

Co-creating Community Gardens: Bridging Design Education and Social Service to Promote Community Wellbeing

Meikang LI, Yuda HUO*

School of Design and Innovation, Shenzhen Technology University, Shenzhen 518118, China

*CORRESPONDING AUTHOR

Address: No. 3002 Lantian Rd., Pingshan District, Shenzhen 518118, Guangdong Province, China

Email: huoyuda@sztu.edu.cn

ABSTRACT

Community gardens play a pivotal role in promoting urban sustainability and enhancing residents' well-being. However, various challenges persist in their development, resulting in diverse governance structures tailored by local factors such as policies, budget constraints, participating organizations, and available resources. Since 2019, Shenzhen has piloted the "We Garden" program, which fosters public participation in co-discussing, co-constructing, co-managing, and co-sharing community gardens. Existing research on this innovative initiative primarily focuses on the roles of government, non-profit organizations, and local communities. This study offers a new perspective by examining the case in Pingshan District, where Shenzhen Technology University assumes a central role in facilitating public participation and providing design services for community garden projects. It also demonstrates how such initiatives can enrich design education by offering students practical, hands-on learning experiences. The case study provides valuable insights for other cities or regions, showcasing a distinctive model of governance structure for developing community garden projects that integrates social service with design education.

KEYWORDS

Community Garden; "We Garden" Program; Governance Structure; University; Public Participation; Design Education; Landscape Design

HIGHLIGHTS

- Demonstrates the university-driven academic and community engagement in community garden development
- The practice provides students with hands-on experience in design, project management, and social service
- Continuous involvement of students and faculty can foster lasting community ties and ongoing maintenance

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1 Introduction

In existing literature, the term "community garden" refers to the open spaces managed and operated by local community members, where food or flowers are cultivated^{[1]~[3]}. Community gardens are vital for promoting urban and societal sustainable development, offering various benefits such as enhanced community cohesion^[4], ecological knowledge dissemination^[5], healthy lifestyle^[6], as well as

the establishment of social capital^[7]. Despite these benefits, research has identified persistent challenges in developing and maintaining community gardens, emphasizing the significance of governance structures for the success of community gardens^[8].

In China, community gardens have emerged in larger cities like Beijing, Shanghai, Chengdu, and Shenzhen, and their development involves diverse stakeholders such as governmental institutions, neighborhood committees, non-profit organizations, design

companies, and universities. For example, Yuelai Liu et al. examined the practice in Shanghai and proposed “a four-level governance structure and three development approaches,” highlighting the roles of professional organizations, government, and community residents^{[9][10]}. Similarly, Xunyu Zhang et al. analyzed a case in Shenzhen’s Nanshan District, characterizing the governance model as a top-down paradigm, with public engagement driven by non-profit organizations^[11].

Prior research has largely focused on the roles of government, non-profit organization, and community. Many universities, such as Tongji University, Central Academy of Fine Arts, South China University of Technology, and Anhui University, have also actively participated in community garden construction. However, universities are typically viewed as supplementary resources, being conducive to only certain phases or individual projects^[8]. Few studies highlighted cases where university students act as principal agents for multiple community garden projects.

This article presents the practice by Shenzhen Technology University (STU), a young higher education institution, in several Community garden projects in Pingshan District, Shenzhen. The university played a pivotal role in driving public participation and delivering design services, providing insights into how universities can contribute to sustainable urban development through community engagement.

2 The “We Garden” Practice in Pingshan District

In 2019, Shenzhen government launched the “We Garden,” a pilot program aimed at encouraging the public to co-construct, co-manage, and co-share urban community gardens. By the

end of 2023, approximately 480 community gardens had been established across districts in Shenzhen^[12]. Governance structures of these community gardens vary based on local resources, including budget, public motivation, and professional involvement. For instance, the Yuanling Community Garden in Nanshan District, established in 2019, was entirely government-driven through its design, construction, management, and operational phases^[8]. Conversely, Xinyue Garden, also in Nanshan District and built in 2019, was initiated and operated by community residents with support from organizations such as Shenzhen Green Foundation, Shekou Community Foundation, Shenzhen DreamEcoLand (a landscape design company), and various governmental agencies.

