuangjing Consultative Governance System based on Subdistrict-level Coordination	9
2.2.2 Shuangjing Joint Governance System based on the Concept of One Community	9
2.2.3 Shuangjing Intelligent Governance System based on Fine Governance	10

## III. Sustainable Development Achievements of Shuangjing Benchmarking UN SDG11

<b>3.1 Practice for SDG11.1 Public Services</b>	13
Sustainable Practice 01: Public Service Sharing Life Circle and Social Security	13
<b>3.2 Practice for SDG 11.2 Public Transportation</b>	17
Sustainable Practice 02: Improvement of Urban Travel	17
<b>3.3 Practice for SDG 11.3 Planning and Public Participation</b>	19
Sustainable Practice 03: Multi-dimensional Community Consultation and Co-governance	19
<b>3.4 Practice for SDG 11.4 Cultural Vitality</b>	21
Sustainable Practice 04: Culture Festival of "Shuangjing No.13 Virtual Community"	21
<b>3.5 Practice for SDG 11.5 Resilience and Security</b>	23
Sustainable Practice 05: Public Health Governance	23

<b>3.6 Practice for SDG11.6 Environmental Pollution Improvement.....</b>	<b>24</b>
Sustainable Practice 06: Improvement of Environment in Urban Public Space .....	24
<b>3.7 Practice for SDG11.7 Public Space .....</b>	<b>26</b>
Sustainable Practice 07: "Shuangjing No.13 Virtual Community" Design Festival and "Jingdian" Series Space Micro Regeneration.....	26

## IV. Achievements of Shuangjing Sustainable Development Pilot Community

<b>4.1 Summary of The Pilot .....</b>	<b>31</b>
<b>4.2 Social Impact.....</b>	<b>31</b>

## V. Future Outlook

<b>Annex .....</b>	<b>36</b>
1. Orientation of Targets of SDG11.....	36
2. International Sustainable Development Pilot Community Indicator System based on SDG11 and Community Values.....	37

# Project Overview

## 1.1 Project Background

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1.1.1 Sustainable Development Goals and Sustainable Development Communities

1.1.2 Policy Background at National, City and District Level

## 1.2 Overview of Shuangjing Sub-district

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1.2.1 Overview of The Pilot

1.2.2 Big Data Assessment Results on the Situation of Sustainable Development of Shuangjing

1.2.3 The Sustainable Development Action Plan of Shuangjing



# I. Project Overview

## 1.1 Project Background

### 1.1.1 Sustainable Development Goals and Sustainable Development Communities

Cities are hubs for ideas, commerce, culture, science, productivity, social development and much more. At their best, cities have enabled people to advance socially and economically. With the number of people living within cities projected to rise to 5 billion people by 2030, it's important that efficient urban planning and management practices are in place to deal with the challenges brought by urbanization.

Many challenges exist to maintaining cities in a way that continues to create jobs and prosperity without straining land and resources. Common urban challenges include congestion, lack of funds to provide basic services, a shortage of adequate housing, declining infrastructure and rising air pollution within cities.

We expect that in the future, there will be cities providing opportunities for all, with access to basic services, energy, housing, transportation and more.<sup>1</sup>

### 1.1.2 Policy Background at National, City and District Level

#### a. International and National Levels

2030 Agenda for Sustainable Development was adopted at the UN Summit on Sustainable Development 2015, which set out 17 sustainable development goals and 169 targets, charting course for international development cooperation. The purpose of the Agenda is to achieve common development and prosperity for all through a stronger

global partnership. SDG11 is Sustainable Cities and Communities. Within the framework of the UN SDGs, “Sustainable Communities” are communities that have the capacity to fully engage all stakeholders in community construction and governance to enhance sustainability, with a vision of green, shared, collaborative governance, inclusiveness, and resilience. Sustainable communities are defined by the following criteria: provide affordable housing and public services, safe and green transportation modes for citizens, participatory human settlement planning, effective cultural resource protection, ecological and safety resiliency, high-quality community environment, and inclusive community spaces for all groups.

To promote the implementation of the UN 2030 Agenda for Sustainable Development, the State Council of P.R.China issued the “China’s National Plan on Implementation of the 2030 Agenda for Sustainable Development”, which proposes to incorporate the 17 SDGs into China’s overall national development plan with five concepts as the core development vision, including concepts of innovative, coordinated, green, open and shared development, and to promote the alignment of provincial, municipal and regional goals with the sustainable development strategy.

#### b. City level

Based on the five national development concepts of innovative, coordinated, green, open and shared development, Beijing focuses its sustainable development goals on four main components: innovation-driven, sustainable economic development, green networks and ecology enhancement and safeguarding people’s well-being. On

<sup>1</sup> Reference: <http://sdgen.org/sdg11>

the one hand, it aims to establish China's political center, cultural center, international communication center and science and technology innovation center, and to enhance the development momentum on top of its self-generated power to achieve innovation-driven and sustainable economic development. On the other hand, Beijing is devoted to fine urban development and management. The municipal government has provided policy support to high-quality sub-district and community development, advocating sub-district offices as the basic unit and management pivot of grassroots governance, and focusing on the improvement of human living environment, quality of urban life and ecological restoration based on the residents' needs.

### c. District level

Chaoyang District is an important commercial center, cultural center and international communication center in Beijing, highlighting "culture, internationalization and large-scale landscapes" as the major elements for implementing the UN SDGs. A number of initiatives have been proposed to promote industrial innovation and sustainable economic development in Chaoyang District, including establishing a national cultural and creative experimental zone, promoting digital economy, and supporting international cooperation services. Meanwhile, increasing the availability of large-scale green spaces and large-patch landscapes so as to provide access to open urban forest for Chaoyang District residents and restore urban ecology. In terms of people's well-being, the priorities of Chaoyang District are aging, safety, health and grassroots social governance innovation. It focuses on the construction of public

facilities and services for the elderly, culture and education. It also encourages residents to be part of the community management through participatory processes, consequently utilizes grassroots organizations' capacity, builds a positive feedback mechanism for further work related to livelihood protection, and establishes a system as the foundation for sustainable development of Chaoyang District.

### d. Sub-district Level

Based on the impressive accomplishments of Shuangjing Sub-District in the aspects of urban life quality enhancement, as well as its sound and promising sustainable practices, in January 2019, Mr. Cai Qi, the Secretary of the Beijing Municipal Committee of CPC, China, instructed that "Shuangjing No.13 Virtual Community" is a great concept, and we should strive to create a demonstration community for fine urban governance. Furthermore, the Chaoyang District of Beijing, China, listed the Sustainable Development Pilot Community Shuangjing Practice as an important part of the Chaoyang District's efforts to promote people's well-being and develop a social governance system of "Jointed Contribution, Co-governance, and Shared Benefits," giving Shuangjing valuable support for its innovative practices.

## 1.2 Overview of Shuangjing Sub-district

### 1.2.1 Overview of The Pilot

Shuangjing Sub-district (hereinafter referred to as "Shuangjing") is located between the East 2<sup>nd</sup> and East 4<sup>th</sup> Ring Roads in Chaoyang District, Beijing, China, and is adjacent to one of Beijing's business centers in the north. It covers 5.08 square kilometers with a resident

population of 96,000. The size and population of Shuangjing are similar to that of the Upper East Side of New York City in the United States. Compared to The City of London in the UK, the size of Shuangjing is doubled, and the resident population is 14 times larger.



Figure 1: Location of Shuangjing Sub-district

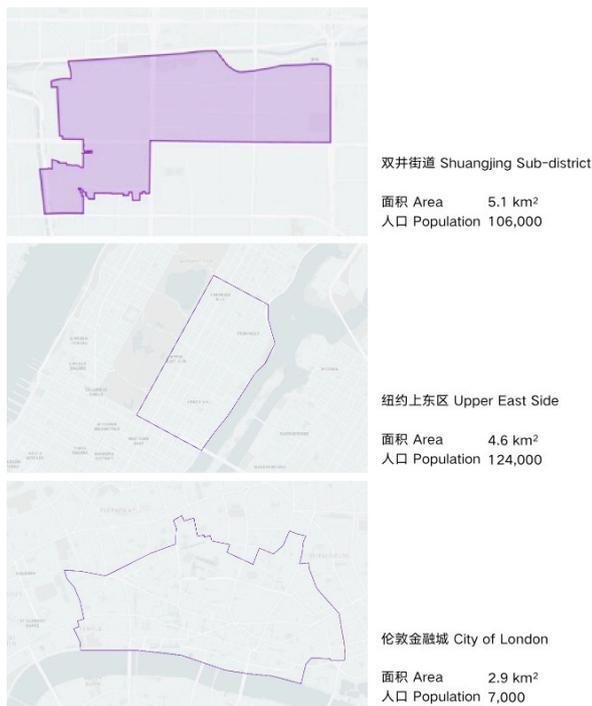


Figure 2: Comparison among Shuangjing Sub-district, Upper East Side in New York and City of London

In recent years, with its distinctive geographical location and population base, Shuangjing has become one of the most rapid areas in Chaoyang District in terms of development. At the same time, Shuangjing

has a complex internal structure and is a typical model for unbalanced development areas, population distribution, and development rate. The promising development trend, usable resources, and unbalanced characteristics make Shuangjing a potential site for grassroots governance reformation and innovation.



