

Chapter 9

From Prescription to Adaptation in the Future Productive City: Classroom-Inspired Principles for Design and Planning of Urban Agriculture



Deni Ruggeri

9.1 Relevance

Over the past few decades, urban agriculture has become a go-to strategy for sustainable development. Indeed, urban agriculture can potentially induce innumerable positive consequences on several urban systems (Wadumestrige Dona et al., 2021; Lovell, 2010). A new vision is emerging of a city built around publicly accessible, productive landscapes disseminated across the urban fabric and integrated into an interconnected blue-green infrastructure that helps detain water, sequester CO₂, increase biodiversity, activate biophilia, and enhance well-being for human and nonhuman species (Palmer, 2018; Beatley, 2011). Whereas the city of the Modern era privileged efficiency, fast mobility, and the exploitation of natural resources and land, the biophilic, ecologically vibrant city of the future will help deepen humans' connections to the local landscape and encourage stewardship and care while balancing the human needs for housing, jobs, and cultural life with those of nature (Beatley, 2016).

The extent and quantity of benefits urban agriculture produces is a question that researchers have only begun to scratch the surface of. In measuring these benefits, some have emphasized yield over experience (McDougall et al., 2019). Researchers agree that urban agriculture may not significantly impact the food security of the world's urban population, especially in Northern Climates (Goldstein et al., 2016). Others have illustrated the socio-ecological benefits of urban agriculture for ecosystems and communities, where urban agriculture can serve as a tool to connect children and adults to nature and thus reduce their ecoliteracy and experience deficit (Louv, 2012) and instigate new forms of socialization and construction of a shared identity (Ruggeri, 2018). Urban agriculture has allowed marginalized, fragile

D. Ruggeri (✉)

Department of Plant Science and Landscape Architecture, University of Maryland,
College Park, MD, USA

e-mail: drugeri@umd.edu

© The Author(s) 2024

B. Sirowy, D. Ruggeri (eds.), *Urban Agriculture in Public Space*, GeoJournal
Library 132, https://doi.org/10.1007/978-3-031-41550-0_9

199

communities to reclaim their right to landscape, repair environmental injustices (Alomar, 2018) and practice landscape democracy (Egoz, 2018). This entitlement goes beyond the mere possibility of accessing and experiencing the landscape. It includes the opportunity to participate in new practices of democratic life, cultivate and activate human capabilities, and empower all individuals to reach their full potential (Nussbaum, 2011).

While urban agriculture's positives vastly outweigh its negatives ensuring that it unleashes its full benefits is a challenge for designers, planners, and organizers. Actual conflict exists between densification, a necessity for a sustainable city, and the demands for easily accessible open spaces to grow food and community. Studies show that greater residential densities harm the quantity and quality of our cities' public realm (Murphy et al., 2022; Lin et al., 2015). Urban agriculture's long history as a tool for social justice, empowerment, community redevelopment, and reparation continues to be alive and thrive in many contemporary urban agriculture sites, particularly those in marginalized communities (Lawson, 2005). Urban agriculture is expanding into place and culturally-informed practices that restore and construct identities, celebrate diversity, and serve as arenas for the practice of democratic life (Hou, 2017). This is not without challenges, as this identity-affirming role might conflict with the prescriptive, top-down, and place-neutral policies and planning efforts around the idea of a compact city (Abelman et al., 2022). Similarly, a 'critical geography' of urban agriculture is emerging (Chap. 13; Tornaghi, 2014), which challenges the creativity, cultural sensitivity, and agency of all involved by questioning the benevolent image of a practice that may be contributing to socioeconomic inequalities, gentrification, and caters to mainstream lifestyles and aesthetics over the real needs of the working poor, differently abled and marginalized (Reynolds, 2017). Urban agriculture is not immune to conflict, and that is particularly true in public space, where the interests of farmers may be at odds with those of the nearby residents and occasional users. Urban agriculture may sometimes public access. Designing urban agriculture spaces that serve as common ground for the daily negotiation and renegotiation of individual and public claims will be a critical factor in their long-term resilience and strength as food and community-building systems (see Chap. 4 in this volume).

9.1.1 Urban Agriculture in Public Space: Technique Versus Experiences?

Urban agriculture's idiosyncratic, far-reaching impacts on human and ecological systems make it a 'wicked problem' that defies standardized solutions and replicable strategies (Rittel & Webber, 1974). Yet, designers' and planners' responses have

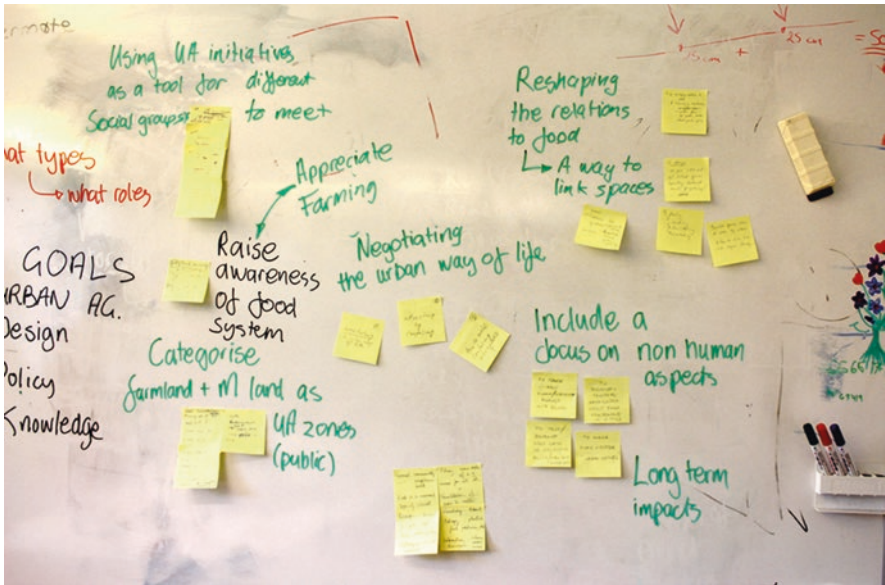


Fig. 9.1 The multifaceted nature of urban agriculture in compact-city development emerged from a brainstorming by the Cultivating Public Space project participants (image by the author)

been simplistic, envisioning an urban agriculture made of small, individual plots of land, rather than a system of city landscapes collective food production. At the onset of the, the Cultivating Public Space (CPS) project partners discussed at length how to integrate urban agriculture into everyday life starting with the city’s public spaces (Fig. 9.1). They made recurring references to the monotony and pervasiveness of the planter box, which became a metaphor for the tension between urban agriculture as a standardized, uniformly distributed function in the urban landscape—from rooftops to balconies, from vacant lots to utility easements, from inner courtyards to semipublic commercial spaces—and urban agriculture as a retrofit and adaptation of public space to renew social bonds or construct new shared identities across socioeconomic and cultural divides.