Differing from Nanshan District that benefits from a wealth of professional resources due to its central location, Community gardens in Pingshan District face unique challenges. In the easternmost part of Shenzhen, Pingshan is a newly developed area still in the early stages of accumulating financial and professional resources. Although community gardens offer significant social benefits, their long investment cycles and low economic returns, as well as the high demand for public participation, make community garden construction and management particularly complex. High commuting and time costs further hinder collaboration with experienced design teams from districts like Nanshan and Longgang.

To address these challenges, the local government agency of Pingshan District, responsible for urban management and public services, leveraged local resources by collaborating with Shenzhen Pingshan Datong Social Work Service Center (“Datong Center” hereafter), a small non-profit organization, and STU. Together, they piloted eight gardens in 2023 (Fig. 1). Faculty and students from the



1. The eight pilot community gardens in Pingshan District.

School of Design and Innovation of this university served as project leaders, collaborating with multiple stakeholders such as subdistrict offices, community residents, and construction teams.

By the end of 2023, all the eight gardens were completed and opened to the public. The gardens received widespread community acclaim. Students expressed a profound sense of accomplishment, as articulated in one final report: “Seeing our projects come to life feels like a dream come true. Watching the smiles on residents’ faces brings immense happiness and highlights the value of the design profession.” The project also garnered international recognition, earning the Award of Excellence, 2024 ASLA Student Awards in the Student Community Service Category. This collaboration proved to be both practically effective and educationally impactful, offering a replicable model for integrating design education with community service in community garden development across other regions.

3 Incorporating Community Garden Projects Into Design Education

Incorporating community garden projects into the university curriculum provides a unique opportunity for students to apply academic knowledge in real-world contexts, significantly enriching their educational and professional development. However, this integration also poses several challenges.

One of the primary challenges is ensuring that community garden projects align with the academic goals and learning outcomes of the curriculum. After extensive faculty discussion, the community garden projects were embedded into a project-based course called “Project Work.” This signature course at the university emphasizes the practical application of skills and features a flexible class schedule, with final assessments based on students’ performance during the design process and the overall quality of the design outcomes. The course’s structure and pedagogical philosophy enable seamless integration of the community garden projects into the curriculum.

The community garden projects involved 22 final-year undergraduate students majoring in Environmental Design, who had already acquired the necessary design skills to tackle such a complex initiative. This course served as an ideal capstone experience before graduation. Among the students, 19 were from the Landscape Design track and 3 were from the Interior Design track. While their professional expertise was instrumental to the projects’ success, their leadership abilities, personal traits, and diverse interests further enhanced the creativity and richness of the designs.

Another challenge was managing the varying timelines of the community garden projects. Some gardens required

extended periods in the concept design phase due to extensive discussions, while others faced construction delays. To address this unpredictable timeline issue, instead of assigning each team to a single project, the students were divided into 4 groups, with each group responsible for two projects (Table 1). This structure allowed students to manage their time more effectively based on differing project schedules. Additionally, it provided a valuable learning experience by exposing students to a range of project types and fostering their teamwork skills.

Each team elected a leader tasked with summarizing the project progress weekly. This organizational structure mirrored that of real design firms, where concurrent management of multiple projects is common and navigating uncertainties is a critical skill (Fig. 2). This approach provides a practical opportunity for the students, helping them develop essential competencies such as time management, coordination, and leadership.

4 The Collaborative and University-driven Governance Structure Model

The governance structure model for the community garden projects in Pingshan District represents a collaborative, university-

Table 1: Basic information of community garden projects

Student Group	Garden's Name	Subdistrict	Area (m ²)	Location
Group 1	Sky Garden	Longtian	580	On the rooftop of a kindergarten building
	Sports Garden	Maluan	2,080	Adjacent to a subway station and an apartment complex
Group 2	Creek Garden	Longtian	432	Within a kindergarten
	Vitality Garden	Pingshan	645	Adjacent to an urban village
Group 3	Pear Garden	Pingshan	440	Adjacent to an urban village
	Ripple Garden	Biling	1,900	Within an apartment complex
Group 4	Cloud Garden	Biling	1,000	Adjacent to an apartment complex
	Elf Garden	Shijing	490	Within a kindergarten



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2. Student groups working as a design firm.
3. The university-driven approach and the roles of stakeholders.
4. Field studies and interviews.
5. Participatory design workshops.

driven approach. It integrates the efforts by multiple stakeholders, including governmental agencies, a non-profit organization, community residents, and construction teams. STU played a pivotal role throughout the entire process—from site selection and design to construction, maintenance, and post-occupancy evaluation. Figure 3 outlines the step-by-step progression of the projects, highlighting the contributions of each participant.

