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Urban Agriculture

6 Building resilient urban communities through edible gardens

Akshaya Ayyangar and Ayesha

Rooftop edible gardens can address urban challenges related to food security, heat stress, and livelihoods. The Chennai Urban Farming Initiative (CUFI) has promoted growing chemical-free vegetables and greens. Beyond improving access to fresh food, these gardens have contributed to community well-being, environmental awareness, and cooler urban spaces. The initiative highlights the potential of edible gardens as a practical and community-driven approach for building climate-resilient cities.



10 The Urban Oasis

Jony Jos and Philipgi T. Kannat

The Green Thevara Initiative, sparked by Bindhu's 1,000 sq ft rooftop in Kochi, transforms urban spaces into sustainable ecosystems. By integrating livestock, stingless bees, and innovative HDPE grow bags, this collective promotes food security and zero-waste living, offering a scalable blueprint for urban resilience.

13 Strengthening local food systems *A community-led diversification model*

Shrikant Amrutsagar

Community-led diversification models can significantly strengthen local food systems in tribal and peri-urban regions. By integrating farmer learning, ecological cultivation practices, urban gardening, and direct market linkages, a peri-urban agriculture initiative in Nandurbar successfully created a more connected rural-urban food ecosystem, supporting both livelihoods and nutrition.

32 Seeds of change *How SowGood is bringing urban farming to Delhi's schools*

Priyanshi Prasad

Even limited urban spaces can become effective platforms for learning, stewardship, and behaviour change. The SowGood Foundation in Delhi NCR, through a three-year programme, has engaged children in food growing, waste management, and sustainability initiatives. This work highlights how hands-on farming can strengthen environmental awareness, promote healthier habits, and encourage community engagement.

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From home gardens to edible cities

Bringing food systems into urban policy in Kerala

Anita Pinheiro

In Kerala, initiatives like the Vegetable Development Programme and Nattuchantha markets show how urban farming can boost local food production, waste recycling, and decentralised food systems. While urban food production is poorly integrated into urban and climate policies, embedding edible urbanism and food systems into Kerala Urban Policy 2026–2050 will foster resilient, inclusive, and sustainable urban futures.

Portable biogas plant installed on a house rooftop, linking kitchen waste recycling with urban vegetable cultivation



With over half the world in cities, integrating food systems into urban governance is vital for equitable, resilient, and sustainable urban futures. The edible city approach embeds food production in urban areas via public spaces, urban commons, institutions, and ecological infrastructure. It re-envision cities as active producers of food, biodiversity, ecological resilience, and community well-being, not just consumers. However, despite growing interest in urban agriculture, such integrated approaches are limited in India.

Kerala is a key context for edible city and food systems approaches in India. Its dispersed urbanisation, high population density, and nearly 48% urban population blur rural–urban lines. The *Economic Review of Kerala 2024* projects 96% urban population by 2036. Thus, Kerala cannot rely solely on rural-centric food systems and imports for long-term food resilience. Yet, Kerala Urban Policy 2026–2050, despite its focus on ecological and integrated urban development, gives limited attention to urban food systems and edible urbanism in urban planning and climate resilience. This policy gap must be addressed.

Urban agriculture initiatives in Kerala

Kerala has a long history of homestead farming. Recently, state, local, and community-led urban home gardening initiatives have boosted interest in growing food in homes, schools, and public institutions. Many combine vegetable cultivation with composting and kitchen waste recycling, promoting circular urban metabolisms. These efforts demonstrate Kerala’s ability to turn limited urban space into an opportunity for decentralised food production.

Kerala is one of few Indian states actively promoting urban agriculture to improve safe-to-eat local vegetable self-sufficiency. A major initiative was the Vegetable Development Programme (VDP), launched in 2012, which promoted safe-to-eat local vegetable production through home gardening, including in urban areas. Under the 12th and 13th Five Year Plans, the programme promoted cultivation in household premises, rooftops, schools, and public institutions. Nearly 10% of VDP’s annual allocation was earmarked for “promotion of urban clusters and waste management”.

Programmes supported urban vegetable cultivation with subsidised grow-bag kits, compost units, drip irrigation, and portable biogas plants, linking food production with decentralised waste management and low external-input cultivation. Government reports indicate significant increases in vegetable cultivation areas, expanding beyond traditional farms into residential and institutional spaces.

Earlier initiatives like *Nagarathil Oru Nattinpuram* (2005–07), the Vegetable Initiative for Urban Clusters (2011–12), and the Urban Environment Improvement Project (2013–14) strengthened urban agriculture in Kerala.

Beyond state efforts, urban agriculture became a people’s movement through gardening groups, seed networks, and local food initiatives. *Nattuchantha* in Thrissur, a Facebook-based initiative since 2014, connects urban and peri-urban home gardeners with consumers. Organised by *Karshika Vipani Online Agriculture Market*, it’s a weekly market selling only organic produce, allowing home gardeners to sell small surpluses. Similar initiatives in Kerala show potential for decentralised, trust-based local food value chains linked to urban cultivation.

Despite these developments, most urban agriculture in Kerala remains focused on household cultivation and agriculture department programmes, rather than being integrated into mainstream urban planning and climate governance. From 2022–23, the dedicated urban component of the VDP was discontinued, removing its specific budgetary focus. While home gardening is still promoted, there’s limited institutional attention to integrating food production into urban development, climate adaptation, biodiversity planning, and land use policy. This is a missed opportunity to build an edible city and food systems approach in Kerala.