9.1.2 Cultivating Public Space Through a Critical Pedagogy

The CPS project wanted to engage students as partners in action research and discussed at length the kinds of experiences and knowledge needed to design and plan for urban agriculture that could advance systemic change across as many of the 17 United Nations Sustainable Development Goals (UNSDGs) as possible (United

Nations General Assembly, 2015). Framed as a Participatory Action Research effort, the CPS project sought to tackle many of the above issues through a partnership between academia, nonprofits, and the public. By engaging students in their research, CPS partners and researchers wanted them to experience a critical pedagogy by questioning personal and professional biases and assumptions as tools for domination (Reynolds, 2017, 55) and letting them imagine how future urban agriculture could help heal past injustice and cultivate democratic discourse and social equity.

This chapter reflects on a few pilot educational experiences for which the author served as main or co-instructor, deliberately crafted to explore the CPS research goals and questions through a design-as-research process. The first pilot course was a studio taught in 2017 for landscape architecture master's students at the Norwegian University of Life Science (NMBU), entitled "*LAA341, the Urban Landscape as a Social Arena.*" This was followed in the Fall of 2019 and Winter of 2020 by a continuing education course targeting activists, professionals, and policymakers interested in urban agriculture. After joining the University of Maryland in 2022, the CPS project theories, practices, and findings were integrated into "*LARC151 Designing Transformative, Productive Urban Agriculture Landscapes*" a general education course offered in the Spring and Fall of 2022 and LARC748, a landscape architecture capstone studio for third-year graduate students. Collectively, these education-based case studies offer a unique window into the evolution of urban agriculture and its adaptation to the unique socio-cultural and ecological contexts.

9.1.3 Pedagogical Questions

How can resilience and landscape democracy-affirming urban agriculture be better integrated into the city's public realm? What unique strengths, weaknesses, opportunities, and threats can those designing, planning, implementing, and managing these productive spaces leverage for positive change? How transferable might urban agriculture models be across urban environments and types of communities? And what practices, strategies, and tactics may be needed to ensure that urban agriculture sites are ready to improve the lives, health, and personal capacities of the individuals they touch? The students and the perspectives of the communities they partnered with in their education shed light on many of these questions and helped test the relevance of the academic reflections and theories guiding the work of the CPS partners. Through the students' interactions with urban farmers, it became clear that no urban agriculture site in public space could be successful without a meaningful integration and celebration of the uniqueness and specificity of each locale. Rather than a universal toolbox for urban agriculture, the students translated what they learned into design principles, strategies, actions of spatial, sociocultural, and ecological landscape transformations communicated in the form of richly-illustrated stories of change and adaptation.

9.2 Case Studies

9.2.1 Case Study 1: LAA341: Urban Agriculture as a Social Arena for New Citizenry

In Fall 2017, the CPS project inspired 11 landscape architecture graduate students to enroll in “LAA341-The Urban Landscape as a Social Arena”, a design studio for master’s students at the Norwegian University of Life Sciences (NMBU). Over 17 weeks, they would partner with the urban agriculture community of Losæter in Oslo to help shift perceptions and physical barriers that keep lower-income families of the nearby neighborhood of Gamle Oslo (Old Oslo) from participating in its activities. Losæter is a 4.6-acre site above a large tunnel built in 2010 to bury a freeway and re-connect the city to its waterfront. The southern access to the tunnel featured a large opening in the ground and two tall concrete ventilation shafts. At the base was a ruderal space that a small community of artists, led by local activist Beate Hovind, began to occupy in 2012 with the vision to make it a hub for artistic expression, biophilia, healing, and food production (Fig. 9.2).



Fig. 9.2 LAA341 students in Losæter’s baking house, listening to Beate Hovind’s stories about the project’s roots (image by the author)

NMBU students began with a deep listening activity that involved Losæter’s variegated communities of practice: the Future Farmers Flatbread Society/baking house users, early-dementia patients, elementary school children, and immigrant women enrolled in a language course. NMBU students co-created a metaphorical “recipe” for the future of Losæter as an educational, health, and community-building neighborhood open space. They argued for a change in the city’s plans to replace Losæter with a traditional public park, advocating that its permanence would provide a much-needed place for an evolving and adaptable commons to become a sacred space for the new and old citizenry.

The participatory process involved an inventory of landscape and community assets, resources, and shortcomings, and an extensive phase of listening to the many stories of self (Ganz, 2011) connected to Losæter. The students heard about the 2001 temporary art installation that planted the first seed and the other meaningful milestones in its evolution to what Losæter is today (Fig. 9.3). In the focus groups and interviews, they learned about the Flatbread Society. With the opening of an outdoor baking oven, this community of practice could link to the immigrant groups, using the metaphor of the flatbread as a shared platform to bring together Norwegian and foreign residents in a celebration of bread. This work also set the foundation for a series of cultural events, like the 2015 procession that brought soils from across Norway to the garden, and the construction of the public Baking House in 2016. Co-creating a timeline of the core story of Losæter was the opportunity to reveal and celebrate its living history. It was a much-needed moment of awareness that this story would need to become co-owned to be resilient and harness its full potential as a transformative landscape.