Figure 3: Vigorous Shuangjing

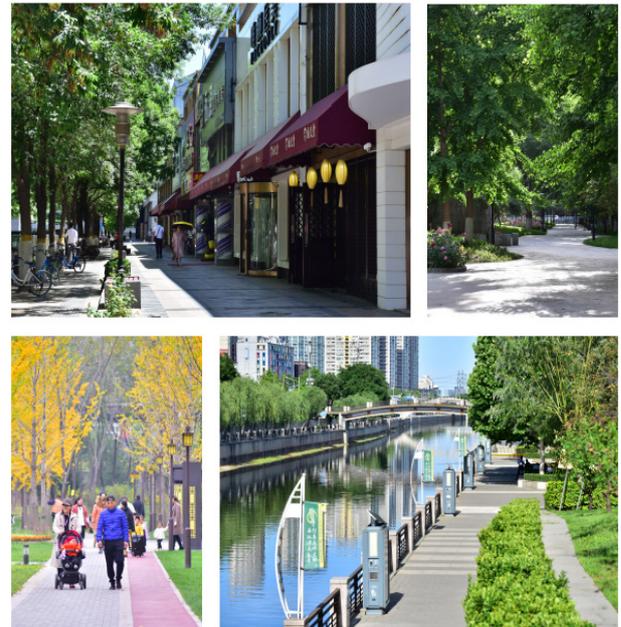


Figure 4: Livable Shuangjing

In 2019, the China Center for Urban Development (hereinafter referred to as “CCUD”) and the United Nations Human Settlements Programme (hereinafter referred to as “UN-Habitat”) conducted the International Sustainable Development Pilot Community Assessment for Shuangjing. Through online and onsite communication, the pilot cities and communities were actively engaged in localizing the implementation of the

UN 2030 Sustainable Development Goals (SDGs), and the tasks were implementing assessment, conducting capacity building activities to support the pilot sites to carry out follow-up actions based on the challenges and opportunities analysis, and finally writing and publishing the assessment report and action plan, and so on.

### **1.2.2 Big Data Assessment Results on the Situation of Sustainable Development of Shuangjing**

CCUD and UN-Habitat has jointly conducted the Sustainable Development Pilot Communities Assessment, with the technical support of Beijing City Quadrant Technology Co., Ltd. The assessment criteria are based on SDG 11.1 to 11.7 in combination with the community value system to develop a scientific system of international sustainable development pilot community indicators.

This system focuses on five major issues, including housing, transportation, disaster management, resources, and environment, as well as three major values, which are improving the capacity of human settlements planning, enhancing cultural vitality, and inclusiveness, which formed the seven primary indicators of the international sustainable development pilot community evaluation system. The strengths and weaknesses of Shuangjing are obtained by comparing the scores of each indicator with the other 153 sub-districts in the built-up area of Beijing horizontally and vertically. (See the Appendix for the specific indicator system).

SDG 11.1 37/153

Adequate, safe, and affordable housing and basic public services and facilities

Shuangjing is densely populated with many non-local residents constituting a significant demographic diversity. In addition, the quality of the residential areas is high, and public services and facilities are convenient. However, the housing affordability is low.

SDG 11.2 62/153

Safe, affordable, accessible, and sustainable transport systems

The transportation system of Shuangjing is not outstanding. Although it provides convenient low-carbon transportation modes, there is still many room for improvement on traffic safety, road network, and congestion.

SDG 11.3 54/153

Capacity for participatory human settlements planning and management

The community participation and public involvement of Shuangjing are in the middle level of Beijing's built-up areas, while the high staff-to-residence ratio, high land development intensity, and high building density make the Habitat Planning Capability Index relatively high.

SDG 11.4 41/153

Protecting and safeguarding the world's cultural and natural heritage

Shuangjing has a wide variety of cultural activities, resulting in an excellent cultural vitality index, while the accessibility and diversity level of cultural facilities are higher than the average of Beijing.

SDG 11.5 38/153

Reducing the adverse effects of natural

disasters

Shuangjing can instantly respond to emergency events and provide sufficient shelters, which guarantees its safety resiliency. The ecological resiliency also performs well due to its functioning drainage system, flood control capabilities, and high vegetation coverage.

SDG 11.6 52/153

Reducing the adverse impact of cities on environment per capita

Shuangjing faces challenges in air quality, solid waste management, and soil contamination, causing it to rank low in terms of pollution index and hygiene index. However, it does not affect the sense of security and comfort of the citizens.

SDG 11.7 83/153

Safe, inclusive and accessible, green and public spaces

Shuangjing is a highly inclusive community owing to its convenient facilities, including school-age education, maternity services, and elderly care. However, Shuangjing lacks green open spaces, and its safety concerns jeopardize the quality of public space.

Overall, Shuangjing has established advantages in SDG11.1 Public Services, 11.4 Cultural Vitality, and 11.5 Resilience and Safety before initiating the sustainable development community plan. Its performance is already close to reaching the target, but there are still many possibilities for improvement. Shuangjing's weaknesses lie in SDG11.2 Public Transportation and 11.7 Public Space. The urgent issues such as poor street network, congestion, lack of public space,

and poor public safety need to be addressed.

### 1.2.3 The Sustainable Development Action Plan of Shuangjing

To respond to the requirements of the fine urban governance demonstration area and the International Sustainable Development Pilot Communities, Shuangjing summarized relevant policies of Beijing's fine urban governance and researched the objectives of the UN SDGs, especially Goal 11: Sustainable Cities and Communities. Based on the results of the sustainable community assessment and the characteristics of Shuangjing, Shuangjing proposed to utilize the "Shuangjing No.13 Virtual Community" as the platform, "One Community" as the goal, and the "Jointed Contribution, Co-governance, and Shared Benefits" as the concept to promote fine urban development and explore sustainable community practices in Shuangjing. By using sub-districts as the implementing subject, several action plans have been formulated, and a series of sustainable development practices have been carried out. This article will select representative cases to elaborate further.

# Objectives and Methodology

## 2.1 Objectives and Vision of Shuangjing Practice

2.2.1 Shuangjing Consultative Governance System based on Subdistrict-level Coordination

## 2.2 Methodology and Approach

2.2.1 Shuangjing Consultative Governance System based on Subdistrict-level Coordination

2.2.2 Shuangjing Joint Governance System based on the Concept of One Community

2.2.3 Shuangjing Intelligent Governance System based on Fine Governance



## II. Objectives and Methodology

### 2.1 Objectives and Vision of Shuangjing Practice

The objectives and vision of “Shuangjing No.13 Virtual Community”

To achieve the localization of the UN SDG11, Shuangjing thoroughly considers its actual development features, which are complicated urban and social formations mixed between new-built and old neighborhoods, between new commercial areas, office buildings and residential areas, high-end residential areas and old factory dormitories, and between laid-off workers in old factory and high-income white-collar workers. Shuangjing proposes the concept of “joint-contribution, co-governance, and shared benefits,” and use “Shuangjing No.13 Virtual Community” as the platform to build online and offline “One Community” and promotes the development of sustainable communities.

The key of “Shuangjing No.13 Virtual Community” is to break the traditional administrative boundaries, and on the basis of shaping a common Internet community, use the construction of community-exclusive media matrix and communication channels to break the isolation between different residential areas and different groups of people, to enhance the connection between community and community, and to motivate more residents to participate in the development and sharing of Shuangjing. “Jointed Contribution, Co-governance, and Shared Benefits” is an important value basis for establishing of “Shuangjing No.13 Virtual Community”,

which is the meaning of breaking through the traditional administrative boundary and the inevitable way to further achieve the “One Community”.

Jointed Contribution means participating in community development together. In response to the current government-led urban renewal model, the private sectors and social forces were encouraged to participate in the improvement of social welfare based on the principles of government-led and public-private partnership, so that the public interest of the city can be truly known from all walks of life.

