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What stops Indian cities from growing their own food?

URBAN FARMING CRISIS

🕒 August 1, 2017 👤 Navya P K ➦ Agriculture, Environment, Government, Policy 💬 0



Pic: Shree D N

Have you ever wondered, where does the food on your table come from? Ok, you bought it from a local grocery or a neighbourhood supermarket, but where was this produce actually grown?

As India's urban population spikes, so does its food requirement. India's 377-million urban population is expected to grow [by another 300 million](#) by 2050 and yet, agricultural land is rapidly shrinking in urban areas, leaving city dwellers increasingly

reliant on rural farmers for meeting their sustenance requirements.

Transported across long distances and handled by several middlemen, the price of rural produce shoots up by the time it actually reaches urban consumers. The prices of perishables in particular, such as those of vegetables and fruits, could easily be twice the production cost, or even more.

Added to that is the problem of spoilage. According to the UN's Food and Agriculture Organisation (FAO), in developing countries, 10-30% of produce is spoiled during transit.

Yet, India's agricultural policy is still focused on rural areas; urban agriculture has not been a policy priority. There is no data available on the extent of urban land under agriculture either, says Dr Anand Kumar Singh, Deputy Director General (Horticulture) at ICAR (Indian Council of Agricultural Research).

In Bangalore, vegetation reduced by 88% between 1973 and 2006, as per an [IISc study](#). With the IT boom in Bangalore over the last two to three decades, agricultural land has been increasingly converted for other use, and the surviving farmers are struggling to deal with the pollution of their water sources, losses from farming and pressure to sell their land.

The case in other Indian cities and towns is not much different. At a time when any greenery in urban areas is rapidly vanishing, conserving agricultural land is considered a non-issue. According to Dr T V Ramachandra, author of the IISc study, 94% of land in Bangalore is projected to be built-up by 2020.

The benefits of growing local

The FAO [prescribes](#) urban and peri-urban agriculture for developing countries like India, to ensure food security, poverty alleviation and sustainable development. Since Indian cities depend on rural agriculture, they are also highly vulnerable to price fluctuations. In addition to the already high prices due to costs of transport, refrigeration, middlemen etc, prices also fluctuate because of climatic conditions affecting agriculture, change in global oil prices etc.

If locally produced and sold, food becomes much cheaper. Local agriculture can also create jobs in production, fertiliser supply, marketing etc to low-income groups in cities, thus reducing poverty, says the FAO.

Quality, too, is a pertinent issue here. While the produce reaching urban areas is often heavily laden with chemicals to ensure preservation during the long transfers, food produced locally would also be fresh and of higher nutritional value.

Concerned about chemical use, at least some urban residents, especially upwardly mobile ones, are adopting organic farming in their own households. Groups like Garden City Farmers in Bangalore promote and support residents growing fruits and vegetables in their own balconies and terraces.

As an ancillary industry, enterprises to help people set up their own terrace gardens are coming up in urban areas. Edible Routes in Delhi, Squarefoot in Bangalore and iKheti in Mumbai are a few such companies that provide clients with raw materials, gardening support and technical knowhow on farming.

However, terrace gardening by individuals cannot compensate for traditional agriculture in urban areas, says Dr Ramachandra. "Unlike in the case of traditional farming, crops produced in individual houses do not reach the market. It can only meet the needs of one family. Besides, terrace gardening may sometimes cause issues like leaky roofs, difficulty in pest control etc. On the other hand, land already has an ecosystem that supports farming," he says.

The struggle of urban traditional farmers

This ecosystem too, however, has been vastly impacted by unplanned urbanisation. A major problem staring urban Indian farmers in the face is the drying up of their own wells/borewells, leaving only polluted water for them to access. Farmers are increasingly using water from the polluted lakes/rivers in and around cities for irrigation.

In Delhi, for example, the only major agricultural area is along the banks of the Yamuna river, which is in sad shape. "Heavy metals

like cadmium are present in this water, and is absorbed by the crops grown with it," says Dr Singh. In Bangalore, Dr Ramachandra's team had also identified heavy metals in crops produced in the Varthur-Bellandur area on the outskirts of Bangalore.