The resulting “recipe” for a more inclusive Losæter sought to remove physical and perceptual barriers to the site. It imagined safer pedestrian connections from Gamle Oslo to the waterfront, the reuse of an unused viaduct as a linear urban agriculture space, and a new streetscape designed to slow traffic and allow animals and humans to reach the sea easily. As to the site, an expanded and redesigned Losæter

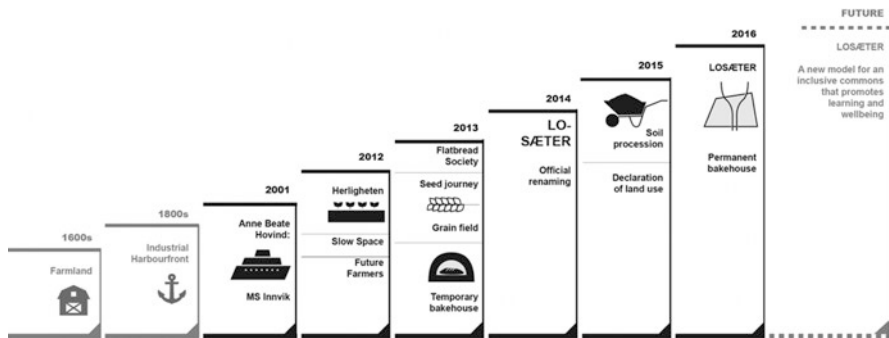


Fig. 9.3 Co-creating a timeline of the core story of Losæter was the opportunity to make all users a part of its living history project (Image by Åse Holte, Kristin Sunde, Kjersti Børve Skjelbreid, Andrea Haave Jenssen, Maren Helgerud Gynnild, Hanne Tveter Åmdal, Betina Øvstaas Amundsen, Martha Kvalheim, Annie Hedger, and Thomas Crowe)

would offer more affordances for passive recreation, environmental education, and healing. The site would also extend into the Oslo Fjord, with floating gardens as stepping stones for biodiversity and pollinator-friendly habitats.

9.2.2 Case Study 2: SEVU Continuing Education: Making Urban Agriculture Between Policy and Practice

The second educational experience from the CPS project activities was a continuing education course offered through NMBU's Center for Continuing Education (SEVU). The post-professional course open to planners, designers, activists, and lifelong learners enlisted CPS project partner Arild Eriksen and the author as instructors of an intense hybrid course, during which students worked collaboratively through remote and in-person group activities to co-create a vision of how urban agriculture functions may be integrated into five notable sites in central Oslo: the vacant land situated in the waterfront development area known as Sukkerbiten, the Royal Palace Garden, the Tullinløkka urban void, and the mixed-use district of Vollebekk.

Students attended three weekend-long intense workshop sessions, supplemented with online lectures by international experts in landscape architecture, ecology, planning, and development and by CPS partners (Fig. 9.4). Field trips took students

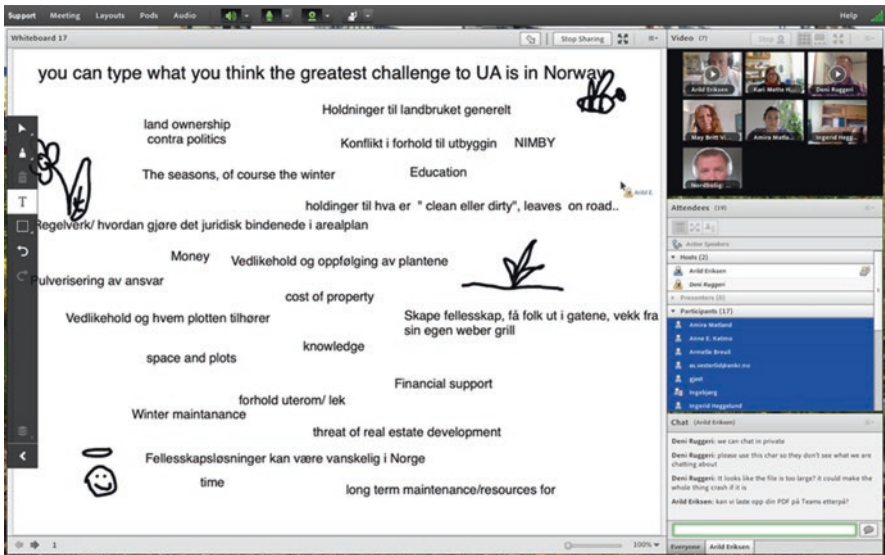


Fig. 9.4 The 2019-2020 SEVU Continuing Education course at NMBU was a hybrid class involving lectures by project partners and urban agriculture experts, interactive online sessions, and in-person workshops (image by the author)

to urban agriculture sites in the Oslo region and helped them reflect on the similarities and uniqueness of each community. Throughout the course, they were to collaborate in analyzing, synthesizing, conceptualizing, and co-designing urban agriculture interventions that would challenge the status quo and offer new suggestions to policymakers and city planners as to the productive functions they could introduce into the existing public urban spaces of the city functions typically relegated to private or semi-private spaces.

During the course, students formed interdisciplinary teams to develop strategies for urban agriculture integration in the Oslo city center public spaces. Rather than a kit-of-parts, four typologies of urban agriculture emerged from the engagement of post-professional learners. Their vision for the Royal Palace Park, “At the King’s Table,” re-imagined this iconic cultural landscape to showcase Norway’s tangible and intangible agricultural heritage and the contemporary city’s needs for greater environmental sustainability and multiculturalism. The students, with their diverse backgrounds as municipal planners, designers, activists, and public servants, brought innovative ideas to the table. They imagined the zoning of urban public spaces and cultural landscapes based on their heritage value, visibility, and potential for eco-literacy and education (Fig. 9.5). Their vision transformed the Tullinløkka site from a void in the historic city fabric into a technologically-advanced recycling, re-use, soil, and energy production center, with interconnected living machines to process wastewater. On the east side of Oslo, one of the teams proposed an eco-district with housing, parking, and commercial uses integrated into



Fig. 9.5 In the vision of one of the continuing education student teams, entitled “At the King’s Table”, the Oslo Royal Palace Park became a case study for a policy instrument to guide the integration of urban agriculture in cultural landscapes (image by the author)

south-facing, energy-efficient buildings designed to maximize sun exposure and private terraces, and shared plots for the neophytes and less abled in public space. Another team offered a new vision for Sukkerbitten, the only vacant site along the Oslo waterfront as a public ‘Commons’ integrating wetlands, edible forests, and a rich ecotone for plants, fish, and other species. They described it as a nonjudgmental space where everyone could find shelter from the rain available without a charge.