The missing link in climate and urban policies

Kerala has actively supported home gardening and local vegetable production through policy. Documents like the Kerala State Environment Policy (2009) and Kerala Agricultural Development Policy (2015) recognise home gardening for sustainability and food security. However, urban food production is largely excluded from Kerala’s mainstream urban and climate policy frameworks.

Urban food production is underemphasised in Kerala's urban development and climate policy. Existing planning documents focus on parks, beautification, and urban forestry, with limited recognition of productive landscapes. Food production is rarely considered urban infrastructure, climate adaptation, biodiversity planning, waste management, or local economic development. This reflects a policy gap where food systems are viewed as primarily rural, despite Kerala's rapid urbanisation and reliance on imported produce.

The Kerala Urban Policy 2026–2050 offers an opportunity to rethink urbanisation, ecology, livelihoods and food systems. While it promotes integrated urban development and ecological sustainability, urban food systems and edible urbanism are largely underemphasised. Productive landscapes have not yet become a significant planning focus.

Urban agriculture in Kerala is currently viewed primarily as a household activity, rather than as an integral part of urban resilience and food systems planning. This leads to fragmented initiatives, vulnerability to shifting priorities, and limits the development of decentralised

Organic home garden produce marketed through Nattuchantha, a community-led initiative connecting urban growers and consumers



food value chains, circular urban metabolisms, and coordinated urban food governance.

Towards an edible city and food systems approach

Integrating edible city and food systems perspectives into urban policy can institutionalise and scale existing initiatives in a coordinated and socially inclusive manner. This approach can also prevent urban food growing from becoming solely a privileged green lifestyle practice, disconnected from equity, livelihoods and food resilience.

The edible city approach moves beyond fragmented, household-centred urban agriculture towards a broader urban food systems approach in urban development. It recognises food systems as deeply connected with urban planning, ecology, public health, livelihoods, waste management and local economies. This is particularly crucial for Kerala due to its dispersed urbanisation, limited cultivable land and growing dependence on other states for produce. Strengthening decentralised food systems, shorter supply chains and circular resource use is essential for long-term urban resilience.

Beyond rooftop or household gardening, the edible city approach integrates edible and ecologically productive landscapes into schools, anganwadis, public institutions, residential layouts, canal sides, wetlands, community spaces and urban commons. These spaces can support food production, nutrition, biodiversity, environmental education and community participation, while also serving as sites for seed exchange, nurseries, composting, and local fresh produce distribution.

Kerala already has foundations for this approach through government-supported institutional cultivation, decentralised waste management, and grassroots gardening networks. Interventions in composting and kitchen waste recycling show potential for linking urban cultivation with circular metabolisms and low external-input food production, and decentralised waste management has reduced landfill dependence. However, these initiatives largely operate in isolation across different sectors.

An edible city and urban food systems approach can integrate food production, waste management, ecological planning, and local livelihoods within a coordinated urban development framework, generating opportunities for marginalised sections through activities

like composting, seed systems, nurseries and local food markets.

Given Kerala's spatial limitations and urban nature, urban food production will likely focus mainly on vegetables and some fruit crops. While symbolic rice cultivation exists, it is unlikely to scale meaningfully in dense urban contexts.

Stronger decentralised food systems and shorter food supply chains improve food access during climate disruptions, pandemics and global uncertainty. Food production from household gardens, urban commons, schools, government institutions and neighbourhood spaces cannot easily integrate into conventional large-scale food supply chains. Instead, there is a need to create more decentralised, locally embedded food value chains that aggregate, distribute, and market small quantities of urban produce. Initiatives like *Nattuchantha* demonstrate the possibilities for developing localised, trust-based vegetable markets linked to urban cultivation. Scaling such systems may require policy and institutional innovations comparable to earlier collective procurement and distribution models developed during the White Revolution but adapted to urban food systems and decentralised production.

Integrating edible urbanism and food systems into Kerala's Urban Policy 2026–2050

Kerala Urban Policy 2026–2050 recognises green infrastructure and ecological planning, but edible and productive green infrastructure is not yet a policy focus. Unless a food systems approach is explicitly integrated into urban policy and planning, many existing positive initiatives related to urban cultivation, composting, and circular resource use may remain dependent on individual departments' priorities and vulnerable to discontinuation. Integrating edible city and food systems perspectives into urban policy can enable coordinated planning and action across agriculture, urban development, climate, waste management, health, and local governance departments, moving beyond fragmented sectoral interventions.

Moving towards edible cities requires integrating food systems thinking into overall urban development planning and policy. Urban food production cannot remain confined to the state's Agriculture Department or continue as isolated household-level initiatives. Kerala already possesses many social, institutional, and

ecological foundations for building edible cities and resilient urban food systems.

Kerala Urban Policy 2026–2050, despite its focus on climate resilience and ecological planning, gives limited attention to urban food systems, edible landscapes and the integration of food production into urban development. Strengthening the policy framework to explicitly incorporate edible city and food systems approaches is pertinent for connecting food production with waste management, ecological planning, livelihoods, and decentralised food value chains. Embedding these approaches ensures urban food production becomes part of a socially inclusive, climate-resilient, and ecologically sustainable urban future, rather than an isolated household activity or a privileged green lifestyle practice. This integration is also crucial to prevent urban green gentrification, where the benefits of urban food production and green infrastructure are primarily accessible to privileged groups.

Kerala has strong foundations for such a transition through existing government programmes, decentralised governance, and grassroots urban cultivation initiatives. However, scaling these efforts in a long-term and socially inclusive manner requires stronger institutional coordination and moving beyond fragmented planning across individual departments.

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