Co-governance means joint participation in social governance. In response to the current context of a new stage of urban sustainable development, with a general promotion of the people’s needs, the Co-governance should be the innovative community participation models to enhance residents’ motivation to participate in grassroots governance and bridge the gap between the supply capacity of the public benefits and residents’ actual needs.

Shared Benefits means enjoying the achievement of governance together. Emphasis is placed on resources and the accomplishment of development to benefit every family and individual, with particular focus on protection for vulnerable groups.

Based on the above core concept of "Jointed Contribution, Co-governance, and Shared Benefits," Shuangjing mobilizes its CPC capacity building resources, such as the business aggregation, cultural and creative industries, carries out community partnership programs, promotes the digital community building, actively makes up the weaknesses

shown in the SDGs 11 data assessment, and builds a localized sustainable community.

## 2.2 Methodology and Approach

### 2.2.1 Shuangjing Consultative Governance System based on Subdistrict-level Coordination

In the area of regional coordination, Shuangjing is committed to mobilizing the government departments, enterprises and public institutions, non-public economic organizations, and social party organizations in its own sub-district, to give full contribution to the advantages of professional resources, in the form of "project-based adoption, socialized operation, and diversified participation", and to build the five areas of economy, security, culture, people's livelihood, and urban governance. The pattern of diversified Joint Contribution, Co-governance and Shared Benefits under the leadership of CPC can be built in the five areas of economy, security, culture, people's livelihood, and urban governance.

Shuangjing, led by the CPC, relies on the organizational platform of the CPC Capacity Building Coordination Committee and CPC Service Center to mobilize many internal organizations in the three business districts of Hopson One, Yuecheng Center, and Fuli Twin Towers to actively participate in the resource recycling system building project, the property service improvement project, the Shuangjing Life Circle Deepening Project (to improve public services in Shuangjing), the Warm Rainbow Sharing the Winter Olympics project (to improve the accessibility of the sub-district and facilities for people with disabilities), Shuangjing "Safe Shield" action (to improve the coverage of security facilities

and organizational management), and "rural revitalization" project to further collaborate in the construction of refined governance at the grassroots level through providing the aids to the six projects. Furthermore, to smoothly promote the efficient operation of the organizations of Shuangjing and implementation of the projects, the Shuangjing CPC (Capacity Building Coordination) Committee also established a "Foundation," which is managed by the Beijing Yongcheng Community Welfare Foundation to provide financial support for public welfare activities.

### 2.2.2 Shuangjing Joint Governance System based on the Concept of One Community

In 2014, Shuangjing initiated the concept of transforming Shuangjing as One Community, and proposed the concept of “Shuangjing No.13 Virtual Community”. It has also actively explored online community governance and has gained recognition from all walks of life.



Figure 5: Operation Strategy of Shuangjing No. 13 Virtual Community

The “Shuangjing No.13 Virtual Community” is a virtual public platform that provides interaction between online and offline, and is built by information technology and Omnimedia. The platform formed a grassroots governance structure, which is an interconnected mutual benefit network between residents, society, and government, which

the social governance system with an unified objective, synergetic action on and promote urban.

Meanwhile, based on the concept of One Community, Shuangjing has also built a shared governance ecology circle consisting of three circles.

**a. The first circle: the “Pioneer Plan”**

The "Pioneer Plan" comprises intellectual elites, social activists, and operators of local organizations with social resources in Shuangjing. They are expected to mobilize their academic, cultural, and social resources to communicate and collaborate with the sub-district office, community, and the team of responsible planners to contribute to the development of Shuangjing. The “Pioneer Plan” has held several online and offline workshops and has made a lot of meaningful suggestions and recommendations for the sustainable development of Shuangjing.



Figure 6: Co-governance System of Shuangjing

**b. The second circle: “Community Advisory Group”**

Active members of Shuangjing residents who are keen to participate in public activities are

recruited to form the "Community Advisory Group" of the Shuangjing Co-Governance Ecology Circle.

**c. The third circle: “Community Co-builders”**

External experts from universities, design institutions, social organizations, cultural institutions, and technology companies are recruited as "Community Co-builders" to form a pool of external resources for Shuangjing’s development.

In addition, to provide better community services, Shuangjing will split large-scale communities with more than 5,000 households and gradually adjust the size of the communities to 1,000 to 3,000 households, with the number of communities expected to reach 22 by 2025. Each community will train about 3-4 full-time social workers. Furthermore, Shuangjing continuously deepens the Community Growth Partnership Program, introducing theoretical experts, practical experts, professional organizations, and community coordination instructors to assist community workers in better implementing the grassroots consultation work.

**2.2.3 Shuangjing Intelligent Governance System based on Fine Governance**

To comply with the laws of urban operation and development, Shuangjing has built the framework of Shuangjing Brain to effectively enhance the effectiveness of urban governance by improving the perceptibility of urban operation, the scientific nature of governance decisions, and the efficiency of management execution, breaking the problems of redundant information and fine management caused by administrative restrictions, and providing crucial technical support to promote the

precise positioning of issues and the accurate allocation of resources.

In details, Shuangjing established a database for land use, buildings, streets, and infrastructures, and used social big data to correlate and supplement the attributes of elements such as office buildings and residential neighborhoods, and combined with pandemic prevention and management work to systematically build a database and correlate micro-scale data such as population and enterprises with spatial features. After activating the database, a dynamic perception scheme for social space is added, thus forming a four-step strategy from government data perception, social perception, IoT perception, and video structured perception.

Based on the database established by the system, the data algorithms and urban models are used to achieve scientific cognition of urban status, accurate diagnosis of problems, scientific proof of decision making, and detailed evaluation of governance effects. In addition, it is used to improve the efficiency of urban spatial resources and social service resource utilization. Furthermore, to improve the rationality of decision-making, Shuangjing has adopted three main algorithmic models, including the urban event analysis model for urban management optimization, the community life circle model for public service enhancement, and the design simulation model for public space design, which significantly support Shuangjing's governance decisions.



Figure 7: "Jingjingyoutiao" Big Data Platform

Based on the above ideas, Shuangjing has built the "Well-organized" big data platform, and through the construction of the perception system, data center, algorithm model, and governance platform, an intelligent governance brain system across terminals has been established and deployed. This is also the first sub-district big data platform system in Beijing.

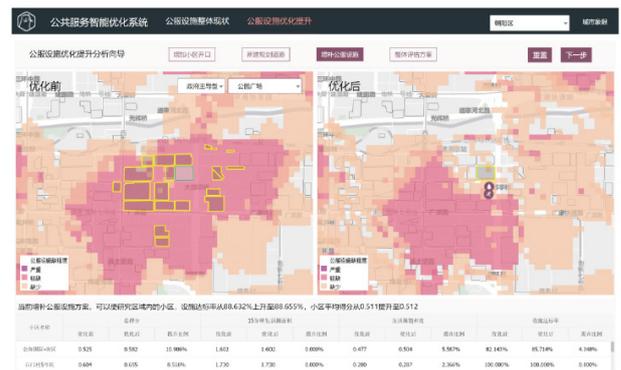


Figure 8: Intelligent Public Service Optimization System

# 03

## Sustainable Development Achievements of Shuangjing Benchmarking UN SDG11

### **3.1 practice for SDG11.1 Public Services**

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Sustainable Practice 01: Public Service Sharing Life Circle and Social Security

### **3.2 practice for SDG 11.2 Public Transportation**

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Sustainable Practice 02: Improvement of Urban Travel

### **3.3 practice for SDG 11.3 Planning and Public Participation**

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Sustainable Practice 03: Multi-dimensional Community Consultation and Co-gov-

### **3.4 practice for SDG 11.4 Cultural Vitality**

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Sustainable Practice 04: Culture Festival of "Shuangjing No.13 Virtual Community"

### **3.5 practice for SDG 11.5 Resilience and Security**

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Sustainable Practice 05: Public Health Governance

### **3.6 practice for SDG11.6 Environmental Pollution Improvement**

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Sustainable Practice 06: Improvement of Environment in Urban Public Space

### **3.7 practice for SDG11.7 Public Space**

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Sustainable Practice 07: "Shuangjing No.13 Virtual Community" Design Festival and "Jingdian" Series Space Micro Regeneration

### III. Sustainable Development Achievements of Shuangjing Benchmarking UN SDGs11

#### 3.1 Practice for SDG11.1 Public Services

##### Sustainable Practice 01: Public Service Sharing Life Circle and Social Security

Improving public service coverage in Shuangjing requests Shuangjing to conduct a series of initiatives on public service facilities, elderly care, culture, public space, and so on. By making full use of existing spaces and service resources, Shuangjing has optimized the distribution of basic service facilities and provided high-quality green and convenient public services to support the “15-minute community Life Circle” (Residents can get access to public services such as education, medical, commercial, elderly care, and leisure facilities within 15-minute walk) in

the city. This action further promotes the achievement of SDG11.1, “Providing safe and affordable housing and improving the quality and convenience of housing and services.”