9.2.3 Case Study 3: Designing Transformative, Productive Urban Agriculture Landscapes

In the Spring and Fall of 2022, at the University of Maryland, the author had the opportunity to design an “I” series course LARC151 “*Urban Agriculture: Designing Transformative, Productive Landscapes*.” “I” series courses are intended to be experimental and applied to real-life, wicked problems to prepare students to engage with ambiguity, uncertainty, and change. Course enrollment is open to university students in any major. In designing the course, many of the experiences and knowledge created within the CPS project—readings, remote lectures, and case studies—were folded into the syllabus and assignments. Over two semesters, 200 LARC151 students were encouraged to become citizen scientists and agents of sustainable change by envisioning design transformations for existing urban agriculture sites in Washington, DC, and Baltimore, Maryland.

LARC151 students began exploring their chosen urban agriculture community through site visits, research, interviews and participant-observation. One of the biweekly course meetings was devoted to workshops during which students formed groups to discuss a topic, brainstorm an idea, and share knowledge. They also attended a weekly section where teaching assistants offered guidance and inspiration to perform seven assignments, which would collectively merge into a landscape plan to add greater sustainability and strengthen their resilience in the face of uncertainty. The 17 United Nations Sustainable Development Goals provided a foundation for the student’s work, beginning with crafting a personal “manifesto” to visually represent their visions for urban agriculture’s future. The course included a site inventory and mapping phase, where students represented the physical infrastructure, social life networks, and community resources. This information was then used for a strategic SWOT analysis, leveraging their unique strengths and external opportunities against weaknesses and threats. The students also engaged in power mapping, critically examining disparities in resources and opportunity within society, and brainstormed new partnerships that could challenge these disparities by redistributing power to grassroots and community-based organizations. They were encouraged to integrate strategies from international case studies selected from those studied by CPS researchers. These efforts culminated in an equation of change (Cady et al., 2014) a model that envisioned a future scenario based on a series of strategic actions (Fig. 9.6).

A critical discussion within the course revolved around failure and adaptation. The class began with viewing a video telling the story of the South-Central Farm, a

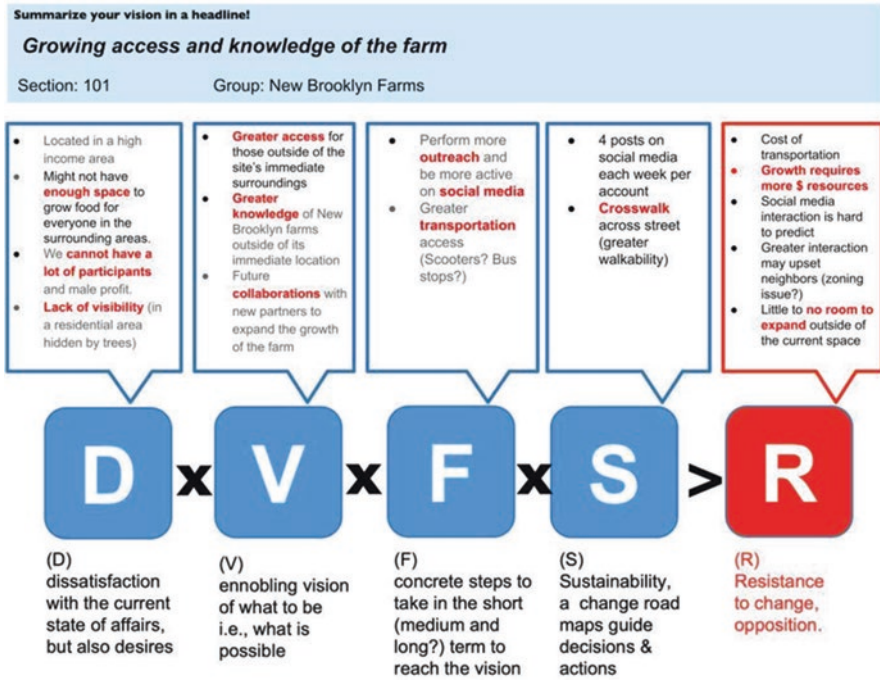


Fig. 9.6 Envisioning the future of a landscape is no small feat; it requires strategic, purposeful action and vision. The Equation of Change helped students imagine change as the interplay of dissatisfactions (D), vision (V), first steps (F), and sustainability (S) against resistance (R) (image by the author)

15-acre urban agriculture site in Los Angeles established in 1994 and demolished in 2006 among the protests of residents and environmental activists. During the first week of the course, the class engaged in a post-mortem assessment and reflection of what went wrong for this specific urban agriculture community. Still, it reflected on the transiency and impermanence of these landscapes. One of the communities they partnered with was Temperance Alley, a temporary community garden established in 2020 on a ¼ acre vacant lot in the U Street/ Cardoso neighborhood through a collaboration between the U Street Neighborhood Association, University of Maryland (UMD) students, and other local partners in Washington, DC (Fig. 9.7). Through their interactions with Temperance Alley founders and urban agriculture activists Josh Morin and Aaron Lewis, they were encouraged to think beyond present conditions and accept the temporary nature of the site, and imagine a strategy that would allow to re-locate the garden’s pollination and community-building functions to the neighborhood’s rooftops, vacant spaces, and rights-of-way at the end of their lease.



Fig. 9.7 LARC151 included many opportunities to engage the experience of urban farmers. Among them are Josh Morin and Aaron Lewis of Temperance Alley in Washington, DC, a temporary urban farm that grows food and community (image by the author)

9.2.4 Case Study 4: Plantation Park Heights: From Urban Agriculture to the Agrihood

During the Fall of 2022, the “LARC748 Capstone Studio” at the University of Maryland involved third-year Landscape Architecture graduate students in co-designing and prototyping an *Agrihood* for the Park Heights neighborhood of Baltimore. The urban farm, called Plantation Park Heights (PPH) leases and owns two acres of land, divided into four plots. Park Heights is a neighborhood undergoing a slow but tangible transition from decline to regeneration. In the vision of its founder, Richard Francis (known in the city as Farmer Chippy), the *Agrihood* would use food production to build human capacity, job security, and a virtuous circular economy within a nonjudgmental new public space. Through day-to-day food production, weekly farmers markets (Fig. 9.8), and the distribution of community-supported agriculture (CSA) boxes to hundreds of families on food aid, the *Agrihood* would attract the youth and inspire in their landscape and community stewardship.

