



Urban Farming Practices in Bhopal: Challenges and Opportunities

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Introduction

According to the United Nations, 55% of the world's population resides in urban areas today, with projections indicating this will rise to 68% by 2050. In India, more than 31% of the current population lives in urban areas (Census of India, 2011). Rural-to-urban migration and development are leading to rapid urbanisation. With rapid urbanisation, urban areas are expected to have more than 40% of the population living in cities by 2030 (Economic Survey, 2023-2024). This rapid urbanisation underscores significant challenges for sustainable development and intensifies the strain on urban resources and essential services.

As cities continue to expand rapidly across India and worldwide, they face multiple and interconnected crises like rising food prices and scarcity, shrinking green cover, declining air quality, water scarcity, and an overall disconnection from land and ecological practices. Also, such climate-related disruptions to rural agriculture are immense and have led to the emergence of urban farming.

The popular perception of agriculture is deeply rooted in its traditional association with rural landscapes. For generations, farming has been synonymous with imagery of vast fields, village communities, and the livelihoods of those outside urban centres. This is a very typical and narrow-minded way of looking at agricultural practices. In recent years, urban farming has emerged as a significant area of inquiry and practice across academic, policy, and grassroots platforms. As cities grow and grapple with the intertwined crises of food insecurity, environmental degradation, and socio-economic inequality, urban farming is being explored as a sustainable and locally grounded intervention.

Urban agriculture refers to food growing practices in urban and peri-urban areas. It can take many forms, from rooftop gardening, kitchen garden, balcony farming, dockyard farming, community garden, nursery, or growing a wide range of food and non-food products, and includes activities such as rearing livestock, aquaculture, beekeeping, and commercial-scale floriculture. Urban agriculture becomes multi-dimensional by dissecting other functions such as *livestock-rearing*, *pastoralism*, *fishing*, *waste production*, as well as *market-relation*, *land-use patterns*, and *socio-ecological functioning* in an urban area.

This report explores the urban agricultural landscape within the municipal boundary of Bhopal City, with a focus on current statutes of urban agriculture, the types of urban agriculture being practiced, and what kind of challenges and opportunities are faced by urban farmers.

Methodology

This research employs a qualitative, field-based methodology to understand the dynamics of urban agriculture in Bhopal. The areas within the jurisdiction of the Bhopal Municipal Corporation are selected through a two-step process: **an initial review of relevant literature** and a round of **preliminary interviews with stakeholders**. Further, data collection is carried out through multiple field visits, and using a combination of *field notes*, *direct observation*, *interviews* with growers, farmers, and practitioners, as well as *photographic documentation* using a phone camera.

Selected locations are as follows:

1. Bagmugaliya and Katra Hill area
2. Arera colony
3. Salaiya and Kolar area

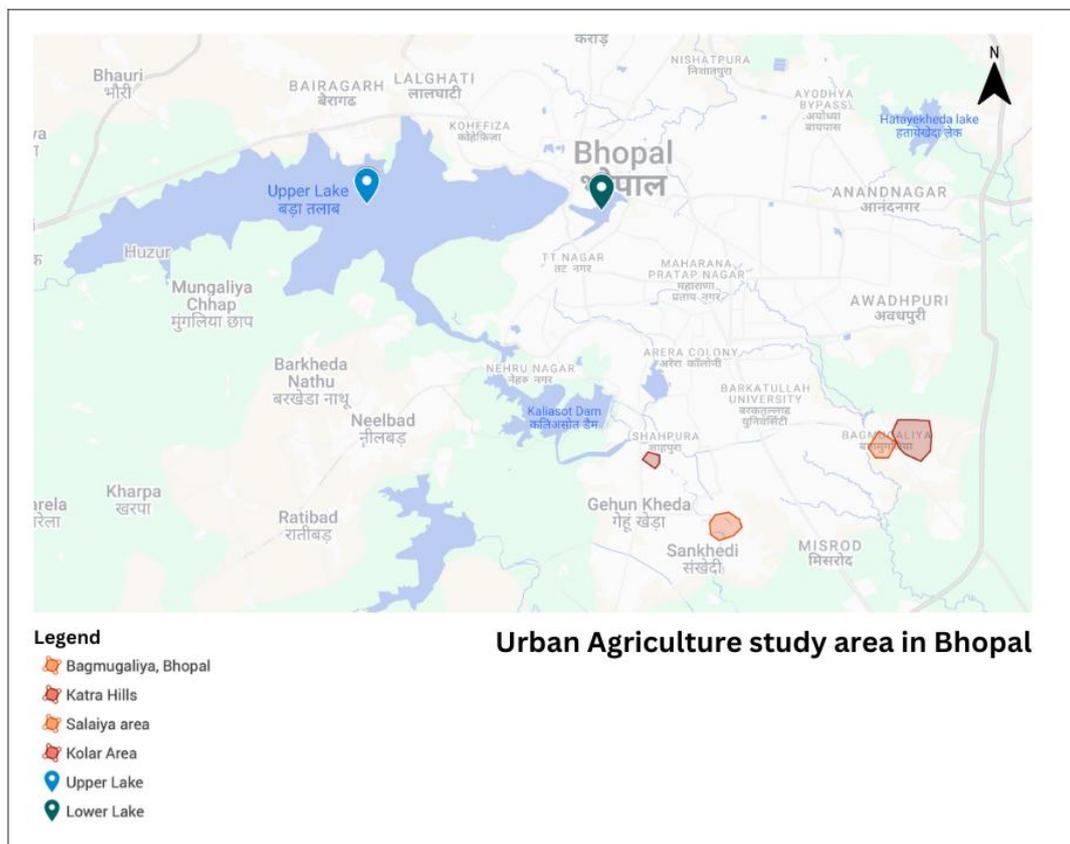


Figure showing study area within Bhopal Municipal Limits

Urban Agriculture Practices in Bhopal: A Landscape Overview

Bhopal is the capital of Madhya Pradesh, second largest city in the state after Indore, known for its natural beauty, hills, slopes and artificial lakes. The population of Bhopal was 18.86 lakh (Census of India, 2011). The city is situated on the southern edge of the Malwa Plateau, which

is higher than the North Indian plains, and rises towards the Vindhya Range to the south. It sprawls across the Vindhya and Singarcholi mountains, with uneven elevation and small hills within its boundaries. The two largest lakes, the Upper Lake (Bhojtal) and the Lower Lake, are prominent features of the cityscape, as well as hills like Idgah Hills, Shyamala Hills, and Katara Hills. At present, the Upper Bhopal Lake (Bada Talab) is connected to the Lower Bhopal Lake (Chhota Talab) by an aqueduct. The city receives an average rainfall of 1260.2 mm, predominantly in July and August. The rainfall is shaped by the southwest monsoon, with the city experiencing approximately 80 rainy days per year.

Bhopal is known as the City of Lakes, has 18 small and large reservoirs. The total area covered by lakes, rivers, and drains in the city is approximately 54.95 square kilometers, accounting for 5% of the total urban planning area. There are two major artificial lakes in the city: The *Upper Lake (Bada Talab)* and the *Lower Lake (Chhota Talab)*. Both the lakes support fishing and water chestnut cultivation, which plays an important role in the local economy and livelihoods of the communities involved. The fisherman and local community, with permission from the Bhopal Municipal Corporation (BMC), cultivate water chestnuts from the Upper Lake. For many families, this is the primary source of income. Cultivation takes place around the lake's periphery, particularly during the monsoon season.

Bhopal's lakes and other water bodies (like Kaliyasot Dam and Kerwa Dam) are the major source of water for irrigation and clean drinking water. These water sources have made farming possible in the city. Farming has been practiced here for a long time known for the production of *paddy, wheat, along with gram, vegetables, and fruits*. However, over time, this has gradually changed. Earlier, the city was smaller and there was more agricultural land available, so farming was commonly practiced. But as the city has expanded, the amount of agricultural land has been decreasing.

Currently, urban agriculture in Bhopal can be broadly classified into two categories: *inner city agriculture* and *peri-urban agriculture*.

- **Inner-City Residential Farming:** This is in the core area of the city such as **Old City Bhopal, MP Nagar, Arera Colony, Bharat Nagar**, etc. Residents in this area use farming methods like *terraces or rooftop containers, parks, balconies, backyard growing vegetables, fruits, herbs and ornamental plants*. These methods of farming and food production are done on a small scale in these areas of the city for self-consumption. While most residents of these areas do not have space for large-scale food production, some who do have available space use it to grow food. The rest typically cultivate plants in pots or small containers.
- **Peri-Urban Farming:** This area is mainly in the outskirts of **Baghmugalia, Katara Hills, Barkheda Pathani, Laharpur, Saliya and Misrod**, etc, which are generally semi-urban and have merged into the urban area due to rapid urbanization. Here, land availability is not sufficient for large-scale agriculture but still allows for small-to-medium-scale farming. Therefore, farmers in these areas still practice conventional crops, in which crops are grown in two or three seasons in a year. Traditional crops like *soybean, rice, gram, corn and wheat* are still grown here. Milk is also produced through

animal rearing practices. In nearby villages such as Katara and Baghmugalia, farmers engage in animal husbandry behind their homes. The milk produced is sold to local dairies, forming an important part of the peri-urban agricultural economy.