There are 557 public and convenient service organizations distributed in 12<sup>2</sup> communities in Shuangjing. Especially in the Baiziyuan Community, where a large number of elderly people reside. Therefore, a “Street of Services for the Elderly” has been built, including 15 retail stores providing public services such as dining, hairdressing, laundry, health care and massage, photography, shopping, and so on. In addition, these services offer discount prices for the elderly.

From 2019 to 2021, the number of commercial retail stores per square kilometer in Shuangjing increases from 543 to 720 to improve urban life convenience.

2 Up to June 2022, the number of communities in Shuangjing Sub-district has increased to 18.



Figure 9: Medical Service Provided to the Elderly



Figure 10: Updated Walkway



Figure 11: Updated Public Space

In addition, in order to optimize the allocation of public service facilities, Shuangjing guided to disperse and vacate the spaces, and continuously explored various types of unused urban resources and public spaces to prioritize the development of a sharing life circle. Shuangjing has built a community library for residents' reading and cultural

exchange activities. In addition, Shuangjing created 7 unique living public spaces combined with parks, landscapes, and public art at the current street corners and green spaces. It also built two fitness and recreation squares for diversified outdoor sports, which increased by 7% green space, that is about 6 hectares.<sup>3</sup>



Figure 12: Renovated Community Library

<sup>3</sup> Up to September 2020

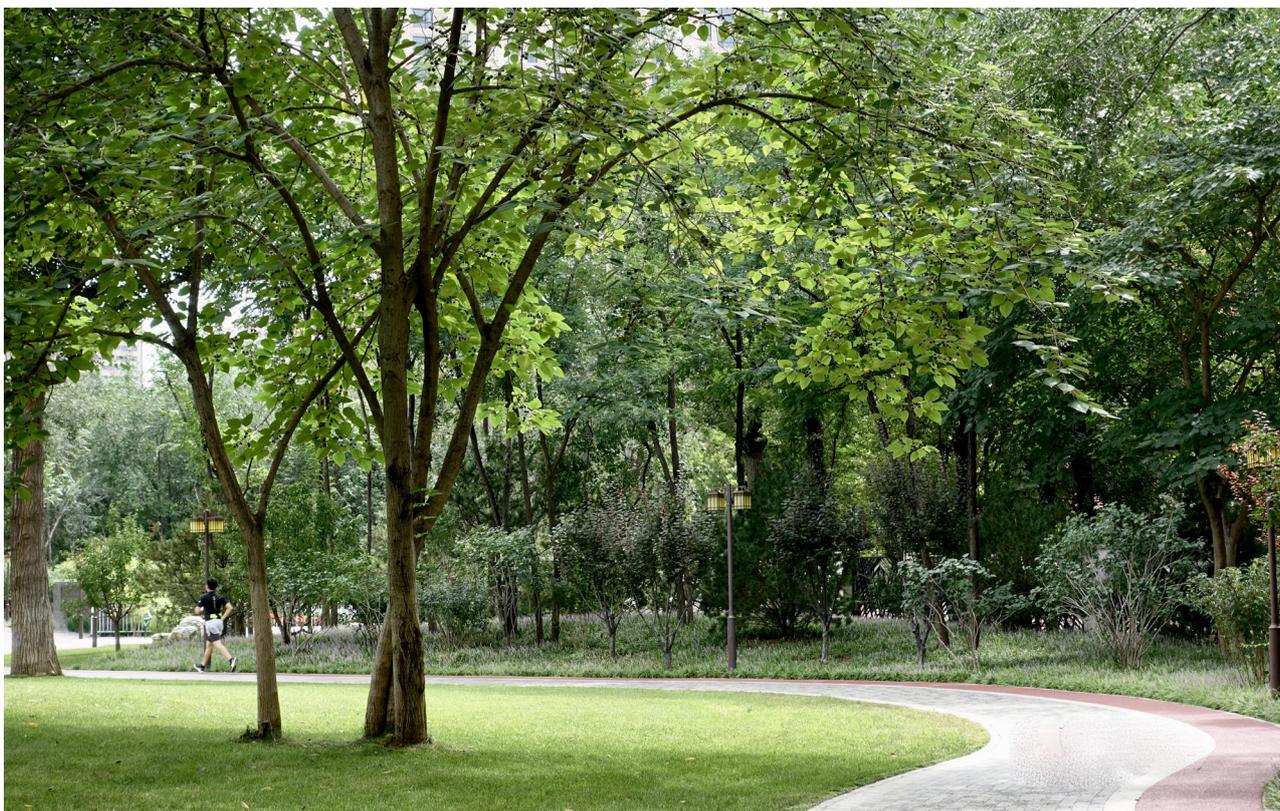


Figure13: Newly built Park

520-square-meter space has been designated for vulnerable groups who live concentratedly in communities to fulfill the basic needs of people with disabilities in rehabilitation, employment training, cultural activities, sports, and human rights protection activities. The space has a CPC capacity building activity room, a multi-functional activity room, a rehabilitation guidance room, a rehabilitation room, a rehabilitation aids room, a legal consultation room, a psychological consultation room, and a reading room.



Figure 14: Medical Training Activity for the Vulnerable Groups

In this "Warm Home" for the vulnerable groups, a series of art learning groups such as calligraphy, painting, music and chorus, handicraft, and other activities are carried out. At the same time, the social workers of the "Warm Home" are actively connected with social enterprises to carry out diversified activities, such as "Dumpling Banquet for Chinese New Year," "New Year's Day and Spring Festival Seminar," and "Rehabilitation Experience in The Beijing World Park." In addition, the social workers have also promoted mutual communication and exchange with disabled people to make them enjoy a rich and exciting life. In addition, to strengthen the knowledge training and meet the basic physical safety needs of people with disabilities and their families, social workers organized doctors, lawyers, and other expert groups to develop various training activities such as legal, psychological and emotional relief activities. In terms of improving living conditions,



Figure15: Community Cultural Activities

Shuangjing has carried out extensive residential areas upgrade and renovation for the early-constructed communities with poor living quality and a large number of vulnerable groups by renovating public squares, living and fitness facilities, creating cultural symbols, and greening and upgrading the public green spaces.

One year after the project was launched, 1,200 square-meter spaces were transformed into green spaces. 6,500 square meters streets were paved, 18 solar street lights were installed, and 27 buildings with dangerous electric circuits were renovated, which benefits 1,347 households. The water and sanitation systems as well as 10 dry toilets<sup>4</sup> have been renovated in two buildings. Shuangjing continually implemented hallway painting, tree pruning, comprehensive environmental

improvement, installation of monitoring probes and access control system upgrade, removal of unauthorized constructions, parking space planning, space reorganization, entrance management and redesign, traffic flow organization, and adding urban facility and furniture. All these actions provide residents with a clean walkway and a good public environment in Shuangjing through the redistribution of functional zoning and release the potential of the previously underused community space. The renovation of carports, the installation of charging piles, and the replacement of standard garbage sorting bins were conducted to further improve the living environment of old neighborhoods from multiple perspectives, including facilities and functions, space and interaction, and life and ecology.

4 Up to September 2021



Figure 16: Old Residential Area Before Renovation



Figure 17: Old Residential Area After Renovation

## 3.2 Practice for SDG 11.2 Public Transportation

### Sustainable Practice 02: Improvement of Urban Travel

The traffic conditions in the district are facing multiple challenges, including poor transportation system and inadequate barrier-free travel facilities, especially communities near the business districts have more severe congestion. Therefore, Shuangjing has initiated an ongoing upgrading project.

To optimize and improve mobility in the important “Hopson One” Business District, for example, Shuangjing installed 44 additional traffic signs, painted 3,742 meters road marking, installed one additional traffic light,

re-paved 16,895 square meters road, and improved 4,057 square meters pedestrian walkways. The project successfully improved mobility and reduced congestion caused by the chaotic traffic structure. Meanwhile, Shuangjing improved the street network by connecting more than 600 meters dead end streets on the east side of Baiziwan South Second Road, connecting the East Ring 18 Subdivision Road<sup>5</sup>, and so on. These actions effectively enhanced mobility by improving connectivity in the area. According to the data assessment, the road network density of Shuangjing increased from 0.032 to 0.051 from 2019 to 2021, which significantly improved the accessibility.