Plantation Park Heights’ name references Baltimore’s history of racial segregation, social injustices, and neglect. Rather than continuing to adhere to models of community that did not fit the needs of his Trinidadian American community, (Farmer Chippy) Francis wanted to create a new place that would empower the human capabilities of younger generations by exposing them to culturally and



Fig. 9.8 Plantation Park Heights volunteers prepare for the traditional Saturday Farmers' Market, with booths selling spices, veggies, fried shark, and a basil team, part of the Trinidadian gastronomic heritage (image by the author)

experientially rich urban farming activities as a low-threshold entrée into the responsibilities of community life. He also wanted to reclaim the identity and ethnic roots of many residents in Caribbean culture, choosing to grow staple foods, spices, and flavors that would connect them to their original homeland. At their weekly Farmer's Markets, fried shark and fish peppers¹ became opportunities to rediscover long-forgotten traditions that could be re-integrated and woven into a new story to guide the site's future.

Through their direct engagement with the PPH community, landscape architecture students understood the need to think beyond traditional urban agriculture aesthetics and definitions. They also understood the need for participation to be driven and negotiated with them rather than imposed by the needs of academia. While picking peppers, they listened to their stories, and learned firsthand about PPH's challenges, its successes, and their future visions (Fig. 9.9). University of Maryland students went beyond the need to be sustainable by asking their designs to perform across a range of UNSDGs. To do so, they looked for help in transdisciplinarity by researching and incorporating strategies borrowed from across many fields—organic farming, food science, planning, community development, energy, and health, to mention a few and see their designs as accountable to changes in ecology, community, and livability. To communicate the potential synergies in benefits, a group of students produced a

¹This site discusses the Fish Pepper's centrality in the lives of enslaved communities in North America and beyond. <https://www.preservationmaryland.org/maryland-food-history-the-fish-pepper/>



Fig. 9.9 While picking peppers, landscape architecture students learned about the fish pepper, a staple food in the Baltimore African American community (image by the author)

pattern language of physical and socio-ecological transformations in the long-, medium-, and short-term. In contrast, others sought to translate these patterns into interventions to improve PPH’s circular economy, making their new visions accountable to concrete stormwater management, biodiversity, health, and livability benefits.

9.3 Discussion: From One Toolbox to Six Emergent Principles for Future Urban Agriculture

To some designers and planners, it feels empowering to think of people-in-place practices like urban agriculture as a series of cause/effect relations that can be shaped or altered by design to achieve certain behaviors. Yet in the classroom experiences described earlier, as in daily work of the urban farmers they collaborated with, the students learned that growing food and community is a wicked problem that defies standardized, sectorial, or piecemeal solutions, and requires activation and education. Programmatic elements and objects are only affordances that require peoples awareness of their benefits, require investment, and stewardship to continue to perform their magic (Fig. 9.10).

In the intent of the CPS project partners, students would translate their research scientific findings into a toolbox of physical designs that would illustrate how to better integrate urban agriculture into the public realm of Norwegian and other world cities. It was enlightening and humbling for students and researchers to partner with existing urban agriculture communities and to listen to their stories

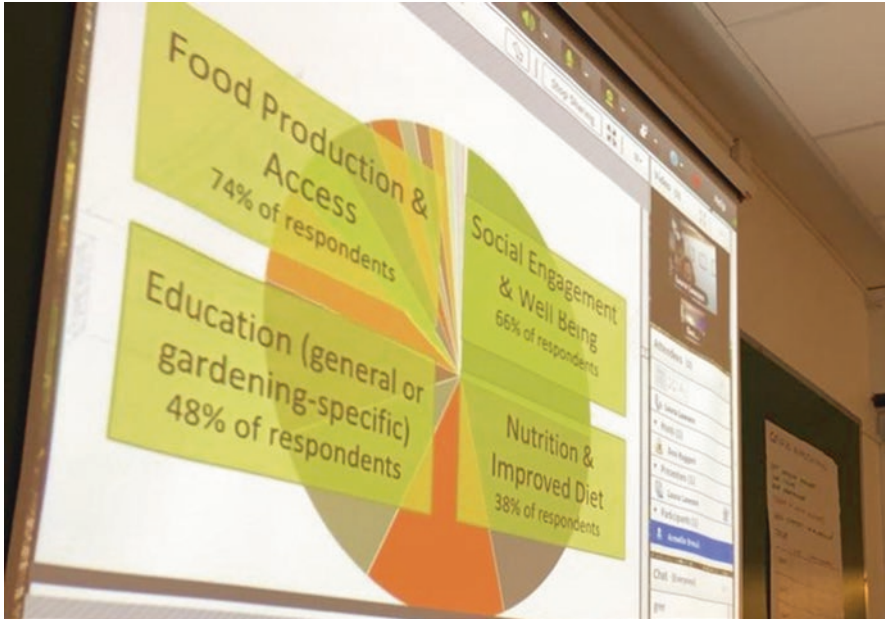


Fig. 9.10 Laura Lawson, Dean of the School of Agriculture at Rutgers University shared her reflections on the perceived benefits of urban agriculture from the point of view of underserved communities (image by the author)

of success, failure, persistence, and hard work. They understood that a thriving urban agriculture needs to be rooted in individual and shared stories of the unique circumstances of their creation. The narratives and values they discovered while engaging with urban farmers taught them that in addition to yielding food, urban agriculture sites are grounds for resolution of conflicting visions of sustainable and resilient change, the cultivation of new shared identities, and the promotion of collective stewardship. Rather than offering a transferable toolkit, this chapter reflects on a few emergent principles that can guide future urban agriculture projects in public space, serving as a point of departure or contrast for future research and practice.