Within the inner parts of the city, there are several pockets where farmers cultivate crops even in and around residential areas. These small pockets are spread across the city where farmers grow seasonal crops like wheat and gram. Additionally, nursery practices are also carried out both in the outer and inner areas of the city, though most nurseries are located on the outskirts. These nurseries sell plants for terrace gardening, balconies, and pots.

Interview Insights

Urban farming in Bhopal presents a diverse landscape, reflecting both traditional and emerging practices. Interviews with people across the city, ranging from rooftop gardeners to nursery owners, highlight the changing nature of agriculture amid rapid urbanisation. This report synthesises insights from *five key individuals* engaged in different forms of urban agriculture, reflecting motivations, challenges and evolving approaches.

1. Dharendra Mishra: Traditional Farming, Kolar Area, Bhopal

Dharendra Mishra practices farming on a small patch of land in the Kolar area, which was once an agrarian belt but is now heavily urbanised. Over the past 10–15 years, land previously used for crops like wheat, gram, soybean, and paddy has been replaced by housing colonies. Dharendra now grows food primarily for **household consumption** and **engages in small-scale animal husbandry**. He cites shrinking land, reduced interest in farming, and labour shortages as major hurdles. His experience encapsulates the larger struggle of peri-urban farmers in maintaining agricultural livelihoods amidst urban sprawl. Dharendra Mishra *said that because of the cities, there are no farmers left anymore* (In Hindi it is “*shaharon ke kaaran ab koe kisaan nahin bacha*”).

2. Anita Singh: Terrace Gardening, Arera Colony

Anita Singh from Arera Colony began terrace gardening during the COVID-19 lockdown. Starting with coriander and mint, her 600 sq ft terrace now supports a range of **seasonal vegetables, including spinach, tomatoes, fenugreek, and brinjal**. She uses **homemade compost** and a **drip irrigation system**, consciously avoiding chemical inputs. For her, gardening is not only about health and food security but also **mental well-being**. Her story reflects the increasing role of urban women in fostering ecological consciousness through home-based food production ([refer image 2](#)). Anita Singh *said it feels good to grow our own food* (In Hindi it is “*yah apana khaana khud utpaadan kar ke aacha lagata hai*”).

3. Jagdish Kushwaha: Kitchen Gardening, Bagmugaliya

Jagdish Kushwaha, a resident of Bagmugaliya, began growing vegetables behind his house during the COVID-19 lockdown. Motivated by a desire for self-sufficiency and safe food, he cultivates **cauliflower, coriander, garlic, and onion** using organic compost derived from kitchen waste ([refer image 3](#)). His challenges include limited space, lack of guidance, and no support.

4. **Surat Singh: Vermicomposting, Katara area**

Surat Kumar manages a two-acre farm in the Katara area, divided between **vermicomposting** and **nursery management**. He produces organic manure using cow dung collected from nearby dairies, selling both the compost and the earthworms ([refer image 5](#)). While demand for organic manure is steady, Surat faces infrastructural challenges, especially during the monsoon season, due to a lack of storage and protective sheds. Surat Singh *said we do this work because we get cow dung* (In Hindi it is “*ham yah kaam isalie karate hain kyonki hamen gobar milata hai*”).

5. **Shyam Lal Yadav: Nursery Work in Bagmugaliya, Bhopal**

Shyam Lal Yadav, based in Bagmugaliya, has been running a **nursery** for over a decade. His nursery is located in a peri-urban area. He has been doing nursery work for more than a decade as a family business. Shyam Lal grows a wide variety of plants, like **ornamental plants, medicinal plants such as tulsi and aloe vera, indoor plants**, fruit saplings like **mango, guava, lemon, and vegetables** too ([refer image 4](#)). There’s a huge demand for seasonal flowering plants and herbs these days. Many people come asking for organic seeds for kitchen gardens. Most of his customers are city residents, home gardeners, housing societies, schools, and sometimes even offices who want indoor greenery. However, the absence of institutional support, spoilage of unsold plants, and high operational costs affect his income and create uncertainty. His account reveals the economic precarity of small-scale nursery operators and their dependence on fluctuating urban demand.

[Images supporting the urban agricultural practices have been attached in [appendix](#)]

Initiatives:

- **Anant Mandi: Platform connecting organic farmers**
Anant Mandi, held monthly at Gandhi Bhavan, serves as a platform connecting organic farmers and kitchen gardeners with urban consumers. Organised jointly by Go-Rural, Anant, and Gandhi Bhavan, this initiative promotes ecological farming and sustainable food systems. Stalls feature organic vegetables, cereals, pulses, dairy products, and herbal medicines. It highlights the growing urban interest in clean, traceable food and creates a crucial space for alternative food economies within the city.