The assessment and evaluation of barrier-free facilities in Shuangjing is guided by the special action plan of barrier-free environment construction in Beijing. The assessment used the geospatial information data of various facilities in Shuangjing accumulated at early stage as the basis to establish the barrier-free information database. Volunteers completed the data collection of more than 1,400 sites based on the information database<sup>6</sup>, and imported these data into the Beijing barrier-free environment development information management system.

Based on the results of the preliminary research, Shuangjing has carried out barrier-free renovation, and has completed the renovation of storefronts, warm homes (service stations for people with disabilities), rehabilitation stations, and five communities, including 106 storefronts, 5 community centers, 2 warm homes and 1 rehabilitation

<sup>5</sup> Up to September 2021

<sup>6</sup> Completed in January, 2020



Figure 18: The Volunteer Checking Blind Environment Using Intelligent Tactile Stick



Figure 19: Beijing Barrier-free Built Environment Development Information Management System



Figure 20: Renovated Wheelchair Accessible Rampway



Figure 21: Renovated Walking Path

station. Shuangjing has printed 180 copies of barrier-free manuals and guidebooks, installed and constructed 1214 barrier-free signs, and completed the renovation of the barrier-free facilities in the office buildings and the community service centers in Shuangjing.<sup>7</sup>

### 3.3 Practice for SDG 11.3 Planning and Public Participation

#### Sustainable Practice 03: Multi-dimensional Community Consultation and Co-governance

Shuangjing co-governance adopts the methodology of co-consultation and the collective power of the party committee, the government, and the community to form a consultation committee; and activates a "Pioneer Plan" that consists of the experienced local experts to organize the villager think tank seminars and social mobilization comprehensive platform. It supports an open communication mechanism and promotes community shared governance in a participatory way. Furthermore, Shuangjing enables several community level CPC organizations to build precise self-governance units onsite and mobilizes a wide range of residents within the units to provide accurate services and fine management. Specifically, these include:

##### a. First circle

It is mainly composed of a number of community committees, using the community service station as the activity venue, and organizing various fields of participants of the community co-governance to participate in the discussion of public affairs.

##### b. Second circle

The second circle consists of several stakeholders from the civil organizations, such as the community owners' committee (property management association) and property service companies. They participate in residents' self-governance together to achieve effective communication among different stakeholders, jointly exploring local resources and solving governance problems.

##### c. The third circle

The third circle aims to form a resident self-governance unit led by a grid CPC committee branch as the basic unit for residents to participate in community development, expanding resident participation and ensuring the representativeness of grassroots resident self-governance.

Furthermore, Shuangjing uses the internet as the platform to develop a media matrix platform, which includes the Shuangjing No.13 Virtual Community website, the "Shuangjing on the Palm" WeChat public account, the Shuangjing No.13 Virtual Community Weibo account, the Shuangjing District Government website, the "Shuangjing Community Card" APP, the "Shuangjing Daily" community newspaper, the "Shuangjing Know All" APP, the department account, the community account, and the News Master account. The media matrix platform is beginning to take shape. Shuangjing also created the "Happy Shuangjing Community Card" grassroots governance platform, integrating high-quality commercial and public welfare resources into a single card. Residents can participate in public welfare actions, and behaviors including waste classification, civilized dog

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<sup>7</sup> Up to September 2021



Figure 22: Volunteer Activity

raising, and maintaining a pedestrian-centered environment can all earn points and be stored on the community card. This card integrates resources and tracks public welfare records. Through various online and offline activities, the card attracts and retains "fans" and achieves the goal of "activities support the brand, and participation becomes a habit." At present, there are 80,000 community card users (about 80% of the resident population in the area), and more than 800,000 public welfare points have been accumulated.

In addition, Shuangjing has formed the "Pioneer Plan," which is a shared governance ecosystem. The system consists of experts, social activists, and social operators of local organizations in Shuangjing, and it enables them to contribute to the development of Shuangjing and use their knowledge, as well as cultural and social resources to

collaborate with the sub-district, community, and urban planners. Shuangjing has held several villager think tank seminars to foster ideas on sustainable development methods, plans, and visions. In 2021, Shuangjing Social Organization Service Center recruited more than 20,000 registered volunteers, with 8,704 active members, forming the backbone of social participation and shared



Figure 23: Cultural Activity

### 3.4 Practice for SDG 11.4 Cultural Vitality

#### Sustainable Practice 04: Culture Festival of “Shuangjing No.13 Virtual Community”

The Shuangjing No.13 Virtual Community Cultural Festival compose of 10 major events: Shuangjing Community Mini Spring Festival Gala, Shuangjing Chinese Zodiac Design Competition, Shuangjing "Beijing Erzha Qingming Spring Event," Shuangjing Grassroots Cultural Exhibition and Performance, Shuangjing No.13 Virtual Community Fan Festival, Shuangjing No.13 Virtual Community Neighborhood Festival, Shuangjing Shared Life Circle City Bookstore Reading Club, Community Creative Program, Community Entrance Door Culture Event and Shuangjing Cultural Branding Team Building Event. They cover various types of activities, which are indoor, outdoor, art-related, parent-child interaction and experiences.

The aim of Community Mini Spring Festival Gala is to collect performance ideas from the residents through online registration, and call on residents to celebrate the annual cultural event altogether. Shuangjing Chinese Zodiac Design Competition is for residents to design freely with the Chinese Zodiac of the current year as the object. A list of art pieces will be selected as shortlisting for exhibition, which audiences and experts will select the final winning art pieces and issue awards to the designers afterward. Various forms of design work in the exhibition, such as beading, paper cutting, seal carving, painting, clay sculpture, sugar painting, and straw weaving, not only let the residents feel the fun and charm of traditional culture and handicraft, but also provide the residents with the opportunity to exchange works, interact and exchange ideas.



Figure 24: Cultural Activity



Figure 25: Chinese Zodiac Design Competition



Figure 26: Cultural Activity During Chinese New Year

Sluice and various intangible cultural heritage, but also becomes an important platform that promotes neighborhood integration and a shared community.

The Beijing Erzha Qingming Spring Event is an annual neighborhood festival held at Qingming Festival in Qingfeng Park. Besides the traditional skill performances such as lion dances and Chinese streamers, there are also facilities and activities for residents to enjoy, play and participate in, such as a display area, a traditional gaming area, and a points collecting area for community benefit card. The festival not only promotes and protects the Qingfeng

### 3.5 Practice for SDG 11.5 Resilience and Security

#### Sustainable Practice 05: Public Health Governance

Shuangjing addresses daily public health issues by strengthening the community medical facilities and health services, optimizing the distribution of medical and health facilities, improving health and safety standards in office, commercial buildings, and residential communities, and optimizing the supply of public facilities in the community. 11 sites were selected in Shuangjing to install automatic external defibrillator (AED) emergency medical equipment, and set up a first aid map through Internet plus technology. Meanwhile, Shuangjing assigned volunteers to the selected sites to support the use of medical self-service and mutual help in emergencies.

When tackling with public health crisis such as the COVID-19 pandemic, Shuangjing can quickly mobilize various agencies, property management sectors, health related organizations, housekeeping companies, social workers, volunteers and other related parties to continuously ensure the stable process of community lockdown management, NAT test, quarantine personnel services, public space disinfection, and so on. Shuangjing established an integrated management system for sub-district pandemic prevention and management to enhance the refinement of Internet plus urban governance and achieve effective results.



Figure 27: AED Facility Installed in a Shopping Mall



Figure 28: Body Temperature Checking Before Entering Community



Figure 29:Community intelligent emergency station

### 3.6 Practice for SDG11.6 Environmental Pollution Improvement

#### Sustainable Practice 06: Improvement of Environment in Urban Public Space

To address the challenge in cities, such as weak sensing ability and ambiguous governance priorities for urban micro-environment, Shuangjing developed a portable multi-module mobile environmental sensing box (integrated temperature, humidity, noise, PM2.5, PM10, CO<sub>2</sub>, O<sub>3</sub>, NO<sub>2</sub>, SO<sub>2</sub>, CO, HCHO, and other high-precision environmental sensing modules and mobile communication modules) based on the urban Internet of Things. The sensor is mounted on the city management patrol vehicle. While the patrol vehicle is patrolling the streets according to the fixed route, the environmental sensing box will transmit

environmental data such as air quality, noise, odor, formaldehyde, grease, pollen, and other urban environmental data at the microscopic scale with a sampling rate of 10 seconds/time. The collected information is sent back to the PC end of the IoT environmental management platform to form a high spatial and temporal resolution micro-environmental mobile sensing network with full neighborhood coverage.

