

# Exploring the relationship between city, river & agriculture

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Our cities represent society through their cultural, economic and behavioural character. Our behaviour is largely dependent on the physical natural surrounding or context. We build according to the topographical surrounding and in this process, certain values get associated with nature. Hence our cities reflect the homogeneous relation of our value systems and perceptions with the natural ecological surroundings.

However, in the race of urbanization, these natural settings and ecological features like rivers are facing gross neglect. The change in perceptions and values have resulted in ignorance towards such natural features which ultimately have led them to the state of degradation. We generally see the water features like rivers trapped within the ever-increasing densities of the urban fabric subjected to a great loss of ecological and social values associated with them.

Along with the social and religious values, water bodies like urban rivers form an integral part of the city fabric. They not only provide breathing spaces in a dense city fabric but also have a great impact on the microclimate (flora, fauna). Rivers are the “visual indicators” of a place and act as important nodes or land features. More emphasis is given to the development of “land as property” and the transformation of value systems due to changing urban life and perception towards water, which has negatively impacted water. The study of changing relationship between humans and nature through the lens of ecology and values is important. Also, to re-establish the lost ecological value towards urban rivers by deriving an ecologically sensitive planning approach towards water bodies and their catchments.

There is a need to understand how urban water bodies in tight urban setups can be used advantageously which may help reduce the negative impact of haphazard ever-increasing urban development on the ecological breathing spaces and the natural setups of the city. Rivers are critical connectors across our communities, states, and national boundaries. They offer essential benefits in the form of drinking water, recreation, transport, food, and aesthetics. At the same time, human activities, from agriculture to urban land use, affect rivers profoundly.

The agriculture-water relationship—now and in the future is complicated.

Complexity, uncertainty, and controversy increase when possible climate change becomes part of the conversation. We have often seen the neglect faced by these urban water bodies in the dense fabric of the city in terms of their maintenance, development and also in the planning process. There is a tendency to overlook the physical deterioration resulting from urbanization in a longer period of time and it is assumed to be a part of the urban landscape the way they exist.

Cities in India are beset with many problems which make urban life increasingly difficult with every passing day. Scarcity of water or mismanagement of water supply, inadequate wastewater treatment and municipal solid waste management leading to the spread of vector-borne diseases and pollution of its soil and water bodies, creation of heat islands and increasing poverty are some of them. With 50% of the Indian population expected to live in cities by 2050 and the change in climate predicted for the future, these problems are bound to increase manifold in the days to come.

Like most metropolitan cities, Mumbai is home to a productive tertiary sector, and the economy that it generates ensures its growth. With the expansion of the city, the requirements of its people also increase, often to an extent that enormous pressure is exerted on the natural resources to meet this demand. Since the primary and secondary sectors are virtually extinct in the metro cities of India, Mumbai relies on peripheral villages and imports for meeting its primary requirements of food and water.



*Figure 1: Trackside farming in Mumbai*

<https://theplanthunter.com.au/harvest/train-track-farming->



*Figure 2: Water & agricultural transformation*

<https://www.epw.in/journal/2021/29/special-articles/water-and-agricultural-transformation-india.html>

"Urban agriculture" refers to the process of growing or producing food in a city. It can be done in a wide variety of places that include vacant lots, backyards, rooftops, city parks, roadsides, riverbanks, beside railroads, combined with amenities at the boundary between cities, up the sides of buildings. The concept of urban agriculture is especially effective if carried out in proximity to a residential community and open spaces or natural areas which can also be strengthened by public participation.

Mumbai is a city that has little open space that can be used for urban farming. Mumbai is also home to one of the largest slums in the world. But it is also a city where a lot is happening in the urban agriculture scene. Mumbai's citizens are becoming innovative and are transforming terraces, balconies and common areas into vegetable gardens. Organizations like City Farming, Earthoholics, Fresh & Local, Urban Leaves, etc. are helping people to grow their own food.

The percentage of the urban population growing their own food is minuscule. Food and nutritional insecurity are often considered a rural phenomenon. In a city like Mumbai that is considered to be only a consumer, it is important to bring back the production of food. However, creating a link between agriculture and urban growth.

Urban agriculture can be an innovative green infrastructure practice that can be implemented in vacant urban lots. Urban agriculture not only reduces stormwater runoff but also increases the nutritional health of the surrounding community, improves the local economy, and provides residents with green space. In parallel to these aspects, the ecological balance is restored.

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