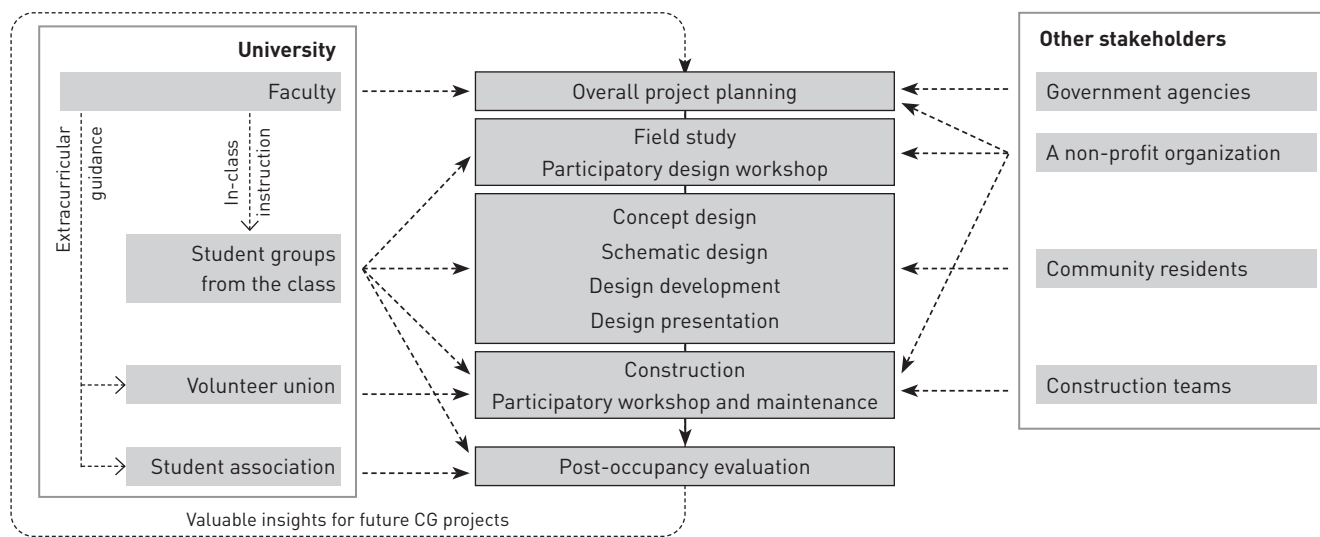
During the planning phase, the Pingshan District government, subdistrict offices, and Datong Center spearheaded efforts to publicize the community garden program via social media. Faculty from STU participated in site selection meetings to ensure that the chosen locations aligned with the intended programs and

potential future uses.

Once the site selections were confirmed, faculty provided students with preliminary information about each location and assigned the sites to student design groups. The students conducted site study and interviewed potential stakeholders of the community gardens, especially the users (Fig. 4). These field studies increased local awareness of the “We Garden” program, fostering interest among residents and creating a strong foundation for their involvement in subsequent participatory design workshops.

After collecting sufficient data of site conditions and residents’ initial opinions, the students began designing and organizing the participatory design workshops. With the support from Datong Center, the students secured venues such as kindergartens or community service centers for these workshops. The workshops served as a platform for community residents to actively engage in the design process, allowing them to share their ideas, preferences, and concerns (Fig. 5).

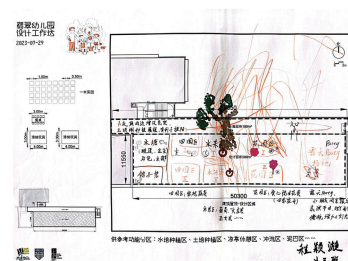
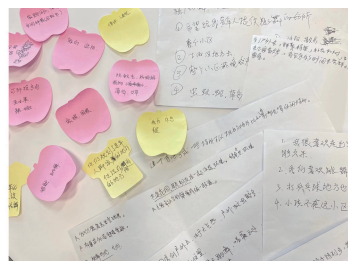
Throughout the design phase, students maintained close communication with the local community, synthesizing input from the workshops and applying their design expertise to create tailored solutions (Fig. 6). The design process involved multiple rounds of presentations, where students received feedback from faculty,