After completing the environment inventory, Shuangjing carried out environmental improvement and regeneration of critical areas. The bare land that caused dust pollution, the solid and water pollution that caused odor were treated, and ecological landscape restorations were carried out. At the same time, 6 large transporting trucks were set up in the form of renewable resource delivery points, 6 sealed tricycles were set up in the form of mobile collecting tours, 342 groups of barrel



Figure 30: Environment Monitor Sensor Installed on the City Management Patrol Vehicle

stations were improved, 12 domestic waste sorting stations were built by coordinating the resources of regional enterprises, 61 recycling bins for old clothes were installed<sup>8</sup>. These actions actively promoted the establishment of an ecology waste and resource recycling system.

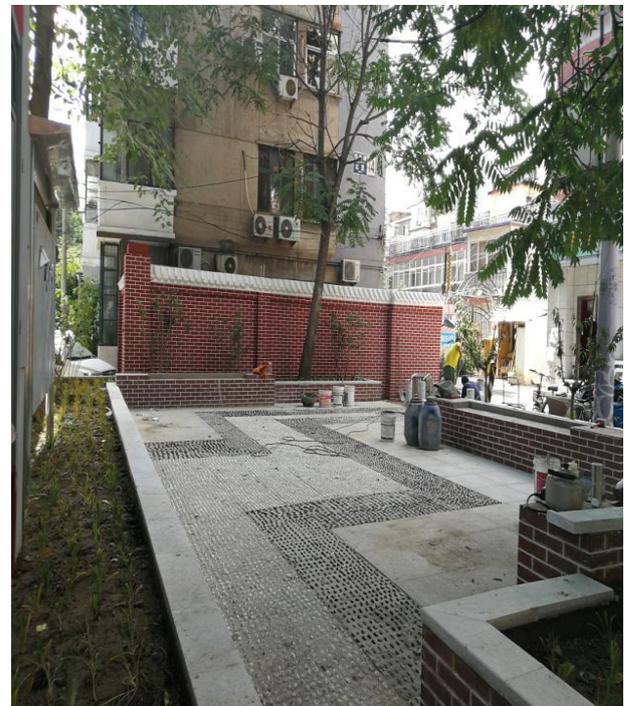


Figure 31: Before and After of Community Environment Renovation



8 Up to September 2021



Figure 32: Participatory Design Workshop for Jingdian No.1

### 3.7 Practice for SDG11.7 Public Space Sustainable Practice 07: “Shuangjing No.13 Virtual Community” Design Festival and “Jingdian” Series Space Micro Regeneration

Shuangjing “Jingdian” Series Public Space Micro-regeneration was completed with public participation in the process of community governance and design, and collectively constructed Jingdian No. 1 public space and Jingdian No. 2 community public service space for recycling. The Jingdian public space renewal process is completed with public participation in design, data-aware monitoring, and digital aids for the proposal, design, construction, and operation process.

Jingdian No. 1 was completed on July 15, 2020, and since it was put into use, it has attracted widespread attention in Shuangjing. Through a full-time observation of the renovated space, the overall vitality and inclusiveness of the

site have been significantly improved. The site transformed from the original inefficient, single-function community fitness space into an "outdoor living room" that can carry leisure, entertainment, fitness, and social activities for the elderly, middle-aged, youth, children, and the surrounding urban service groups.”



Figure 33: Many Residents are Attracted to Jingdian No.1



Figure 34: Children Playing at Jingdian No.1

Jingdian No. 2 transforms the abandoned storefront into a community public service space that integrates recycling and culture-derived community service place. The funding for the Jingdian No. 2 renewal comes from diversified sources. The sub-district

provides construction funds for the site's basic renovation, the Beijing Community Research Center is responsible for providing funds for the facilities, and the Beijing Philanthropreneur Foundation is responsible for the site operation cost. Social organizations invest the funds in the form of impact investment, in combination with government subsidies and support from the public welfare foundation, which guarantees the sustainability of the renewal funds. Jingdian No. 2 does not only take space renovation as its single purpose, but also uses the space as a community catalyst for content operation and a series of derivative cultural activities with ecological civilization as its theme. Together with Beijing Aobei Environmental Protection Technology Co. Ltd., the Beijing Community Research Center conducts a series of environmental education and promotion activities for communities and schools, and aims to enhance public motivation for recycling, and use this as an opportunity for community development and community activation to achieve performance synergy between spatial renewal and social governance.



Figure 35: Jingdian No. 2 Before Renovation



Figure 36: Jingdian No.2 Interior Renovation



Figure 37: Opening Day for Jingdian No.2

Taking Jingdian No.1 and No.2 as good models of public space, Shuangjing public space

planning and design organized a community design festival, which opened to colleges and universities in a participatory way. The festival also provided a complaint hotline and big data analysis of physical space, which guaranteed communication with the surrounding residents, and organized expert review, resident voting, and algorithmic model review of the program to enhance the participatory and scientific nature of the planning and design.



Figure 38: Field Research for the Spots of Design Festival



Figure 39: Introducing the Project to the Visitors

Shuangjing Sub-district, together with students from the majors of Environmental Design and Landscape Architecture of Beijing Forestry University, and the major of Light Environment Design of Communication University of China, completed the project design by group team work and design competition based on the analysis of 12345 complaints and environmental big data analysis, on-site mapping research and communication with residents around the site, and finally produced 57 sets of works. After the design phase, a number of experts in the discipline formed a judging panel to evaluate the proposals from multiple perspectives, including design concept, visualization, and feasibility. Meanwhile, the Shuangjing public account on the Palm published the voting information of the submissions for two weeks, calling on local residents to vote for their favorite submissions. On the other hand, the MAS model was used to simulate the number of people and duration before and after the site's renovation to predict the effectiveness of the site renovation, and the final winning entries were selected by combining the comments of the sub-district leaders.

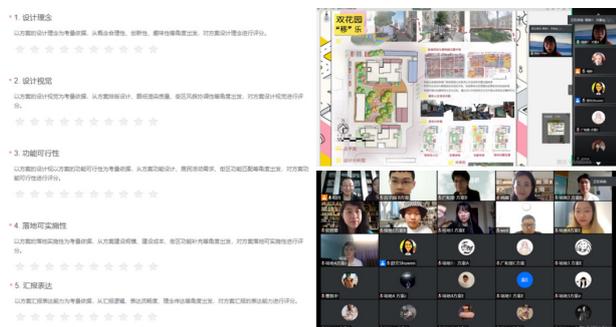


Figure 40: Online Review of the Project Proposals Received during the Design Festival

Based on the design of the student teams from various universities, Shuangjing, together with Tsinghua University, Studio 17 of Central

Academy of Fine Arts, Communication University of China and other design institutions deepen the map according to outstanding works, the selected submissions will be shortlisted for the Shuangjing "Jingdian" series of community space micro-renewal.

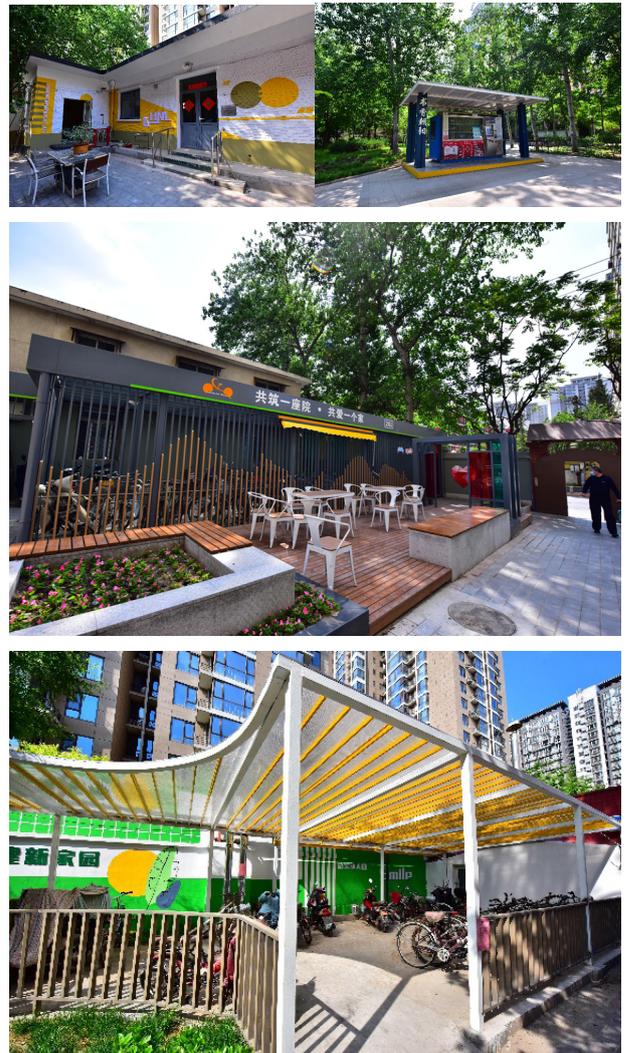


Figure 41: Jingdian No.3 and No.4 After Renovation

Jingdian No.3, 4 and 5 public spaces of the community and Jingdian No. 6 community public spaces were selected as the design festival entries, and they are continued to be promoted subsequently to form the Jingdian series of community participatory public space renewal.

