Luoyang HP Talent Industry Zone Residential Project

Submitted By: China Building Technique Group Co., Ltd. (CBTGC)



Organization Profile

Organization Name: China Building Technique Group Co., Ltd. (CBTGC)

Organization Type: Private sector

Website: https://www.cbtgc.com/

Practice Details

Country(ies): China

City(ies): Yibin New District (Luoyang City)

Start Year: 2015 **Ongoing:** Yes **End Year:** N/A

Main Adequate Housing Components:



Housing Thematic Areas:

- Housing Rights & Social Inclusion
- Housing & Climate Mitigation
- Housing, Land & Spatial Planning
- Technology & Digital Solutions in Housing

Relevant SDGs:



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Problem & Context

Current policies primarily focus on the quantity of housing supply and construction standards, lacking incentives for quality factors such as livability, ecology and smart upgrades, leading to a gap between residential quality and actual needs.

1. The demand for elderly-friendly and barrier-free housing, driven by an aging population, smaller families and labor shortages, is not met by current housing designs and supporting services.
2. Residents are seeking more interaction with nature,but the existing residential space doesn't consider the facilities for family animal and plant care, and lacks green space.
3. With isolated smart product functions and fragmented user behavior,the development of digital homes and smart communities remains uncoordinated, lacking an integrated community service response mechanism.
4. The lack of coordination between planning and design and technology integration, high energy consumption and low utilization efficiency restrict the realization of carbon neutrality.

Solution Developed

The project proposes a comprehensive housing plan centered on 'mutual assistance, ecology, age-appropriateness, and intelligence.' The plan incorporates barrier-free universal design, benefiting diverse age groups and enhancing the living experience.

1. Services: Build a 'Comprehensive Property Service Center with an Embedded Elderly Service Complex,' leveraging a smart health and wellness platform to provide community services, create community shared spaces, and promote intergenerational support.
2. Space: Utilize techniques such as setback spaces and vertical greening, with barrier-free design throughout all areas; establish open spaces to facilitate interaction between nature, society, and people.
3. Technology: Integrate new technologies such as ground-source heat pumps, fresh air purification, greywater recycling, and photovoltaic power generation, complemented by same-floor drainage and prefabricated interior installations to promote energy recycling.
4. Intelligence: Monitor environmental indicators such as temperature, humidity, and air quality in real time, automatically adjust equipment, and create a comfortable environment.

Implementation

1. Build natural interaction from mountains and rivers to living room: realize the organic integration of architecture and nature through terraces and 3-dimensional greening;
2. Promote mutual assistance social interaction: Provide medical and nursing services based on the embedded elderly service complex, and improve the community service system;

3. Realize the recycling of energy: integrate the application of ground source heat pump, fresh air purification, water recycling, photovoltaic power generation and other technologies to build a stable and efficient clean energy supply system;
4. Intelligent operation management: Autonomous indoor climate control using real-time data to ensure a healthy and comfortable living environment.

The project was implemented under a "government-guided, enterprise-led, professional collaboration" model. The Luoyang Municipal Government provided land adjustment and policy support. CEC Huasoft Investment Group led the development, with planning and design by China Building Technique Group Co.,Ltd., and construction by China Railway Construction Group Co., Ltd. Luoyang CEC Galaxy Bay Property Management Co., Ltd. handles ongoing operations.

Planning approval was granted in 2015. Phase I construction and occupancy were completed in 2017, followed by the completion and handover of Phase II in 2022-2023. The total investment of approximately 1.3 billion RMB was secured through corporate self-financing and bank loans.

Enablers & Obstacles

The project aligns with the strategic direction of China's ecological civilization and digital civilization construction, with ecology and technology as its core concepts. It practices energy conservation and carbon reduction in residential construction, creating digital homes and smart communities, while local governments provide support in land adjustment and municipal infrastructure. Various professional teams ensure the effective implementation of the project, relying on a stable funding structure to guarantee its high-quality execution.

The integration of ecological technology brings cost pressure. The project scale procurement controls the incremental cost, and the technology premium is transformed into product value and market competitiveness.

In order to ensure the continuous operation of community services and build an embedded service complex for the elderly, the basic services are introduced and an intelligent service model is constructed based on the smart platform.

Results & Impact

The total construction area of this project is 304,300 square meters, with 1,069 households completed, benefiting 3,421 residents. It constructs a high-quality ecological community with a low floor area ratio of 1.11 and a green space ratio of over 40%. Recognized as a China National Healthy Living Demonstration Project, it integrates technologies such as ground-source heat pumps, reclaimed water reuse, and photovoltaic power generation systems, achieving over 30% energy efficiency improvement and a water-saving rate of 40%, promoting near-zero carbon operation in the community.

The project focuses on the livable health care of the elderly and the disabled group. Through the embedded elderly service complex, barrier-free space design and smart elderly care platform, it provides medical, rehabilitation and nursing services, and effectively realizes "aging in place".

The project has pioneered Luoyang's first eco-technological residential community with mutual assistance, creating a green interactive framework that seamlessly transitions from natural landscapes to living spaces. This initiative drives the transformation and development of local green construction industries, achieving mutual benefits for land appreciation and government-enterprise collaboration. By integrating energy-saving and low-carbon technologies, it establishes a near-zero-carbon regional circulation system, setting a new paradigm for the integration of ecological technology and residential living.

Replication & Scale Up

The core value of this project lies in its systematic solutions with high replicability and scalable potential. To achieve effective promotion, pilot projects should be implemented in cities with policy support, ecological conditions, and industrial chain infrastructure. Building on this foundation, we need to strengthen local recognition of green, low-carbon, elderly-friendly, and smart community concepts. By leveraging the synergistic effects of policies, standards, and funding, we can create replicable models that serve as practical blueprints.

To expand the project's impact, we should actively respond to China's "carbon peaking and carbon neutrality" strategy and the "Good Housing" initiative by integrating residential models into urban renewal and eco-demonstration zone development. This will create regional demonstration projects, enabling the transition from isolated prototypes to widespread implementation. Ultimately, this will drive the large-scale development of high-quality, eco-friendly, healthy, and smart residential communities.

Policy Uptake

This housing practice has informed or been partially integrated into policy discussions, strategies, or pilot-level policy instruments.

The "Embedded Elderly Service Complex" project is a demonstration initiative under the Ministry of Housing and Urban-Rural Development's research program titled "Key Technologies and Standards System for Age-Friendly Urban-Rural Community Development Guided by Public Service Infrastructure." As the fundamental unit of urban infrastructure, this project leverages smart elderly care platforms to deliver responsive services, providing essential support within the "five-minute living circle" and bridging the "last mile" in extending elderly care resources to grassroots communities.

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Lessons & Takeaways

Housing practices must be adapted to local conditions. We should expand service functions from "embedded elderly care" to community public spaces accessible to all age groups. Design concepts should evolve from basic accessibility to systematic universal design, enhancing project usability. Policy incentives should shift toward "holistic solutions", creating integrated demonstration models that combine social governance, market responsiveness, and spatial planning. This will help housing practices transition from "model cases" to "routine implementation".