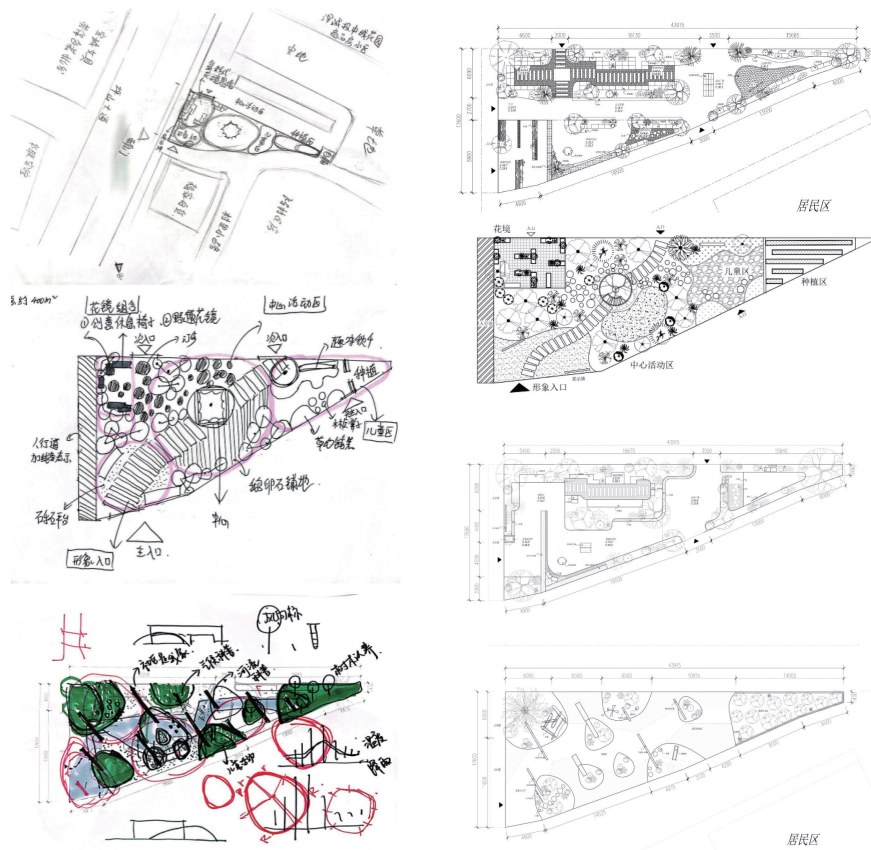
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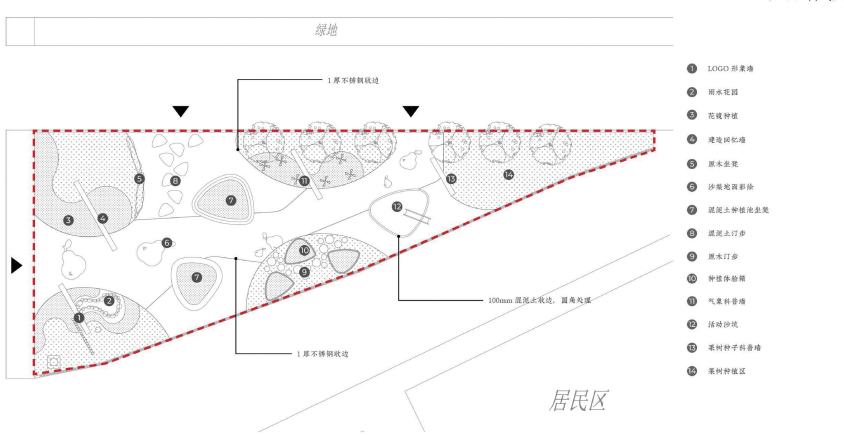
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6. Examples of concept sketches and developed final design.
7. Students' volunteer activities.
8. Post-occupancy evaluation.

community residents, and other stakeholders. Through these discussions, they collaboratively refined the design, progressing from the conceptual phase to the schematic design phase, and ultimately advancing to the design development drawings for future coordination with construction teams.