# 04

## Achievements of Shuangjing Sustainable Development Pilot Community

### 4.1 Summary of The Pilot

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### 4.2 Social Impact

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## IV. Achievements of Shuangjing Sustainable Development Pilot Community

### 4.1 Summary of The Pilot

In July 2019, Shuangjing Sub-district joined the Project of International Pilot Cities on Sustainable Development co-developed by UN-Habitat and CCUD, becoming the first sub-district in China. With the support of UN-Habitat and CCUD, Shuangjing has developed a systematic practice of sustainable development pilot communities as a sub-district and achieved remarkable results.

On November 16, 2020, the 4<sup>th</sup> International High-Level Forum on Sustainable Urban Development was held in Chengdu, China, co-hosted by the CCUD, UN-Habitat, and the

Chengdu Municipal People's Government. During the forum, Mr. Zhang Zhenshan, UN-Habitat Program Manager for China, delivered the certificate to Shuangjing for their participation in the project. The magnificent results of Shuangjing to develop the International Sustainable Development Pilot Community were internationally recognized.

### 4.2 Social Impact

In terms of social impact, the governance practice of Shuangjing has been reported 16 times by numerous media, including Oriental Outlook magazine, the Paper, Southern Metropolis Daily, and Beijing Daily. The People's Daily Overseas Edition reported on the pilot renovation of the small micro-space "Jingdian No.1" at the end of 2019 and agreed on the practical implementation of the small micro-space renovation for the UN SDG11.



Figure 42: Shuangjing Sub-district Participated in the International Sustainable Urban Development Project

Beijing Daily reported the Shuangjing Sub-district Micro-renovation for 4 times, which disseminated the sustainable development concept raised from the “Jingdian” renovation. The “Jingdian” renovation precisely focused on the residents of different ages and diversified occupations, forming the “Shuangjing Practice” and motivating the community vitality. The Oriental Outlook magazine, the Paper, and Southern Metropolis Daily published articles to discuss the successful application of new technologies, such as big data and the Internet of Things for smart governance in Shuangjing, which brings new experiences and technological applications to urban governance, allowing new technologies to serve the residents better and achieves the goal of “better community, better life.” Beijing Daily, Beijing Youth Daily, Beijing Evening News, and other media also publicized the

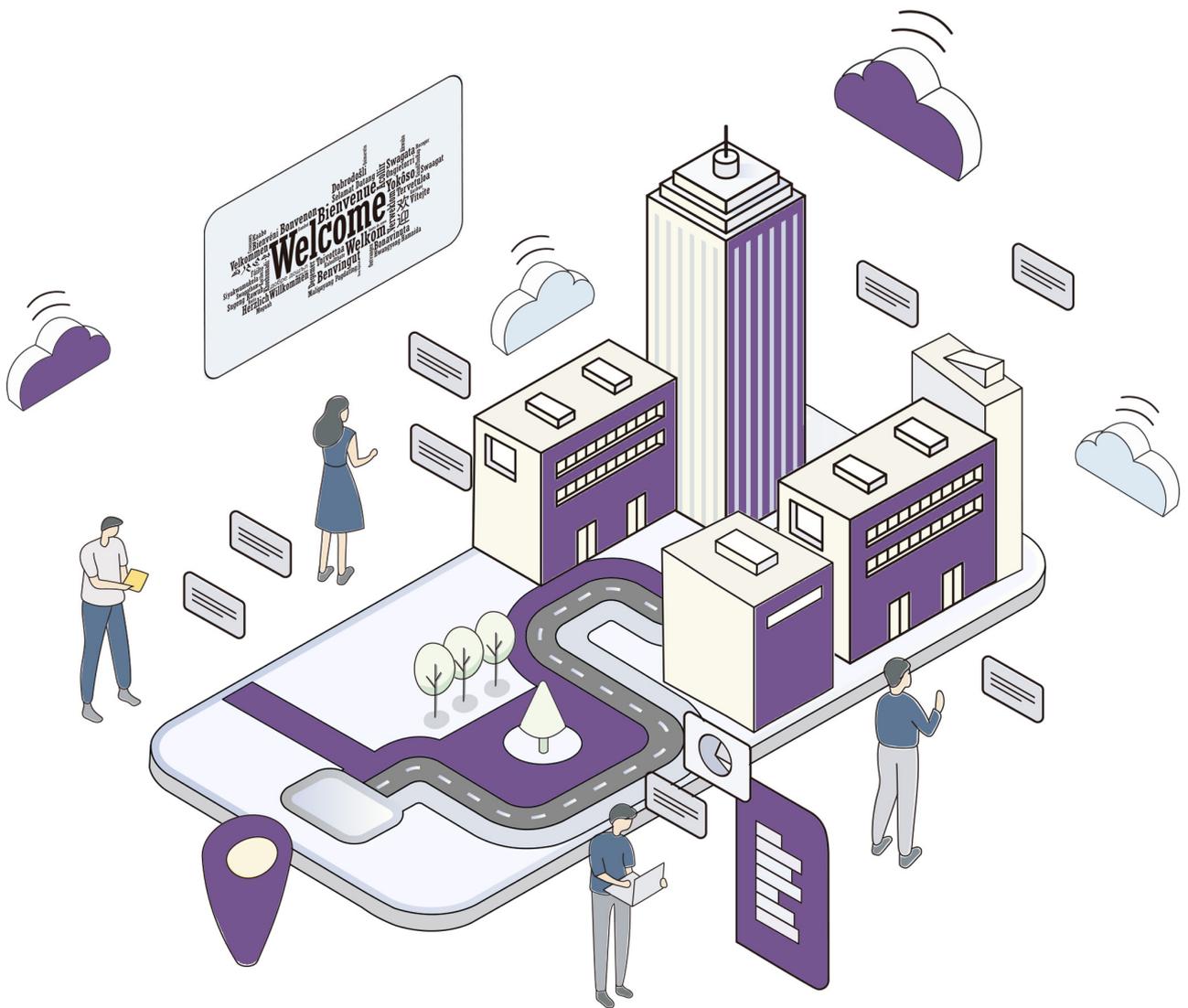
successful community renovation model of Shuangjing with the theme of "Jingdian No.2", which combines big data, public participation, and waste recycling.

The multi-directional and multi-angle media articles present how Shuangjing applies frontier technologies and innovative concepts to urban governance. The articles intensely explore the additional value and attract people interested in urban governance with a focus on Shuangjing and bring more opportunities.

In addition, Shuangjing's sustainable development governance practice has been shortlisted for the Humanistic City Award by Sanlian Lifeweek, the 2020 “For Good Awards” by Social Enterprise and Impact Investing Forum, and the “2<sup>nd</sup> China Urban Governance Innovation Award” issued by Peking University Institute of Urban Governance.

# 05

## Future Outlook



## V. Future Outlook

Based on current experience of sustainable community promotion, Shuangjing continues to work on the integration of sustainable development values and existing national and local policy requirements. The 14<sup>th</sup> Five-Year Plan of Shuangjing proposes to build a demonstration area of fine urban governance based on the principles of fine governance, high-quality development, people's well-being and safety.

The value of people's well-being is mainly focused on the condition that the young have access to education, the students have access to the schools, the equivalent payment for the work done, well-treatment for the sick, good-care for the elderly, and housings for all people, adequate support for the vulnerable groups. The whole sub-district should be convenient, livable, diversified, equitable, and safe. It should focus on the life quality and the minimum livelihood security of the elderly, children, vulnerable groups, and expand to all residents in the sub-district. Shuangjing aims to enhance community equity by providing higher quality, more accessible public services for all residents. This objective of "quality of living and public services" is aligned with SDG 11.1.