9.3.1 Principle 1: Urban Agriculture Is a Multidimensional Ecology of Actions and Counteractions

They endeavored to impact as many sustainability goals as possible by leveraging synergies and imagining cross-systemic changes. Linking their work to the UNSDGs, the students strived to make their designs accountable to more than just creativity and intuition. Connecting the classroom to the transdisciplinary work of

nonprofits and start-ups involved in implementing the same goals leads to mutually beneficial opportunities to learn from each other. It leads to innovative, out-of-the-box thinking and solutions. An essential contribution to education came from the CPS project’s extensive documentation of Norwegian and international case studies, which served as a source of inspiration and reflection for students’ visions.

Implementing and sustaining the transformations that the UNSDGs demand requires permeating urban agriculture processes in people’s lives and the spaces where their stories unfold. These systemic changes required students to think beyond the physical infrastructure and design the flows of energy, money, and resources needed to activate them. Designing these flows required being strategic about which ones to prioritize and be involved in to achieve the changes desired by the community (Fig. 9.11). To synthesize their knowledge of their chosen urban agriculture sites, students developed a SWOT (strengths, weaknesses, opportunities, and threats) analysis to select which strengths and opportunities they would tackle in counteracting weaknesses and strategize against external threats. Power maps helped them be tactical in identifying which processes to target in their visions and which partners to involve.

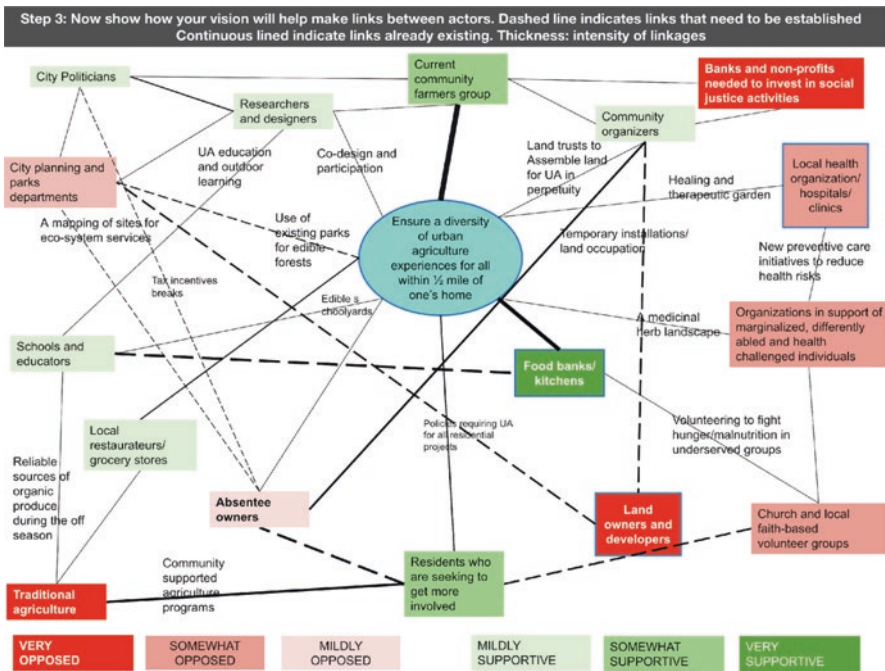


Fig. 9.11 Power mapping helps us identify processes having the greatest potential to achieve the changes needed to fully make urban agriculture benefit society (image by the author)

9.3.2 *Principle 2: Successful Urban Agriculture Demands Bountiful Partnerships and Cooperation*

No single source of knowledge can fully capture the multitude of considerations, dimensions, and scales involved in designing for transformative urban agriculture. For designers, this means being open and prepared to engage across fields of knowledge, professionalism, and value systems and to be transformed by this engagement. During day-long project meetings, Cultivating Public Space project partners explored urban agriculture sites and invited representatives of community organizations and nonprofits, private citizens, and public officials to join the discussion and add their perspectives. The stories we heard were documented, and served well the students, giving them a view from the inside of the challenges each community face as it seeks to reclaim their public spaces for food and community production.

Yet, if we think of urban agriculture's future, we must continue operating to ensure its presence in our cities is visible and felt. For urban agriculture to perform its full cultural and eco-systemic benefits, all kinds of landscapes should be included in the city's green infrastructure (Fig. 9.12). This means starting with public landscapes but eventually expanding to include private spaces and rooftops like the "Tak for Maten" rooftop garden created by CPS project partner Nabolagshager.² Traditional farmers also have a role to play by reducing their ecological footprint, water



Fig. 9.12 This signage directs visitors to the Oslo center to the city's growingly productive urban landscapes from edible schoolyards to the entire waterfront (image by the author)

²The "Tak for Maten" was created by the Oslo nonprofit Nabolagshager (www.nabolagshager.no)

consumption, and transportation costs and supplementing local production with organically and locally grown food. Community-Supported Agriculture, vertical and rooftop farming, and cooperative agriculture can easily co-exist and integrate with the smaller-scale community and allotment gardens. They help ensure the resilience, reliability, diversity, and affordability of food supply, particularly for the economically challenged and fragile members of our society.

9.3.3 Principle 3: Urban Agriculture Cultivates a Shared Transformative Experiences

The European Landscape Convention defines landscape as areas “perceived by people, whose character is the result of the actions and interactions of natural and human factors”(Council of Europe, 2000, article 1), which fits the type of urban agriculture project partners and students experienced. In their interactions, they experienced how urban agriculture can help us connect to the natural landscape, make us healthier, more engaged in the community, and more willing to share the collective responsibility to the landscape and each other.

The experiences people share and the feelings they develop toward their community landscape are ideal entry points into their bodily knowledge, perceptions, and visions of the urban landscape, which ultimately shape their actions and interactions.

By integrating these experiences and elevating them into a shared sense of purpose and motivation, we can witness the transformative power and energy to ensure the resilience of all public spaces, especially urban agriculture sites. In Oslo’s Losæter community, students discovered an inaccessible community that involuntarily excluded the nearby immigrant populations. They learned about these perceptions from a small group of refugee women enrolled in Norwegian language courses held at the public baking house. To overcome language and cultural barriers, they asked them to bring their favorite vegetables and share their experiences as foreigners and new urban agriculture participants. Afterward, they used the oven to prepare a soup as the ultimate heart-warming, healing activity. Speaking of vegetables, spices, and homemade food created a safe space for individual and group identity expression. The women’s words led students to propose design changes that would connect and facilitate access for those who needed it most: the fragile, the differently abled, children, and women.