During the construction phase, the volunteer union of the university provided additional support by organizing volunteer

activities, attracting students from various grades and majors to participate in tasks such as wall painting, brick laying, and flower planting. These activities not only offered students hands-on experience but also allowed them to earn volunteer hour credits as part of their social service commitments (Fig. 7). The volunteer union's involvement is expected to continue in the long term, supporting garden maintenance and further fostering community well-being.

Finally, students returned to the completed gardens for post-occupancy evaluation. These evaluations involved observing how the community gardens were utilized by the community, gathering resident's feedback, and assessing the projects' success in meeting initial goals (Fig. 8). The findings from these evaluations ensure that the gardens can adapt to evolving community needs and provide valuable insights for future community garden projects.

5 Conclusions and Outlook

The governance structure model of the community garden projects stands out from other approaches by positioning the university at the



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core of the process, rather than as a supplementary participant. By leveraging local resources and aligning with the educational objectives, the model creates significant social value, offering students a comprehensive learning experience that spans design, community engagement, project management, and practical implementation.

Moreover, through participation in the community garden projects, many students developed new interests in fields like nature education, graphic design, and participatory design research. A key outcome was the formation of a student association in 2024, dedicated to community garden construction. Supported by the school, the association attracted students who volunteered their time to contribute beyond class schedules. As student engagement grows, a more systematic and sustainable operational model is emerging, ensuring the long-term success and impact of these projects.

Furthermore, the university's ongoing role as a primary stakeholder ensures the continuous maintenance and sustainability of the community gardens in Pingshan District. This long-term commitment to upkeep is often overlooked in other models, which typically emphasize the initial design and construction phases rather than sustained care. The continuous collaboration between students, faculty, community residents, and other stakeholders fosters social capital, making this model particularly effective in building lasting community ties.

In summary, the community gardens serve as a valuable resource for both educational and practical purposes, creating a win-win scenario for both the university and the community. By building trust-based relationships and encouraging sustained community participation, this model ensures that community gardens will thrive lastingly beyond their initial creation. It also provides a blueprint for similar initiatives in other regions, demonstrating the potential of university-driven, collaborative governance in promoting sustainable community development.

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共建社区花园： 提升社区福祉的设计教育与社会服务融合实践

李梅康，霍裕达*

深圳技术大学创意设计学院，深圳 518118

*通讯作者

地址：广东省深圳市坪山区兰田路3002号

邮编：518118

邮箱：huoyuda@sztu.edu.cn

摘要

社区花园在促进城市可持续发展和提升居民福祉方面发挥着重要作用。然而，其发展过程仍面临诸多挑战，这促使多种基于当地政策、预算条件、参与组织和可用资源等地因素的治理结构应运而生。深圳市自2019年启动了“共建花园”计划，倡导“共商、共建、共治、共享”的建设模式。现有研究主要关注政府、非营利组织和地方社区在这一创新性计划中的角色，而关于讨论大学作为核心推动者的研究则较为稀缺。

本文通过对深圳市坪山区共建花园的案例研究，提供了新的视角，展示了深圳技术大学如何在促进公众参与和提供社区花园项目设计服务中发挥核心作用。具体而言，文章系统阐述了学校与政府、非营利组织和社区居民的协作机制，涵盖了从前期的场地调研、设计方案的共创，到社区花园建设和后期使用评估的全过程。文章不仅强调了学生和教师在社区花园项目中的具体贡献，还讨论了这种“大学主导、协同共建”的治理模式如何克服人力和资源有限的困境。

此外，研究进一步探讨了社区花园项目在设计教育中的独特价值。学生通过实际参与社区花园的全流程设计，锻炼了包括设计、沟通、组织和领导在内的综合素质能力。这种教育模式深化了理论与实践结合的方法和意义，帮助学生树立了具有社会责任感和使命感的职业观、价值观。研究结果为其他城市或地区提供了宝贵的经验，呈现了一种将社会服务与设计教育相结合的独特社区花园治理结构模式。该模式不仅丰富了城市公共空间的运营方式，也为未来大学如何深度参与社区建设提供了新思路。

关键词

社区花园；“共建花园”计划；协同治理结构；大学；公众参与；设计教育；景观设计

文章亮点

- 展示了社区花园建设实践中由大学主导的学术与社区参与相结合的模式
- 该实践锻炼了学生在设计、项目管理和社区服务等方面的综合素质能力
- 持续的师生参与能够促进社区关系的长期发展和社区花园的持续维护

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