Our cities produce high amounts of sewage and industrial effluents, but lack the facilities to treat these, so that this waste often ends up in the water bodies. Some cities do have facilities to treat a part of their wastewater; but even then, the treated water is released into already contaminated water bodies. Directly using this polluted water for irrigating crops certainly affects the health of both farmers and consumers, but farmers are left with no choice.

Dr Priyanka Jamwal, Fellow at ATREE (Ashoka Trust for Research in Ecology and the Environment), Bangalore, confirms this when she talks of farmers in Byramangala in Bangalore, who suffer from skin diseases as they use polluted water downstream of Byramangala lake. In Hyderabad, farmers along the Musi river use the polluted river water for irrigation, which has led to higher rates of skin disease, infections and dysentery.

High air pollution levels also affect crop yields, sometimes forcing farmers to stop producing some crops or shift to new ones. In this scenario, farmers find agriculture unfeasible and prefer to sell their land to developers.

"In Bangalore, only milk and certain vegetables come from within the city. The rest come from surrounding areas like Anekal, Bidadi and Ramanagara. Land conversion is rampant in these towns too; land sharks are waiting to take these lands despite restrictions on agricultural land conversion," says Dr Ramachandra.

Waiting for a policy thrust

Despite adverse conditions, some farmer groups have thrived. The [Yamuna bank farmers](#), who are not legally acknowledged at all, have been farming and selling their produce in Delhi markets for generations. In Cuttack, slum residents do farming [to produce food](#) for themselves, and sell the surplus in local markets. In 2009 in Mumbai, a charitable Trust helped the residents of Ambedkar Nagar slum clean up a garbage dump near their homes and convert it [into a community farm](#).

These, however, largely constitute individual and sporadic successes rather than a systematic, sustained development of urban agriculture. India's governments have been largely ignoring the issues faced by urban farmers, while continuing to promote household-level gardening.

In Kerala, which is rapidly urbanising, the state government supplies gardening kits to households and promotes collective farming projects by self-help groups. Hyderabad, Pune and Chennai municipal corporations also supply subsidised materials to residents for rooftop gardening.

In contrast, in some countries, municipalities have taken the lead to promote urban agriculture on a much larger scale. For example, the [model of Belo Horizonte city](#) in Brazil is widely recognised for eliminating hunger while increasing local food production and farmers' incomes.

The city enacted a municipal law guaranteeing food security in 1993, in response to a citizen's movement. The municipality developed a comprehensive system that included developing farming technology, giving credit to farmers, supporting farmers' markets etc. It is widely recognised as a model that has almost eliminated hunger and malnutrition while increasing local food production and farmers' income.

Nairobi city county in Kenya passed the Nairobi Urban Agriculture Promotion and Regulation Act 2015, to develop and provide facilities required for agriculture, to include urban agriculture as a component in land use planning etc. Detroit city, US, passed an Urban Agriculture Ordinance in 2013 enabling vacant land to be used for agriculture. UN's Sustainable Development Goals (SDGs) also mention the need for cities to take lead in developing sustainable food systems.

Dr Singh says that promoting urban agriculture in India is difficult since cities do not have the required infrastructure. "Some foreign cities could promote urban agriculture because of good planning. The major issues in Indian cities are water pollution and water scarcity; there is not enough drinking water even. Ideally, cities should treat their wastewater and give the treated water to farmers for irrigation," he says.

“Reusing treated water will also close the loop in urban water management – both water pollution and scarcity can be managed in one shot,” says Meera Sahasranaman, research consultant at IRAP (Institute for Resource Analysis and Policy), Hyderabad.

Kolkata has a good example for this. The city does not have STPs, but its wastewater is [naturally treated](#) by 3800 hectares of wetland in the city’s eastern fringe. Some 26,000 poor farmers in the city use the treated water for vegetable and fish farming. Organic waste, which is a major problem for Indian cities, can also be composted and used in farms.

Meera, in a 2016 [research paper](#), suggests institutionalising and incentivising urban agriculture. She says urban agriculture can be promoted through land zoning for agriculture in city master plans, taxing of vacant plots, stopping speculative buying and conversion of agricultural land. She also suggests providing resources to poor farmers, promoting services like soil and water testing labs, and incentivising housing societies that take up horticulture.