9.3.4 Principle 4: Connecting Urban Agriculture to People’s Lives Requires Storytelling

Sustainable change like the ones urban agriculture can affect in our neighborhoods is not an issue of physical interventions. For change to be resilient, it must be embraced and owned by the communities and individuals it will affect. Landscape Architecture uses drawings, models, and prototypes that tell a story about a

community's past, present, and future. In uncovering and co-creating these stories, communities develop an attachment to their landscapes and one another. In times of uncertainty, they can motivate and inspire actions, but only if they represent the diversity of experiences and conditions in our society.

Storytelling, that is, the telling, sharing, and listening to narratives, is also a potent participatory activity and can be instrumental in healing and repairing injustices. These narratives require sufficient time and space to emerge, be shared, and fold into a cohesive and collectively embraced story of us (Ganz, 2011). A similar lesson occurred in Baltimore's Plantation Park Heights, where LARC748 students listened as they picked produce and weeded planter boxes. In the process, they connected with the community with a radical empathy that required hearing and acknowledging. In Washington, DC's Temperance Alley, a story circle takes a prominent place in the site layout and its programming. Every event incorporates the sharing of stories and social capital, shared identity and ecological knowledge production. Still, many more storytelling opportunities abound throughout the garden and serve as physical affordances and prompts that invite visitors and residents to connect, share, and learn on a daily basis (Fig. 9.13).

Similarly, the bricks that once covered the alley of an informal shantytown now mark the edge of planting areas and remind us that the only way for our communities to heal from the injustices and racism of the past is to reveal, confront, and act upon them by co-designing a better future.



Fig. 9.13 Temperance Alley in Washington, DC, features a story circle. At its center, the community buried the 'founding brick,' an artifact from its past as a slum, and reminder that present and future stories are mindful of past injustices (image by the author)

9.3.5 Principle 5: Urban Agriculture Is Best When it Integrates Form, Function, and Emotions

There is an inherent tension between the work of designers and landscape architects and the realities of urban agriculture. Design is often thought of in artistic terms, positioning the landscape architect as the originator of a concept or idea that seeks to address practical concerns with an overarching vision and inspiration. Urban agriculture is quite the opposite. Its aesthetics often result from functionality and efficiency rather than creative inspiration. The wooden box, a quintessential element in any urban agriculture project worldwide, is the metaphor for a relationship that puts efficiency above the heart when it comes down to it.

In truth, we do not need to choose, as urban agriculture can defy categories and be productive, seductive, transferable, recognizable, practical, and emotional. Norwegian and American students could test new forms and aesthetics of urban agriculture, valuing visual contrast over uniformity and cohesion. In the Continuing Education course, it became clear that the aesthetics of nature and agriculture would be at odds with the aesthetics of the compact city. In the center of Oslo, south of the iconic Opera House, students imagined a biodiverse landscape that, once strengthened, could support fishing, fermenting, and foraging. Not far from it, in the nearby neighborhood of Gamle Oslo, activists imagined new floating gardens for the Vaterlandsparken area along the Akerselva River as a tactical response to the ever-shrinking public space (Fig. 9.14).

9.3.6 Principle 6: Urban Agriculture's Stories of Failure and Uncertainty Are Critical Resources for Adaptation

Urban agriculture sites appear quickly. They can be easy to set up, move, and install elsewhere. Temperance Alley Garden in DC materialized in just six months, despite being years in the minds and ambitions of the U Street neighborhood to regenerate their alleys after the demolition of the informal housing that occupied them in the 1950s and '60s. There is tension in the current urban agriculture between the aim to secure permanently public open spaces in the urban mosaic and a reality of constant change, adaptation, and evolution of many urban agriculture sites. There are also stories of lost urban agriculture, like the South-Central Farm in Los Angeles, evicted in 2006 after 12 years and forced to relocate to other landscapes and other communities, leaving no evidence of its former glory if not for a farmers' market that continues to this day (Fig. 9.15). The CPS project partners learned about lost urban agriculture in the Netherlands, Denmark, and beyond. While no longer active, some of these projects have not stopped producing benefits for their communities. The shared identity and collective capital they generated continue to shape the future cities, offering practical lessons for new urban farmers. They inspire researchers, academics, students, and residents to care and steward their landscapes. If anything,



Fig. 9.14 CPS researchers were able to visit and inspired by prototypical urban agriculture installations in Oslo, including the guerrilla urban agriculture site of Gamle Oslo's floating garden, on the Akerselva River (image by the author)



Fig. 9.15 Once a thriving urban agriculture community, Los Angeles' South-Central Farm (1994–2006), the northwest corner of East 41st and South Alameda Street is now occupied by warehouses. While it has moved to other community places, its story lives on (Photo: Deni Ruggeri)

they should motivate us to work harder and envision new policies, plans, and actions to help them sustain communities in the transition toward a new civic practice of urban agriculture.

While seeing images of thriving civic engagement and shared purpose in successful urban agriculture sites is reassuring and comforting, failure may be just around the corner. Yet, this realization should not hold us back. There is no such thing as a failed urban agriculture site. Stories of dismissed or dormant community gardens demonstrate the ecological necessity for the decline and re-organization of our ecosystems to adapt and regenerate (Allen & Holling, 2010).

9.4 Conclusions

The CPS wanted to shed light on the workings of urban agriculture in contemporary development in Norway and develop a unique toolkit of actions that could instigate urban agriculture transformations in urban neighborhoods. We discovered that local success required researching stories and experiences of on-the-ground urban agriculture activists and entrepreneurs worldwide. The project partners folded their research findings recognizing the invaluable role of design and planning students in challenging traditional urban agricultures. Their collaborative efforts aimed to create a systemically performing urban agriculture, where growing food became an opportunity to advance biodiversity, circular economy, energy efficiency, and regenerative management practices.