S.no	Name	Area	Type of farming	Techniques	Species Grown
1	Dhirendra Mishra	Kolar area	Traditional farming	Tractor, fertiliser, manual labour, modern equipment	wheat, gram, soybean, and paddy
2	Anita Singh	Arera Colony	Terrace Gardening	Organic composting, drip irrigation, plastic and cement pots	seasonal vegetables such as spinach, tomatoes, fenugreek, and brinjal
3	Jagdish Kushwaha	Bagmugaliya	Kitchen Gardening	Organic composting, using kitchen waste, simple water supply	Seasonal vegetables: cauliflower, coriander, garlic, and onion
4	Surat Singh	Katara area	Vermicomposting and nursery management	Batch-wise harvesting, using earthworms, and a plastic bag for the nursery. Plastic bags are used for fertiliser	ornamental plants, medicinal plants such as tulsi and aloe vera, indoor plants, fruit plants like mango, guava, lemon, and vegetables
5	Shyam Lal Yadav	Bagmugaliya	Nursery	Plastic bag, simple water irrigation.	ornamental plants, medicinal plants such as tulsi and aloe vera, indoor plants, fruit plants like mango, guava, and vegetables

Analysis & Key Learnings, and Recommendations

Analysis:

Urban farming in Bhopal is happening in many different ways like, from small terrace gardens to larger composting and nursery businesses. People are growing vegetables at home, managing nurseries, or producing organic manure. Some started during the COVID-19 lockdown for health and mental well-being, while others run it as a livelihood. However, all of them face a similar issue is lack of space, water, technical support, and proper infrastructure.

In areas like Kolar and Bagmugaliya, farming has been reduced due to city expansion. Farmers now grow mainly for their use. Still, there is growing interest among city residents in fresh,

organic food, as seen in platforms like Anant Mandi. These efforts promote eco-friendly living and help connect farmers directly with consumers.

Bhopal's lakes cover 5% of the city's planning area, reflecting their central role in urban ecology. The upper lake is important for drinking water, agriculture, and livelihoods such as fishing and chestnut cultivation. The lower lake is highly polluted and lacks freshwater, limiting its ecological use ([refer image 1](#)). The Kerwa Dam serves urban needs such as irrigation, drinking water, and fish farming.

Key learning:

Urban water bodies are important for sustainable urban and peri-urban farming. Communities depend on lake-based livelihoods such as fishing and aquaculture.

Urban farmers and gardeners are adapting their methods based on available space, waste reuse, and local materials, showing resourcefulness and resilience. While some are driven by livelihood (nursery work, manure sales), small-scale nurseries operate across the city, selling plants for terrace gardening, balconies, and ornamental use. Terrace gardening and kitchen gardening are good for safety, health, and mental well-being. There is a lack of technical guidance, particularly in managing pests, soil health, and water use in small-scale or home-based agriculture. There is also limited access to credit, training, or market linkages, particularly for nursery owners and compost producers. Initiatives like Anant Mandi are a new collaboration between farmers and consumers.

Recommendation:

1. Recognise urban and peri-urban agriculture in city master plans. Also, strengthen conservation and pollution control of lakes, especially the Lower Lake. Integrate lake management into urban planning and lake farming.
2. Allocate specific zones for community gardens, nurseries, and composting units within urban planning frameworks.
3. Collaboration with academic institutions like Indian Institute of Forest Management, IES University College of Agricultural Science, National Institute for Research in Environmental Health, ICAR-Central Institute of Agricultural Engineering (ICAR-CIAE) and Sage University (Department of Agriculture) to help organise workshops for terrace gardeners, kitchen gardeners and small-scale producers. Provide micro-infrastructure grants or subsidies for storage units, polyhouses, compost pits, and drip irrigation systems. Expand platforms like Anant Mandi across different parts of the city.
4. Create easy access to credit, subsidies, and insurance for urban farmers and nursery owners. And support lake-based farming like chestnut cultivation and fishing.

5. Launch public awareness campaigns on the benefits of growing your food, waste composting, and water conservation in urban settings.

Conclusion

This study highlights the urban agriculture practices in Bhopal. Urban agriculture, if supported through appropriate policy and infrastructure, can play a vital role in making Bhopal's food systems more sustainable, inclusive, and ecologically aware. Bhopal can become a model for integrating agriculture into urban landscapes. After rapid urbanisation, people are doing agricultural practices that show clear potential. Urban agriculture can provide livelihood opportunities through nursery management, compost making, rooftop gardening and small-scale organic farming.

Appendix

Documentation



Image 1: Fishermen with boat and net in the upper lake are catching fish.



Image 2: Anita Singh's house who does gardening on the terrace.



Image 3: Jagdish Kushwaha's kitchen gardening in Bagmugaliya.



Image 4: Shyam Lal Yadav watering his nursery



Image 5: Surat Singh vermicomposting unit in Katara area



Image 6: Polyhouse farming outer area in Katara area



Image 7: Growing flower in Polyhouse