Fine governance mainly focuses on setting up the mechanism of community participation and community grassroots organization establishment and reformation. Through community responsibility refinement, establishing "community talents resource channel" and "pioneer plan" system, upgrading the "Shuangjing No.13 Virtual Community" system, improving the capacity of community workers, broadening community participation

opportunities, focusing on the integration of government and social resources, and guiding by the objective of "planning and participation concept to build a more open and inclusive community" and working together with SDG11.3.

The safety value is expected to improve the operational efficiency of the entire security management system by combining traditional management methods and technological products. On the one hand, improve a safety management system by strengthening information circulation and sharing. For social security risks, public safety risks, major conflicts and disputes, and so on, in-depth data early warning prediction and problem modeling functions are developed to improve the prediction and prevention ability of all kinds of risks. Shuangjing aims to comprehensively promote the key tasks of urban safety management from eight aspects: urban safety source governance, urban infrastructure construction, effective urban safety supervision, urban safety prevention, and control mechanism, urban wide range disaster prevention system, urban comprehensive emergency response system, socialized service support system, and science and technology and cultural support capacity building, to improve urban emergency disaster response capability, enhance urban resiliency, reduce the negative impact of all kinds disasters, and protect citizens life and properties, echoing with the concept of "community resilience and security" in SDG11.5. The concept of sustainable development has been deeply integrated into all aspects of Shuangjing's work and will play an integral role in future community governance.

# Annex

## 1.Orientation of Targets of SDG11

No	Targets	Orientation
11.1	By 2030, ensure access for all to adequate, safe and affordable housing and basic services and upgrade slums	Problem-oriented: Addressing the housing shortage and ensuring the basic facilities and services around residential areas.
11.2	By 2030, provide access to safe, affordable, accessible and sustainable transport systems for all, improving road safety, notably by expanding public transport, with special attention to the needs of those in vulnerable situations, women, children, persons with disabilities and older persons.	Problem-oriented: addressing traffic congestion and poor safety, while respecting the travel needs of different groups of people.
11.3	By 2030, enhance inclusive and sustainable urbanization and capacity for participatory, integrated and sustainable human settlement planning and management in all countries.	Value-oriented: increasing public participation in the urban planning process and building a more inclusive, scientifically planned and better built urban environment.
11.4	Strengthen efforts to protect and safeguard the world's cultural and natural heritage.	Value-oriented: strengthening the protection and utilization of cultural resources and enhancing cultural vitality.
11.5	By 2030, significantly reduce the number of deaths and the number of people affected and substantially decrease the direct economic losses relative to global gross domestic product caused by disasters, including water-related disasters, with a focus on protecting the poor and people in vulnerable situations	Problem-oriented: enhancing urban resilience, reducing the acute impact of various types of disasters on cities and protecting people's lives and property.
11.6	By 2030, reduce the adverse per capita environmental impact of cities, including by paying special attention to air quality and municipal and other waste management	Problem-oriented: reducing urban pollution issues and improving the quality of the urban environment.
11.7	By 2030, provide universal access to safe, inclusive and accessible, green and public spaces, in particular for women and children, older persons and persons with disabilities	Value-oriented: enhancing urban inclusiveness and meeting the activity needs of a diverse population.
11.a	Support positive economic, social and environmental links between urban, peri-urban and rural areas by strengthening national and regional development planning	Value-oriented: strengthening the regional, urban-rural partnerships.
11.b	By 2020, substantially increase the number of cities and human settlements adopting and implementing integrated policies and plans towards inclusion, resource efficiency, mitigation and adaptation to climate change, resilience to disasters, and develop and implement, in line with the Sendai Framework for Disaster Risk Reduction 2015-2030, holistic disaster risk management at all levels	Problem-oriented: enhancing urban resilience to address the climate change issues.
11.c	Support least developed countries, including through financial and technical assistance, in building sustainable and resilient buildings utilizing local materials	Value-oriented: mutual benefits and enhanced local capacity building.

## 2. International Sustainable Development Pilot Community Indicator System based on SDG11 and Community Values

First Level Indicators	Second Level Indicators	Third Level Indicators	Factors
11.1	Population and Cities	Regional attractiveness	Daytime population density
			Net population inflow rate
		Population diversification	Percentage of foreigners
			Percentage of non-l
	Settlements and Housing	Quality of Residential areas	Level of ageing of settlements
			Average household dwelling size
			Parking spaces per 100 households
			greenery
			Property Quality
		Housing affordability	House price to income ratio
			Whole rental price to income ratio
			Joint-rental price to income ratio
	Basic Services	elementary education	Kindergarten accessibility
			Primary school accessibility
			Secondary school accessibility
		primary care	General hospital accessibility
			Convenience of community health centres
		Living in the Community	Convenience of supermarkets and convenience stores
			Convenience of food markets
			Convenience of telecommunication business offices
			Convenience of post offices
			Hairdressing convenience
			Ease of access to financial services
			Convenience of pharmacies
			Ease of distribution at the end
			Accessibility of public toilets
		Occupational and residential commuting index	Average commute time for local residents
			Average commute time for locally employed persons
Percentage of local residents commuting long distances			
Percentage of long-distance commutes for locally employed persons			

11.2	Traffic Safety	Traffic Safety	Traffic Safety Index
			Number of traffic accidents per 1,000 inhabitants
	Urban Road structure	Urban road structure	Street intersection density
			Road network density (two-lane)
	Green Transportation	Public transport accessibility	Coverage of metro stations very 750m
			Coverage of bus stops very 300m
			Convenience of public transport stations
		Accessibility to public transport	Number of bus stops within 500m of metro stations
			Number of parking lots within 500 m of metro stations
		Low carbon travel convenience	Residential neighborhood walkability index
			Streetscape Sidewalk Occupancy Ratio
			Percentage of street scene riders
			Fitness Running Activity
		Travel accessibility	Pedestrian accessibility
	Riding accessibility		Index of residential neighborhood cycling accessibility
	Accessibility by car		Index of residential neighborhood accessibility by car
	Public transport accessibility		Public transport accessibility index for residential areas
	Traffic Congestion Index		Weekday traffic congestion Index
			Weekday commuter hour congestion Index
			Traffic congestion index on rest days
11.3	Vitality of Social Participation	Level of public participation	Academic Engagement Index
			Resident participation index
		Level of public interest participation	Community Volunteer Participation Index
	Habitat Planning Capacity	Land use function	employment-to-housing ratio
Level of land mix-use			
Habitat Planning Index		Intensity of land use	
		building density	

11.4	Community Cultural Facilities	Accessibility of cultural facilities	Accessibility of cultural facilities at the municipal level	
			Accessibility of community library	
		Cultural preservation facilities	Number of cultural preservation facilities	
		Diversity of cultural facilities	Cultural facilities diversity index	
	Community Cultural Vitality	Community Cultural Vitality		Number of cultural activities
				Diversity of cultural activities
			Internet comment heat	
11.5	Community Ecological Resilience	drainage and flood prevention	Regional vulnerability to flooding	
			Vegetation coverage	
	Community Safety resilience	Disaster prevention and emergency response	Residential fire emergency time	
			Emergency hours of the Public Security Police in residential areas	
			Ambulance services response time	
			Emergency response time	
	11.6	Environmental Pollution	Air and water	Air Quality (AQI) of sub-district
				Distribution of water quality in sub-district
			Environmental violations (last three years)	Level of environmental violations of exhaust gases
		Level of environmental violations in wastewater		
		Level of environmental violations for dust and solid waste		
		Sub-district Environment	Cleanness of sub-district	Distribution of trash and debris
Distribution of dirt				
Sense of	Level of environmental degradation			
		safety in the sub-district environment	Living atmosphere	
		Level of street comfort	Street Green Looking Ratio	
			Level of sub-district openness	
			Ventilation efficiency	
			Permeability along the street	
Ground floor openness and parking in sub-district				

11.7	Green Public Space	Natural Ecology Index	Green space per capita
			Open space size index
			Hydrophilicity
		Accessibility of Parks and Squares	Convenience of parks and squares
	Inclusiveness	Women and Child friendliness	Convenience of School-age education
			Convenience of maternal and child services
			Convenience of maternity and child hospitals
		Older person friendliness	Accessibility of elderly care facilities
		Health Inclusion	Accessibility of psychological clinics
			Accessibility of service stations for persons with disabilities
	Security	Public Security	Number of violent and vicious Crime cases per 1,000 people
			Number of public security cases per 1,000 people
			Crime safety Index
			Fire safety index
		Medical and Health Care	Medical safety Index
Health and safety Index			
Environmental safety Index			