Undoubtedly, it takes more than a few case studies to derive a theory or universal toolkit for practice. Rather than focusing on explaining and synthesizing improbable standards, CPS researchers and students directed their efforts to listen, observe, and analyze these sites through a human capabilities lens, trying to understand them as engines of systemic, sustainable *local* change. Within the classroom, these reflections became new stories and visions for a future urban agriculture adapted to the uniqueness of a place and able to advance human capabilities for all members of their ecosystems, particularly the most fragile. Through the educational experiences discussed in this chapter, we planted a seed in university students that their classroom work, connected to active communities, could be genuinely transformative and impactful for all involved. Students challenged traditional urban agriculture conceptions in Norway as in the United States, making food growing one of many systemic actions and practices for cultivating a better society.

More case studies are needed; more stories should be documented, reflected upon, and disseminated broadly. I hope others might find something in these stories that will resonate with them.

Bibliography

- Abelman, J., Chang, C. Y., Chang, S. E., Hou, J., Hung, S. H., Lai, P. H., & Pryor, M. (2022). Reimagining urban agriculture for sustainable urban futures: Education, health, and urban commons. In *The Routledge handbook of sustainable cities and landscapes in the Pacific Rim* (pp. 155–163). Routledge.
- Allen, C. R., & Holling, C. S. (2010). Novelty, adaptive capacity, and resilience. *Ecology and Society*, 15(3), 24.
- Alomar, R. (2018). Invisible and visible lines: Landscape democracy and landscape practice. In *Defining landscape democracy* (pp. 96–105). Edward Elgar Publishing.
- Beatley, T. (2011). *Biophilic cities: Integrating nature into urban design and planning*. Island Press.
- Beatley, T. (2016). The urban nature diet: The many ways that nature enhances urban life. In *Handbook of Biophilic city planning and design* (pp. 33–40). Island Press.
- Cady, S. H., Jacobs, R., Koller, R., & Spalding, J. (2014). The change formula. *OD Practitioner*, 46(3), 32–39.
- Egoz, S., Jørgensen, K., & Ruggeri, D. (Eds.). (2018). *Defining landscape democracy: A path to spatial justice*. Edward Elgar Publishing.
- Ganz, M. (2011). Public narrative, collective action, and power. In *Accountability through public opinion: From inertia to public action* (pp. 273–289). World Bank Publications.
- Goldstein, B., Hauschild, M., Fernández, J., & Birkved, M. (2016). Testing the environmental performance of urban agriculture as a food supply in northern climates. *Journal of Cleaner Production*, 135, 984–994.
- Hou, J. (2017). Urban community gardens as multimodal social spaces. In *Greening cities* (pp. 113–130). Springer.
- Lawson, L. J. (2005). *City bountiful: A century of community gardening in America*. University of California Press.
- Lin, B., Meyers, J., & Barnett, G. (2015). Understanding the potential loss and inequities of green space distribution with urban densification. *Urban Forestry & Urban Greening*, 14(4), 952–958.
- Louv, R. (2012). *The nature principle: Reconnecting with life in a virtual age*. Algonquin Books.
- Lovell, S. T. (2010). Multifunctional urban agriculture for sustainable land use planning in the United States. *Sustainability*, 2(8), 2499–2522.
- McDougall, R., Kristiansen, P., & Rader, R. (2019). Small-scale urban agriculture results in high yields but requires judicious management of inputs to achieve sustainability. *Proceedings of the National Academy of Sciences*, 116(1), 129–134.
- Murphy, M. A., Parker, P., & Hermus, M. (2022). Cultivating inclusive public space with urban gardens. *Local Environment*, 28, 1–18.
- Nussbaum, M. C. (2011). *Creating capabilities: The human development approach*. Harvard University Press.
- Palmer, L. (2018). Urban agriculture growth in US cities. *Nature Sustainability*, 1(1), 5–7.
- Reynolds, K. (2017). Designing urban agriculture education for social justice: Radical innovation through farm school NYC. *International Journal of Food Design*, 2(1), 45–63.
- Rittel, H. W., & Webber, M. M. (1974). Wicked problems. *Man-made Futures*, 26(1), 272–280.
- Ruggeri, D. (2018). Storytelling as a catalyst for democratic landscape change in a modernist utopia. In S. Egoz, K. Jørgensen, & D. Ruggeri (Eds.), *Defining landscape democracy* (pp. 128–142). Edward Elgar Publishing.
- Tornaghi, C. (2014). Critical geography of urban agriculture. *Progress in Human Geography*, 38(4), 551–567.
- UN General Assembly. (2015). *Transforming our world: the 2030 Agenda for Sustainable Development*, 21 October, A/RES/70/1, available at: <https://www.refworld.org/docid/57b6e3e44.html>. Accessed 13 Jan 2023.
- Wadumestrigue Dona, C. G., Mohan, G., & Fukushi, K. (2021). Promoting urban agriculture and its opportunities and challenges—A global review. *Sustainability*, 13(17), 9609.

Urban Agriculture Case Studies Mentioned

Losøter, Oslo (Norway).
59.9030981946685, 10.758825533094264
Nabolagshager.
59.90974283842508, 10.765620526212082
Plantation Park Heights, Baltimore, MD.
39.33254211507427, -76.66063079613899
Temperance Alley, Washington, DC
38.91659621262728, -77.02874788146833
Vaterlandsparken, Oslo.
59.91317716077654, 10.75708949457558
Sukkerbiten, Oslo (Norway).
59.905038859637613, 10.753559126219534
Royal Palace Garden, Oslo (Norway).
59.91769803404384, 10.730769977624519
Tullinløkka, Oslo (Norway).
59.916923903897775, 10.73754380076
Vollebekk, Oslo (Norway).
59.93645386098382, 10.828277616977035
South Central Farm, Los Angeles.
34.00811090026115, -118.23949921362394.

Open Access This chapter is licensed under the terms of the Creative Commons Attribution 4.0 International License (<http://creativecommons.org/licenses/by/4.0/>), which permits use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons license and indicate if changes were made.

The images or other third party material in this chapter are included in the chapter’s Creative Commons license, unless indicated otherwise in a credit line to the material. If material is not included in the chapter’s Creative Commons license and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder.

